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## CONTENTS

# EDITORIAL
# QUALITY CONCERNS IN EDUCATION

**Sunil Behari Mohanty**

Quality of education plays pivotal role in the process of development of nations. Hence, quality concerns in education are national priorities for all nations. Quality is multiple perspectives and is not a unitary concept (Newton 2007, p.14). The dimensions of quality in education include achieving pre-determined targets and objectives. Quest for ensuring quality level has arisen out of factors such as decline in percentage of grants from the government sources due to sharp rise in number of institutions, students and teachers, dilution in quality of PG courses that produce higher education teachers, dilution in intake standards in PG courses, as talented ones join professional courses, low standard of members of teaching profession as non-teaching jobs fetch more income, The details of expectations from quality education differ from individual to individual and from one society to another. A Report of the Higher Education Academy of UK states that "among the general public and media commentators there does not appear to be a common understanding of what the terms 'academic standards' or 'academic quality' mean."(HEA 2009, p.4). World Declaration on Higher education stated that

> "Quality in higher education is a multidimensional concept, which should embrace all its functions, and activities: teaching and academic programmes, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community and the academic environment." (UNESCO 1998, Art.11)

Quality of an institution or a programme is generally considered on the basis of placement of its products. It is ascertained from quality of material and human resources. Various factors that affect quality are: finance, sincerity of faculty and students and management, skills of management, skills of teaching of faculty members, and quality of brain of students. Finance is a serious concern. Rapid growth rate has created problems in acquiring appropriate infrastructure. UIS(2009) states that

> "The number of students pursuing tertiary education has skyrocketed over the past 37 years, growing five-fold from 28.6 million in 1970 to 152.5 million in 2007. This translates into an average annual increase of 4.6%, with the average number of tertiary students doubling every 15 years. But a closer look at the data reveals that the expansion has been particularly intense since 2000, with 51.7 million new tertiary students enrolled around the world in just seven years. (UIS 2009, p.15)

Although national governments fail to provide adequate amount of funds, private initiatives have made Education has become a huge industry. Profit from educational institutions in certain cases is much higher than one can expect from a small scale industry. Concern for making quality education available to their children has made parents go for private and high fee charging institutions, expected to be of high quality. However, top class institutions such as IIMs, IITs, etc. are mostly run by the Government and they admit students on merit. The next level students go

to next level institutions on the basis of their capacity to pay. Some of them also go abroad.

Private supplementary tutoring has raised problems of equity. In many nations including India, pupils receive fee-free education in government and government aided schools and then supplementary tutoring in the same subjects on a fee-paying basis (Bray 2009). In India, this syndrome has affected government run and government aided schools and colleges including professional institutions. Teachers in these institutions are found giving coaching in morning and evening hours and getting fainted in classrooms during day hours for which they are officially paid. Unscrupulous teachers do not teach in their regular classes, so that the students have to attend their private coaching on payment basis. No doubt, this has created a parallel school system and employment opportunities. Government has initiated coaching classes for students from disadvantaged population. These only benefit students from the said group, who have learning problems. In the days of privatisation and self-financed programmes in government run and government managed institutions, the availability of quality education for the poor is a serious issue, not only in India but also in rich nations. "In USA, the probability of attaining access to an Ivy League university is 8.3% for the lowest quintile and 50 per cent for the richest"(Packer 2009, p.82). Hence, expansion of education has to take care of equity problem.

Search for quality in higher education has upshot the concept of world class universities. Salimi (2009) states that

> "In the past decade, the term "world-class university" has become a catch phrase, not simply for improving the quality of learning and research in tertiary education but also, more important, for developing the capacity to compete in the global tertiary education market place through the acquisition, adaptation, and creation of advanced knowledge" (pp 3-4).

Not only developed nation, but also developing nations have started making attempt to create world class universities. "No longer are countries comfortable with developing their tertiary education systems to serve their local or national communities. Instead, global comparison indicators have gained significance in local development of universities"(Lin 2009, p.x) At the national level, appropriate bodies take care of quality. In UK, Universities UK has outlined in a document qualities and standards in UK universities. In India association of Indian Universities has been working since 1925.

There have been attempts to rank higher education institutions. World rankings made by the Times Higher Education Supplement (THES) and Shanghai Jiao Tong University (SJTU) have wider acceptance. The parameters vary. THES identifies top 200 universities, whereas SJTU identifies top 500. Both the rankings made in 2008 had Harvard University of USA as No.1. THES ranked Stanford University as 17, whereas SJTU ranked Stanford University as 2. Most of the top 20 universities were from USA. THES ranked University of Oxford as 4, whereas SJTU did not include it in top 20. No higher education institution of India was in top 20.

**A** large element of private and voluntary enterprise is a healthy element in the provision, of education. It is necessary for variety, life and progress as State control of generality and a high standard of efficiency. Efforts to improve quality have resulted in establishment agencies at national, regional and global level for assuring quality. There are a number of Government organisations for taking acre of quality in education. Organisations operating at the national level are: Indian Council for Agricultural Research (1929),Medical Council of India (1933), All India Council of Technical Education (1945), Dental Council of India (1948), Pharmacy Council of India (1948), Institute of Chartered Accountants of India (1949), University Grants Commission (1956), Institute of Costs and Works Accountants of India (1959), Bar Council of India (1961), Central Council of Indian Medicine (1970), Council of Architecture (1972), Central Council of Homoeopathy (1973), Institute of Company Secretaries of India (1981), Veterinary Council of India (1984), Distance Education Council (1992), Rehabilitation Council of India (1992), and National Council for Teacher Education (1995). Government departments also control quality in education. The courses are directly controlled by Directorate General of Shipping takes care of merchant navy courses. Department of Electronics takes care of computer related courses. At the State level, there are State Government Departments which take care of quality. State Councils of Higher Education cover higher education and State Councils for Educational Research and Training cover education of school teachers. Sarva Shiksha Aviyan scheme takes care of covers quality of school education.

Concern for high quality in higher education programmes has given rise to new bodies. In 2000, the European Association for Quality Assurance in Higher Education was established as the European Network for Quality Assurance in Higher Education. In 2004 it was transformed into an association. In 2005, the European Ministers adopted Standards and Guidelines for Quality Assurance in the European Higher Education Area. In UK, in 1997, Qualification Assurance Agency for Higher Education was established to take care of quality and standards in higher education. In 2001, it brought out a national framework for higher education qualifications. Its Code of Practice for the Assurance of Academic Quality and Standards in Higher Education Institutions has 10 sections, which are: 1. Postgraduate research programmes (2004), 2. Collaborative provision and flexible and distributed learning (including e-learning) (2004), 3. Students with disabilities (1999), 4. External examining (2004), 5. Academic appeals and student complaints on academic matters (2007), 6. Assessment of students (2006),7. Programme design, approval, monitoring and review (2006), 8: Career education, information and guidance (2001), 9: Work-based and placement learning (2007), and 10: Admissions to higher education (2006). In India, the National Assessment and Accreditation Council (1994) of the University Grants Commission accredits institutions in general higher education. National Board of Accreditation (1994) of the AICTE accredits programmes related to Applied Arts & Crafts, Architecture, Hotel Management & Catering Technology (HMCT), Engineering & Technology, Master in Business Administration (MBA), Post Graduate Diploma in Management (PGDM), Pharmacy, Master in Computer Application (MCA)

Out of various factors that obstruct quality in higher education, funding and management pattern are crucial. One Central University was found conducting a PG course without having any regular faculty. Guest teachers came from far away places for the purpose. A few years ago, a private university had nearly two thousand students in a PG course. Neither concerned quality control agencies of the Central Government or the State government could stop one private university have nearly two thousand students in an academic session for a PG course ruin by its Department of Education. The Regional Colleges of Education of the National Council of Educational Research and Training have been running their courses with the help of contract teachers who are paid on hourly basis. This is not a case of paucity of fund, but ineffective management.

In order to accelerate qualitative improvement in higher education, NKC (2009) recommended establishment of 30 new Central universities, 16 in States where they do not exist and 14 as World class universities (all India admissions, course credits, regular syllabi revision, incentives for faculty, strong linkage with industry and research institutions, no affiliated colleges, outsource nonteaching functions) (P.166) The central Government has started establishment of central Universities. A few universities have been converted and in other cases, new universities are being set up. NKC also recommended establishment of new high quality institutions- Indian Institutes of Technology-8, 7 Indian Institutes of Management-7, National Institutes of Technology-10, 3 Indian Institutes of Science Education and Research-3, 20 Indian Institutes of Information Technology -20, and Schools of Planning Architecture-2. As part of attempt to provide school education of high quality to rural talented children, the Central Government had started having a Navodaya Vidyalaya in each district. Knowledge Commission (2009) recommended establishment of 6000 model schools, one in each block, It also recommended ICT based pedagogy and learning aids and ensuring broadband connectivity to all the Government and Government aided secondary schools.

Existing quality assurance mechanism assesses teachers on the basis of their achievements in terms of qualifications and publications. It does not assess their teaching skills. Existing assessment indirectly gives credit to teachers for performance of their students, whereas, paid private tutoring might be have contributed more to student performance. Quality of higher education teachers is promoted by making teachers participate in orientation and refresher courses. Such courses are offered by not only Academic staff Colleges, but also by many Departments of universities. However, the nation needs to improve their quality.

Any attempt to develop a new curriculum or improve existing curricula requires a strong research base. High quality curriculum development process carries out comparative studies of different aspects of curricula in India and in certain other developed countries. Comparative study of the efficiency of the products of various curricula education programmes and case studies of high quality institutions and their programmes are of great help. Examining bodies generally do not

give stress on contact hours in an academic session. In an autonomous college, it was observed that the Ist year PG students had to go for hunger strike, when the Principal decided to have their annual examination only after 5 working months. Neither the examining bodies nor the State Governments enforce the UGC Circular for minimum number of 180 teaching days in an academic session. For effective transaction of curriculum, the quality of teaching is more important than the level of publication and research capabilities of teachers. The agencies have been neglecting evaluation of teaching skills. Quality of teaching also depends on certain physical resources such as provision for power point presentation, separate cubicle or room for each teacher and facility for internet browsing, taking print out, Xeroxing therein. Availability of such facilities motivates the teachers to become more effective that upgrades the level of curriculum transaction.

School education employs a large number of para teachers, who have neither qualification nor experience. In case of a large number of private schools, teachers are low paid – a meagre amount of one thousand rupees per month. Hence, quality is far of from such institutions. There are government schools, which have such categories of teachers on a monthly remuneration of Rs.2, 000/- only. Such types of situation portray lack of concern for quality. There have been international assessments of student performance that gives indicators of quality of school education in countries included in the assessment Programme for International Student Assessment (PISA) conducted by the Organisation for Economic Co-operation and Development surveys key competencies of 15-year-old students in OECD member countries and a group of partner countries. These surveys are administered every three years. In case of PISA 2006, on the science scale, Finland ranked No.1, followed by Hong Kong-China, Canada, Chinese Taipei, Estonia and Japan. USA ranked 18. Since 1995, the International Association for the Evaluation of Educational Achievement (IEA), an international organisation of national research institutions and governmental research agencies has been bringing out The Trends in International Mathematics and Science Study (TIMSS). It assesses the mathematics and science knowledge and skills of Fourth and Eighth-graders of the participating countries. TMISS 2007 covered 58 countries. International Association for the Evaluation of Educational Achievement (2008) stated that **"**Across both disciplines, Asian countries had the highest percentages of students reaching the advanced International Benchmark, representing fluency on items involving the most complex topics and reasoning skills." Highlighting position of USA, the Institute of Educational Sciences (2009, p. iii) stated that "At eighth grade, the average U.S. science score was higher than the average scores of students in 35 of the 47 other countries, lower than those in 9 countries (all located in Asia or Europe), and not measurably different from those in the other 3 countries." In 2006, the Government of India set up National Testing service-India at the Centre for Testing & evaluation of the Central Institute of Indian Language at Mysore, Karnataka. Its objectives include creation of a variety of measurement frames (aptitude, achievement, & proficiency) for assessing learner growth at every level of education for the courses of study / programmes of education (in terms of content inputs & consequential effects) etc.

Human resources include managers, heads of the institutions, students and teachers. Teachers play paramount role in national development. Teacher quality is an overall concept that comprises not only knowledge and skills, but also personal qualities (respect, care, courage, empathy, etc.) and personal values, attitudes, identity, beliefs, etc. (Association for Teacher Education in Europe 2006, p. 7). The efforts to have high quality teachers have made many developed nations formulate standards for teachers of specific subjects and specific classes and standards for institutions. USA has many non governmental organisations such as National Council for Accreditation of Teacher Education (1954), National Board for Professional Teaching Standards (1987), Teacher Education Accreditation Council (1998), etc. In order to improve quality of teacher education, the Central Government have been spending funds for upgrading a few existing Departments of Education in universities to Institutes of advanced study in education that could offer doctoral research and other types of programmes. A few institutions were upgraded as Colleges of Teacher Education. At the elementary school level, existing elementary teacher training institutions were upgraded as District Institutes of Education and Training. These institutions have huge physical infrastructure and human resources. However, as the States had not been taken into consideration, while formulating the scheme, in most of the cases, the scheme reflects a huge wastage of material as well as human resources. While some of these institutions do not function with heads and faculty members having at least B. Ed. qualification, some others function with inadequate work load, as the State governments do not give funds for conducting in-service programmes for school teachers. The dismal status of teacher education in India has been stated in the National Knowledge Commission's final report which states that "The training of teachers is a major area of concern at present, since both pre-service and in-service training of school teachers is extremely inadequate and also poorly managed in most states" (NKC 2009, pp. 44-45). Hence, it is imperative that appropriate agencies take immediate steps to improve initial teacher training curricula.

Recently, in one AIAER Workshop on Developing Skills for Writing Scholarly Articles and Research Papers, which had more than 40 Lecturers and Readers in Education, it was found that no participant was aware of 86$^{th}$ amendment of the constitution that made elementary education a fundamental right. Hence, the Central as well as State governments need to take steps for continuous updating of knowledge and skills of teachers. They may follow the pattern of ERIC in USA. There may be State level agencies for quality assurance in education which may develop and operationalise resource centers for continuous updating of knowledge and skills of teachers.

Open and Distance Learning is the modern tool for accentuating self-initiated lifelong learning efforts. A new policy on distance learning in higher education sector of the Government of India focuses on encouragement to Open University and distance education systems in the educational pattern of the country, coordination and determination of the standards in such systems and

promises to set up a Standing Committee on Open and Distance Education as part of the proposed National Commission for Higher Education and Research, to undertake the job of coordination, determination and maintenance of standards of education through the distance mode.

Growth in literacy coupled with rise in economic level, has led to growth in percentage of students and corresponding increase in number of institutions. The nation has to take immediate steps for improving quality of educational programmes, so that it can contain rush of rich Indian parents to foreign countries to provide quality education to their children. Assessing quality is an important task of the national as well as State governments. Although, indicators of quality can be ascertained from recruitment tests and entrance conducted by various agencies, there is a necessity for national level tests as suggested two decades ago in the National Policy on Education 1986. There may be subject specific tests at various levels at intervals. This may acculturate the process of improving quality of programmes and management of institutions. Ensuring qualitative improvement is not only the responsibility of the Government; it is also the responsibility of the teachers, especially teachers of higher education. The document presents a plethora of papers highlighting various issues concerning quality in education.

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# SENSE-MAKING IN DISTRIBUTED LEADERSHIP

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**John Krejsler**
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*This article describes and discusses cases of distributed leadership at several levels in schools in the light of changing political discourses and changing relations between the state and its institutions. It focuses on relations, leadership influences and communication in the whole school and in the classroom and by extension also discuss relations, influences and modes of instruction in the classroom. The empirical basis for the discussion is school leadership in the Danish context. It explores how contemporary government and management manifests itself in schools, how agents in schools react to it and how room for manoeuvre is being formed in order to give students conditions and frameworks so they can develop a 'Democratic Bildung'.*

## NEW FORMS OF BALANCE IN POLITICAL DISCOURSE ON EDUCATION IN DENMARK

In Danish society, as in many others societies and educational and political systems, there used to be an understanding that school was the major cultural institution to be established and maintained by the society, because there was a desire to ensure that the next generation of citizens were brought up and educated to take over, maintain and develop that society. Thus educational purposes were often described in broader terms: schools should educate students to become enlightened, to participate, to be active and collaborative citizens. Major aims of schooling were, therefore, regarded as being social justice, equity, empowerment and community. In most places these notions still exist in schools, but they are not always furthered at the political and administrative levels. Here we find tendencies towards greater accountability, performativity and marketisation in the use of discourse, regulation and technology. The 20th century Danish comprehensive school evolved out of the development of the Danish welfare state that was largely a Social Democratic project built on a consensual dialogue across political parties. The school is looked upon as a vehicle for promoting equal opportunities for all and as a place for acquiring knowledge, skills and values that prepare the student for life in a broader sense. That is done with reference to the aim laid down in ("Consolidation act no. 170 of 2nd June 2006", Act on Folkschool 2006) that '*the school prepares the students for co-responsibility, rights and duties*', which is the concept of 'Bildung', traditional egalitarian and nation-building school ideas in line with traditional welfare thinking. Since the beginning of the 1990s, however, the Danish comprehensive educational system has been undergoing a process of transformation under the influence of strong international currents. A neo-liberal current has linked educational thinking closely to the economy by means of a whole series of developments – a push towards making schools dependent upon parents' demands, towards more subject-oriented teaching, and towards the re-introduction of testing at all levels of primary school, alongside pressure to harmonize

within the European Union, inspiration from and fear of the OECD PISA programme (Programme for International Student Assessment), and increasing individualization. (Krejsler 2005; Moos 2003; 2006).Responsibility for substantial areas of the finance and administration of the 'Folkeskole' (primary and lower secondary school, students aged 6-16), for example, was devolved to municipalities and from there to schools. Traditional site-based management was redefined, when schools were made financially autonomous and accountable. The head of the school now manages very large parts of the budget in collaboration with the board of governors, which has a parental majority membership. The Acts of Parliament, and therefore the overall responsibility for objectives of the schools, remain in the hands of Parliament/the Ministry of Education but the interpretation and administration of the curriculum – which is fairly broad in its demands – are devolved to municipalities, which very often choose not to be involved, and to the schools themselves.

The New Public Management (NPM) movement, which promotes a focus on outcomes and on accountability and away from more comprehensive aspects of learning processes, is gaining momentum. Since 2002 the schools in Denmark must post the results of school-leaving tests on the Ministry's website. The government issues binding national 'goals', usually every two years, that are much tighter and more prescriptive than the curriculum used to be, and it has also introduced plans for more testing of students in grades 2, 4 and 6 in addition to the end of school test in grade 9. There is also a focus on economic incentives such as merit pay for teachers and principals. In addition there is a focus both on top-down management and on decentralisation. Administrators and politicians look to the private sector for inspiration. What we are witnessing is a profound and dramatic change in the political discourse on schools and educational systems, not all of which was visible in the case schools in this project. We were used to the vision of a comprehensive and inclusive 'Democratic Bildung.' Now there are strong tendencies towards a mode of thinking characterized by 'school effectiveness' and 'Back to Basics' policies with an emphasis on attainment of national goals and standards. We have been accustomed to a system in which national and local authorities trusted schools and their professionals to make informed and wise decisions and choices as regards working methods and themes on the basis of thorough knowledge of and loyalty towards the school's aims and ideals and the students' level of knowledge and interests. Now we are adjusting to an atmosphere of mistrust that builds on nationally formulated and very detailed goals and standards. One sign of this tendency is the increase in the number of national tests to which schools are being exposed.

These tendencies can be exemplified at school level by the recently implemented social technology of 'student plans' (Foucault, 1983) that teachers write for each student in all subjects stating how the student shall attain national goals. These mean teachers increasingly being placed more in the role of experts, students in a role of receiver and parents in a role of school assistant than they used to be. The student plan also stresses the individual student, giving a lower priority to social aspects of learning: Students learn while communicating and interacting with peers and

teachers. There often used to be an emphasis on shared learning situations such as peer work or project work in groups. This development means that the meaning of leadership, of the professional and of learning is under profound change. School leaders, it seems, (Moos,Carney,Johanson & Meehlbye 2000) are caught in the cross-fire between three factors. First there are the national objectives for schools, which focus on liberal education, i.e. the 'Bildung' of children to become citizens in a democratic society; second, there are the local authority's demands for financial accountability; and third, a prevalent school culture in which teachers, accustomed to being autonomous, were not eager to be managed or led by the 'new, strong, visible' school leaders prescribed by Government and other political agents.Danish society and culture used to be homogenous by virtue of the fact that this is a small society (5.5 million inhabitants in total) with a liberal and social democratic political system and a generally low power distance (Hofstede 1980), which had been in place for more than a hundred years. Only recently have we experienced a development towards a more diverse society because social gaps are growing and more immigrants are making their mark on society. This has in many places given power to nationalistic politics with a strong tendency towards xenophobia.

**THE PROJECT**

We began the empirical part of the project by asking local education authorities (LEA's) in eight school districts (that is municipalities in Denmark) to point out one or two successful school principals in their districts. All of the eight principals were willing to take part and so we began by making the first descriptions of the schools and the principals based on interviews with LEA's, principals, groups of teachers and students and with parent representatives from the school's board of governors. Later on we picked three schools and took a closer look. We interviewed professionals and students, followed the principal and other members of senior management, and observed meetings and lessons. The three of us also 'shadowed' the principal, the deputy, a teacher and a student for a whole working day. In all cases we ended up by interviewing the person that had been followed around for the whole day in order to get their story of that day. As we were at the school on the same day, we were able to collect good material for intensive reflection on observations from the researchers' group. (observations) That provided the material and background for a number of case stories (Moos, Krejsler, Kofod & Jensen 2005) and for the thematic analysis.When we came to choosing three case study schools (The West School, The Commuter School and The North School) from amongst the eight initial schools, we were able to make our selection from institutions that we knew were different in several respects. The West school is a school situated in a suburb of a larger city with an socio-economic status (SES) comprising a large number of workers, white collar workers, and with a proportion of students from minority groups of approximately 25%. The school's principal has been in the post for only a few years, and she took over from rather a charismatic predecessor and has therefore been working to make her own mark on the school. The head is working to modernise the school's organisation, and the discussion of newer organisational forms has just begun considering a team-based organisation. The Commuter School is situated in a smaller municipality that has

over the years become a sort of suburb to a larger adjacent city. The school's catchment area is characterised by children from homes of white collar workers. It has been known to be a rather progressive school, and the principal acts as an adviser to the municipality on matters of education and school management. The discussion of new structures using team-based organisation has been going on for quite a while, and the school is organised in three departments inside the school with self-steering teams.The North School is situated in a wealthy suburb of a larger city. The students' parents are well-educated, self-employed, employed in the private sector or civil servants. The principal has managed the school for approximately 15 years. When he took office, he embarked upon the task of reorganising the school and has made the school a team-based organisation, the teams having a high degree of independence because they are self-governing. The school's ideology is based on a conception of the students' multiple intelligences, which means that to a fairly high degree they are involved in the planning of instruction.We could see how the schools reacted differently to the demands made of them by the modernization of the public sector taking place outside them. This development means that government and local authorities are implementing new kinds of management and government. Schools, therefore, also develop diverse forms of relations between management, teachers and students. These three schools also have chosen different balances in focusing on the traditional, Democratic 'Bildung' and focusing on more contemporary demands for basic proficiencies.

## AN OVERVIEW AND INTRODUCTION TO CONTEXTS

As regards the discourse of a learning organization with close-knit teacher collaboration, we can roughly describe the West School by stating that forms of collaboration and management used here are rather traditional. Forms of collaboration and management generally practised nowadays such as team work are not that well developed, but the head is focusing heavily on exactly this aspect of school life. Some areas of instruction seem rather solid and traditional. This is not where the principal is focusing her work for the time being.The Commuter School has advanced a long way in developing forms of instruction and of collaboration and management. The principal is placing strong emphasis on developing these aspects of school life, in setting clear agendas, and in giving detailed feedback to teachers about their mode of instruction. The North School has worked intensively for a number of years with up-to-date forms of collaboration and management. Binding collaboration and networking are, therefore, fundamental characteristics of this school. Contemporary methods of teaching and learning focusing on students' individual and independent work are also widespread. The principal has clear and distinct opinions on such matters and, while he does not intervene much in practice in class and teamwork, he does make his position clear to the staff.

## NEW RELATIONS, GOVERNMENTALISATION AND COUPLINGS

We build on theories of the modernization of the public sector and democracy in schools because it is clear that modernization has reached a new and more radical phase, where the logic behind political and administrative decision-making is penetrating public institutions to a far greater

extent than we have been accustomed. That seems to present both new opportunities and new limitations for democracy in schools and for Democratic 'Bildung'. As it has been one of the main objects of our investigations to find out how current day government and management appears in schools, we are interested in how agents in schools react to it and how room for manoeuvre for Democratic 'Bildung' is being formed. The ways the schools are organized are the results of meeting the challenges of leadership. How they choose to organize themselves varies from school to school. While no two schools are organized in exactly the same way, there are some factors that pull in the same direction. We can point to the tendencies towards individualization and the focus on the individual child that is written into the law on the Danish Folkschool § 18.1: '*The planning of the instruction… must…be diversified so that it corresponds to the individual student's need and background*'. ('Consolidation Act No. 170 of 2nd June 2006', Act on Folkschool 2006). It is not possible to live up to this goal if organization is centralized; it is not possible centrally to steer individualization and differentiation of instruction. Therefore there is a tendency in the Danish Folkschool towards decentralization of the power of decision-making from management teams to teachers' teams, and towards more or less self-governing teachers' teams. Schools are organised in the same direction ands have a certain uniformity or isomorphism. There is an interdependency, so that when a certain organisational path is laid down there is a tendency for others to follow (Antonsen & Jørgensen 2000), even if this specific mode of organizing is not necessarily the most efficient one (DiMaggio & Powell 1983). It could be otherwise. Team organisation is only one among a number of possibilities. The schools are organised in a mixture of tight and loose couplings. On the one hand a decentralised structure with almost self-governing teams is an example of a rather loose organisational coupling between the school management and the teachers. On the other hand a tight meeting structure is an example of tight couplings.

At the North School the teachers have to document their results, but it is up to individual teachers to decide how they will do so, and this opportunity for free choice of documentation method shows that the organisational couplings in this area are fairly loose. One can say that the organisational couplings are loose because there are not many rules governing the way individual teachers' instruction shall be planned or how concrete coordination or documentation should take place. We have already noted that the principal of the North School does not interfere in procedures relating to the teachers' collaboration. He only interferes if there are conflicts that the teachers cannot solve themselves. He is regarded as a skilful problem-solver. Things are done differently in the different teams. There are, therefore, no strict rules for how the collaborative relations should be handled, and this is another sign of loose coupling.If a team has come up with a new initiative or invented a new tool for instruction, it does not necessarily spread to the other teams. Initiatives taken at one place in the organisation do not necessarily have repercussions in other parts precisely because the organisational couplings are loose. Such things are apparently not debated at the school, which is another sign of loose organisational couplings (Weick 1976a). All these traits hold true for the Danish schools in the project. So in the relationships between the

school management and the teachers, between the teams across age levels and between individual teams and the management team the organisational couplings are loose. The disadvantage of this feature is that the organisation is at risk of falling apart, and that both the management team and the teachers are at risk of having only a loose overview of the school.In order to keep the organisation together, there are on the other hand certain elements that are more tightly coupled and manage to hold the system together. The North School can serve as an example. The meeting structure that decides who is to participate in the various meetings is a means to keep the school together. It plays an important role in creating a sense that the individual is part and parcel of the same organisation, the same school (Kofod 2007b). One teacher has told us that the school's management team does a lot to promote the feeling that everyone is part of the same school. Another teacher told us that the management team stresses the importance of having many different teachers participate in the set meetings and in the committees that exist at the school (Kofod 2007c). This organisational trait helps participants to have a sense of what is going on in the whole school; and it helps good ideas and experiences to be disseminated in the school in spite of the loose couplings. These organisational features are means to tighten the organisational couplings.

The management team is represented at most of the meetings and on most of the committees. This makes the couplings between the management team and the teachers tighter in these areas. This representation helps to make the school more transparent, and the tighter couplings reduce parts of the complexity that are otherwise enhanced by loose couplings. If these tighter couplings were not also present, it would be impossible for the management team to fulfil its function with responsibility and to determine the organisation's direction, and to ensure the development of the organisation and its employees (Leithwood & Riehl 2005). They make it possible for the management team to see through organisational processes. Due to these tight couplings that are also part of the school's organisation, the management team is probably the one group that has the best overview of what is going on in the school – and is perhaps the only one to have one. Karl Weick has pointed to the fact that when couplings are loosened at one place in the organisation there will be a tendency that they will have to be tightened in other places. Having tight and loose couplings simultaneously is an intelligent solution to the dilemma of how to enable self-organising processes and at the same time keep an overview of what is going on in the organisation. Such a solution is a precondition if the school is both to be managed and to liberate free organising forces.

We can describe how the process of modernization works in the interplay between decentralisation and the loosening of couplings (Weick 2001) between central agencies and local agents that produces fewer prescriptions from central government directed at the municipal level and the school level (regarding, for example, finance and administration). We can observe similar processes within schools as management is decentralized, re-distributed from principal to teacher teams and to individual teachers. It is new for teacher teams to be inserted as a permanent link between

management and individual teachers. New tasks and duties are being distributed and so loosening the coupling (in relation, for example, to practical year planning and timetabling, or to parts of finance management), while other tasks are being re-centralized (for example, the setting of targets and the evaluation of instruction and learning), and in this way the couplings are being tightened. We see clear signs of re-centralisation on the part of the government, as it has presented much clearer and more detailed goals for teaching and learning on a national basis. The Ministry is also constructing new systems for testing and accountability (such as quality reports from schools to municipalities and on to a central agency). There are clear signals that relations between different levels of the public system are being based on a greater degree of mistrust.
We interpret this development in tight and loose couplings as a move towards governing through network. This means that management is changing from prescriptive, direct influence/power towards negotiation through setting the agenda, and this involves more institutionalized power. Management from one level to the other is effected at a distance when the level determines the framework and the direction, setting the agenda for the organizational levels and leaving it to the inferior levels to make things happen. At the same time we see more institutionalized management when social technologies such as contracts and procedures relating to standards and monitoring become more detailed and prescriptive.

**NETWORK MANAGEMENT**

In all Danish case study schools there is a growing focus on networks such as teacher teams. Teachers work in teams within the frameworks and directions given by, and often negotiated with, management. Management is conducted of the self-governing teachers at a distance. At the same time we see a number of social technologies. Many of those take the form of meetings: Education Council Meetings (all teacher staff and management meet regularly in accordance with school procedures), all staff meetings (teachers and other staff and management meet once or twice a year in accordance with requirements), team interviews (teacher teams meet with the principal), 'employee development interviews' (individual teachers met with principal once a year). There are also year plans (the year's instruction for a class put together by teachers and submitted to the principal), student plans (plans for individual student's progress) etc. That means that management influence is less direct and more in the form of sense-making, setting agendas and institutionalized influence. Within their teams, teachers have to collaborate very closely and therefore have to invest their personality in their work. It is not enough that they invest their time and presence; they must be motivated and engaged because they must collaborate closely and because they are given responsibility. The school's decentralized organization with its loose and tight couplings and the diffuse forms in which its exercises power is about somebody having power over others to activate sanctions, for example, or to create an secondary organization; and somebody has the power to make something to happen.One may say that the Danish schools are organized in networks, and that the teachers are self-governed. Elements of this self-governance derive from the consideration that the people involved, the teachers, are professionals and as such are quite capable of governing themselves precisely because they are

professionals.The goal of teachers' self-governance is not forced through by means of orders or directives; it is effected by government in the form of a regulation of teachers' behaviour that has been called 'The conduct of conduct' (Sørensen & Torfing 2005).

Management is about mobilizing and strengthening the freedom of teachers in order to make it possible for them to govern themselves. The conduct of conduct aims at encouraging the teachers to participate in the school's management functions, and to place that responsibility on them without the use of force. Management takes place through common values that steer the conduct of conduct in certain directions. An example of this is at the North School where the requirement of the Folkschool Act that teachers' instruction of children must be differentiated and adapted to the individual child (Statutory requirement of the Folkschools Act, 2006) is met through the decision to rely on the theory of the multiple intelligences (Gardner 1997; Kofod 2007a).The conduct of conduct takes place by means of distinct statements by the school's principal about the direction he wants the school to move in, by means of certain instruction technologies (portfolio), and by means of the school's architecture with classrooms that are so small that it is impossible for a whole class be in them for any lengthy period of time. Classes are forced out of the classroom and are thus induced to work in smaller groups in order to allow a better individualisation of instruction and focus on the single student's special intelligence. The principal's distinct statements set the agenda, and in this way he uses the indirect power of setting the agenda (Christensen & Jensen 1986) to decide what is to be focused on. This happens through debates about values, in which the school's leadershipteam makes presentations that are to be debated, through arranging theme meetings for the teachers, and through organizing projects that are going to be worked on throughout the school.

There are two central demands if we are to speak of network government. The first is the demand that management must influence all individuals at the school and from the possibilities and decisions that the individual chooses to use as his decision platform. Network government must relate to every individual teacher and strengthen their ability to act freely inside the decided framework that the school's management team has built up. At the North School, The Commuter School and the Inner City School the management team have very clearly communicated the school's value base so that nobody can be in doubt as to what these values are about and so that each and every teacher knows how to act accordingly (Kofod 2007d).Secondly the government must be economical in such a way that its goals can be realized with as sparse a use of resources as possible (Sørensen & Torfing 2005). Both the loose and the tight organizational couplings in the schools are each in their different ways aspects of the reduction of organizational complexity for both the teachers and the management team. Leadership in networks at a distance presupposes a distant leadership, and the loose couplings are a means to produce this. This reduction of organizational complexity is, in fact, an example of economizing the management and leadership effort, in that the governing network draws on the participating members' efforts, skills and experiences at the school.A precondition for successful management of the teachers at a distance

is that is possible to make the teachers active contributors to the schools work and management. At the Commuter School, the West School, the Inner City School, and the North School the teachers have taken the responsibility to be self-governing and they are very active in this self-management process (Kofod 2007d).The governance part of network management has two meanings. The first is the structural one. It is about the organization being organized heterarchially, horizontally, in more or less autonomous networks with decentralized centres and cross-organizational networks with their own decision units and decision platforms. This is the phenomena that can be observed in decentralized schools with self-governing teams.The other meaning is the discursive one. This is about creating a meaningful consensus about the social order that the management team and the teachers have created at the school. The hierarchical management that also exists in network organized organizations is overlapped by a heterarchial, horizontal management with discursive rationalities (Danelund 2005). A meaningful consensus about the social order expresses itself in the agreement about the division of labour with the distribution of leadership tasks from the management team to teachers as it has been seen happens in self-governing teams. The horizontal management of discursive rationalities is apparent in that the self-governing teams enter into mutual agreements about who does what and in that the leadership tasks in the teams typically shifts among the teachers in the teams.At the Inner City School and at the North School the management has succeeded in making the necessary common norms, values and goals accepted as common goals that the teachers work toward as direction finders. There is mutual agreement that the child shall be in the centre, that the instruction at the North School takes its point of departure in Gardner's many intelligences (Gardner 1997), that this point of departure means differentiation of instruction, and that this is achieved through a rigid focus on the individual child (Kofod 2007d).

## DISTRIBUTED LEADERSHIP

Network management implies distribution of leadership tasks (Spillane 2006; Spillane *et al.* 2004) down the institutional hierarchy, and the teachers managing themselves in doing their jobs. It builds on a certain form of governmentality, where leadership has changed from direct supervision to what can be called meta-governance. Meta-governance means that the management team defines the organizational frames for the work of the school and decides which elements are superior and which are subordinated. It establishes on the one hand partnerships, negotiations, choice possibilities and incentives for active participation, while on the other hand it is about establishing norms, standards, benchmarks, quality indicators and hierarchical instructions and control relations that make it possible to measure and evaluate governance. The meta-management is the means that creates the preconditions for teachers being able to manage themselves, to be self-governing. Meta-governance lies, for example, in the meeting structure or the organisation of teams that has been decided upon by the management team. Meta-management sets the organizational frames, but these frames are filled out by the teachers using the behavioural norms, values and goals that govern the teachers. Meta-management runs along two tracks. Firstly it creates, develops and mobilizes the participating teachers' energies, resources and

knowledge. This is done through actor technologies that promote these things. It may be such motivating initiatives as participation in determining your own working conditions, freedom to plan your own job, the opportunity to mark your influence on a common work place, all of which can be seen at several of the schools in the project. Secondly meta-management sees to it that the participating members of the network develop their governing activities inside a constructed scope of discourse that is verbally defined and accepted by the participants, and thus is part of the inner understanding of themselves and the others in relation to their mutual outside world.The dual character of meta-management is not only a matter between the school's management team and the teachers. The relationship is repeated in the relation between the teachers and the children. According to the law on the Folkschool ('Consolidation Act No. 170 of 2nd June 2006', Act on Folkeskole 2006), instruction shall be differentiated and adapted to the individual child's needs. At the North School there is widespread individualization of instruction and this is stressed both by the municipality's emphasis on the individual child's individual development and by the school's focus on differentiation of instruction and on individual contact between the single teacher and the single child. Here the frames are set for the development of initiatives from both teachers and children.The other side of meta-management, the part that influences attitudes, is also felt in relation to the students at the North School. It is stressed that the students must be treated as equals and as being responsible for their own learning. They are taken seriously and the teachers involve them in the planning processes regarding their instruction, the evaluation of their work and level of their attainment (Kofod 2007a).

In the case study schools we see that these issues develop differently. The management (head and deputy) of the North School is very clear when they state their position as to the direction in which they want the school to develop, and in collaboration with teachers they have developed a networking system where teachers in teams carry out all planning, all instruction and evaluation on their own. The managers only take part in team meetings, if they are called upon to do so by teachers faced with a problem or a conflict they want to discuss. Teachers are autonomous within two frameworks. On the one hand there are the direction and the social technologies set out by, and negotiated with, management, and on the other there is the tight and binding collaboration in the teacher teams. The autonomy among the teachers is collective. A phenomenon that binds the school into a comprehensive entity is the meeting structure, the school meetings, Educational Council Meetings and others mentioned above. It is clear that the principal exercises considerable influence in meetings about the whole school while he does not participate in team meetings. Here, we see leadership at a distance. We never found teachers opposed to the way the school functioned.Management (the principal and deputy) of the Commuter School are also very clear in stating their position on the values and the gaols the school should be moving towards. They have developed several forms of self steering and various social technologies that on one hand give opportunities for teacher participation and on the other hand demand a high level of personal commitment. Leadership is working to develop the school into being a learning organisation. There is substantial but not unequivocal support from the staff. Some teachers still find that it is

difficult to work under the superior lines of direction set by the leadership. In this school management is kept informed about classroom teaching. The deputy often visits classes and can therefore develop a rounded picture of the teachers' instructional practice and can act as critical friend to teachers. In many respect the two schools described so far are similar, but they also have their differences. Management at the Commuter School is not performed at a distance but is very close to teaching in classes.

In the West School the management team are distinct in their positions as to the direction the school should take. This is the case as regards teaching and students' learning and especially when it comes to changes towards more up-to-date forms of collaboration and management. The school's management is energetic in trying to persuade teachers to participate actively in establishing self-governing teams. Teachers are currently still employing many strategies that are designed and intended to obstruct or delay the implementation of this policy. Management is developing and implementing a number of social technologies parallel to this development, such as annual plans and meetings with teams. It is through those technologies that management keeps itself informed of developments in the classroom. The principal exercises her influence at the annual team meeting, when she sets the agenda and negotiates meaning. We observed, for example, a meeting at which she insisted that teachers should retain and develop their authority towards the students. In all case study schools we saw a very close collaboration within management teams. Management work as a team. They meet daily, they inform each other in detail, and they attune their interpretations and decisions before they announced them publicly. In most interactions within the management team there are symmetrical relations. They discuss at the same level and support and challenge each other.Another common feature found in all case study schools is that all principals are members of numerous networks involving both principal colleagues from other schools in the district and the local authorities. Some of the work that used to take place in the local authorities, such as writing common statements of principle and action plans or coordinating work between schools, is now done in the leadership networks. The head of the education authority delegates work here and therefore accepts that principals can influence the ways that work is done. This means that principals have to work outside their schools but at the same time they get the chance to influence the ways the education authority is run. We see this development as a parallel to the development in schools, in that managing at the district level is to a certain degree also based on networks.

**LEADERSHIP IS CONTEXTUAL**

The Danish project confirms international research (Leithwood *et al.* 2004) that management is very contextual. Being a successful principal in one school does not automatically mean that you will be successful in another school. In our case we see that the three schools are placed in a variety of socio-economical contexts. We also see that the principal of the West School has only been in that position for two years while the principal of the North School has been there for ten years and the principal of the Commuter School for thirteen years. In the North School there has

been a massive turnover in teachers since the beginning of the period. There has been a gradual change in the Commuter School and almost no change in the West school, so there the teaching staff is aging rapidly. Those factors alone have meant that the principal of the North school or the Commuter school has been in better positions to influence the direction the school was going than the principal of the West School. This may be the reason why these principals have had to focus on different aspects of school life. While the principal of the West School needs to focus on the fundamental structures and culture of the school and on the public sector modernization in the form of team building, this is not necessary at the Commuter School where the development is more in place. Here the principal can focus on developing instruction. In the North School both team collaboration and up-to-date teaching methods are well established. Here the principal can manage from a distance.An estimate of the democratic room for manoeuvre for staff in these schools will show that formal rights, such as rights to be heard and to share in decision-making, have been taken away from teachers (in an Act of 1991) and given to principals. On this basis we might claim that 'formal democracy' has diminished. However we could also take a look at the 'experience of democracy'. What are the opportunities for teachers to participate and negotiate (participatory and deliberative aspects of democracy)? When looking at negotiations about matters relating to the whole school, teacher have lost their voice and find that it has passed to the principal. In all case study schools, however, we see principals often involving teachers in negotiation, in discussion and in the development of plans before decisions are made. We also see that principals produce and negotiate frameworks and directions for teachers' work in teams. Here then teachers are autonomous.

**GOVERNMENTALISATION AND SELF-GOVERNMENT**

Foucault (1983) presented the concept of governmentality in order to describe the tendency for organisational techniques to merge increasingly with the personal features of employees and clients. In school terms this means that individuals are increasingly expected to manage professional challenges and developments by themselves. Teaching staff and students must express their personal commitment through their engagement in the organisation in ways that manifest personal competences, collaboration, involvement, initiative and pleasure. As subjects, they are expected to allow themselves to be subsumed in the visions and targets of the organisation. When it comes to participation, then, teachers find that they have a world of possibilities both at the school level, team level and classroom level. Participation is not an option; it is a requirement. The school wants them, body and soul. Seen through the lens of governmentality, the conduct of conduct could be said to be omnipresent in strategies in all the Danish case study schools (Dean 1999). Teaching and administrative staff participate in educational days that help to create a mutually shared language about the purpose and targets of the school and to foster a framework for interpreting the vision in the 'right' ways to move forward. Many schools are organised as learning organisations with large elements of self-governance. There seems to be a general tendency to delegate the management of teachers' teams to the teachers. In some cases this management is mostly about the implementation of the curriculum as regards specific subjects.

In other cases there are examples of extensive self-governance among teachers within self-governing teams. Here powers of decision-making are distributed to the teacher teams, which not only plan their own teaching but also manage their budgets, which are typically more or less decentralised to departments with the exception of the deployment of substitute teachers and the administration of wages. This structure is an example of the departmentalised school where students typically feel that they can acquire influence through the student council.

The schools have action plans where school values and key priority areas are formulated. At a team level meetings are held regularly to create shared ways putting the vision into practice. The principals keep up to date with team plans by having group appraisal interviews at intervals, from which they get feed-back, listen, give their approval and enter into dialogue with teams in order to be part of the process. At an individual level the principals make sure that they have committed employees by having individual appraisal interviews with each and every employee, usually following a detailed interview schedule that both parties partake in. The main focus here is on developing people. The appraisal interview is an opportunity for principal and employee to evaluate the preceding period and to express expectations and wishes for the time to come. It is also an opportunity for the principal to monitor whether employees are committed to the vision of the school, in that employees are obliged to justify how they operationalize that vision (Krejsler 2007). Obviously, there are certain differences in the ways these structures of governmentality are implemented. However, the tendency for organisational structures and the personal qualities of staff to be increasingly interwoven appears across schools in Denmark. The following represents a mapping of the extensive network of organisational structures at the North School that are aimed at committing students, parents and staff to a particular culture and vision with a wide variety of organisational strategies. At the top, the school board consists of parents, teaching staff and student representatives. The principal acts as secretary, and a parent representative acts as chair. The board meets once a month and makes decisions of principle.

Regular staff meetings serve to assemble all teaching staff as well as other staff in order to foster a sense of belonging while at the same time providing a venue to disseminate information. These allow the school's vision and targets to be constantly reiterated and give an opportunity for informal talk about this particular school's culture.Group as well as individual appraisal interviews serve as opportunities for teaching staff to legitimate and debate their thinking, actions and expectations and to receive the management's blessing that these are in line with organisational priorities.There are Educational Council meetings for all educational staff three to four times a year, where common strategies for developing and interpreting visions and targets are elaborated and strengthened. Beyond that there are a number of more specialized committees. The Educational Development Council, for example, meets six to ten times a year in order to co-ordinate the educational development priorities at the school.Weekly collaborative meetings take place within the individual teaching teams. Apart from that, there are gatherings focusing upon curricular issues as well as conferences on reading skills and the like, at which management

staff, relevant teaching staff as well as a school psychologist are present. Furthermore at the centre for students with special needs there are regular meeting between the school psychologist, the management team and the teachers of that specialised section of the school.This list only serves to illustrate the advanced form of social technology constitutes by this extensive network of meetings and coordinative efforts. In Foucauldian terms one would talk of an intensive governmentality structure allowing a co-ordination of organisational technologies and demands with individual subjects' wishes and expectations as to what they think is expected of them.

**DEMOCRATIC 'BILDUNG'**

Our interest in looking at the democratic opportunities for teachers is due first and foremost to our finding that there are clear links between the conditions under which teachers work and the conditions and frameworks that schools and teachers give students so they can develop a Democratic 'Bildung'. This kind of 'Bildung' is a matter not only of knowing about democracy but also – and to an even greater extent – of acquiring democratic patterns of interpretation and democratic ways of life (Beane & Apple 1999; Dewey 1916). Democratic 'Bildung', therefore, must include opportunities to test those interpretations and ways of living in real life.

**Teaching**

In this project, we investigated the kind of invitations and space for manoeuvre provided by school to democratic instruction and to students' Democratic 'Bildung'. We focus on the ways schools support students in getting authority through acquiring knowledge about the physical world, by getting academic knowledge, getting knowledge about social relations at many levels and getting insights into themselves. We also focus on how schools work in order to help students to develop their autonomy and independence. It is important to focus on two aspects of social life in schools, namely opportunities to participate and be a member of a community, and for contributing to deliberations in the community. We sharpen this aspect in discussing how deliberation should be given room for critical reflection. In the North School,some forms of collaboration and management and the social technologies that are used at school and teacher team levels are also transformed for use at the classroom level. Students are given substantial responsibility for planning and managing their own work and learning processes in collaboration with teachers. This takes place in various forms of project work, in many different, floating groupings, and through independent work on the basis of two-week plans.The teaching we learned about at the Commuter School points to a parallel development in the relations between teachers and students. There is a focus on several methods to enable activation and the development of independence. But the teachers here are in closer contact with the students' work on a daily basis. There is not as much focus on individual work as at the North School. The instruction and learning in the West School was a mixture of solid academia and inspiring teaching. We saw class teaching, project work, other forms of group work and individual work. In one class, a teacher who challenged students both socially and academically to take part in critical reflection.

**Collaborative Learning**

The students in these Danish schools seem to consider their classmates to be collaborators rather than competitors. Two of the Danish case study schools carry out a lot of project work. Teachers plan for a theme and students then have to choose an issue and decide to investigate that issue and how to present the findings to the student group. Project work is group work.Students stress that they have an influence on many decisions. They mention that they have voted on which themes to work with both in social studies and in science. Students also decide on the formation of groups for project work, but they consider it to be a difficult process and they need a lot of support from the teachers.In addition, teachers emphasize that students develop techniques and procedures for conducting meetings, for the use of agendas and so forth. They learn to master decision-making and prioritizing. This is often done in the form of role-play.There seems to be a widespread understanding of learning as being a social activity. One aspect of learning is commitment, and that is more often than not generated through sociality. Another aspect of learning is getting feedback on your expectations and experiences and on what you learn. The most important feedback, recognition and appreciation, is often given by peers in working groups.

**Tendencies**

As a whole, we see that modernization gives a new combination of tightening and loosening couplings. When we analyse opportunities for student negotiation, we can see that traditionally teachers decided on the issue taught and on forms of teaching and working. A good part of teaching was done as class teaching with the opportunities for teacher control and student participation and negotiation that this form gives. In modern teaching forms such as project work and group work, some of the couplings are loosened. The teachers still decide issue, but students or groups of students can choose the issue they want to investigate. The students also choose how to work, how to find solutions to their problems and how to present them to their peers. The teacher sets the practical framework and demands collaboration and a finished product. Those forms of working are parallel to some of the forms used at the school and team level, and therefore there is room for student negotiation in some phases of the work. Such negotiations can develop their communicative competencies and may allow them to advance a step towards a more comprehensive Democratic 'Bildung'. At the same time these forms of working reflect professional forms in that they demand of students that they are active and committed. In group work and in individual work it is difficult to hide or go into 'inner exile'.When it comes to participating in communities, there are differences from school to school. At the West School and the Commuter School more of the instruction addressed the whole class or student groups. At the North School whole-class instruction was abolished as a dominant work form, making space for group and individual work forms. This may give support to students developing greater independence and – maybe – lesser social competencies.As a whole we can see that the working forms used in the case study schools seem to be suited to the development of personal and social skills that are different from those developed in the traditional school. It seems, however, that those are the competencies that economic life in a global world demands.

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# SOME CONCERNS IN EDUCATIONAL RESEARCH
## (Key Note Address Delivered on 2008 December 26 at the Annual Conference of All India Association for Educational Research)

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*This paper explores some concerns of educational resaerch highlighted in various reports of Commissions on education and suggests a few strategies for ensuring qualitative improvement*

The concept and reality of knowledge has never been so important and central in the life of individuals, organizations, and societies in the history of our civilization as it is observed in the contemporary times. Today's societies are living, developing, thriving, competing, improving and surviving on the pivot of knowledge only. It is for this reason that these days we frequently hear about knowledge economy, knowledge society, knowledge explosion, knowledge management, knowledge capital, knowledge sharing, knowledge production, knowledge industry, knowledge workers, knowledge security, knowledge ownership, knowledge rights and what not. This realization of the enhanced significance of knowledge in all domains of human life has created widest interest of people in this powerful phenomenon of the time. Human beings as individuals and as communities always confront with variety of individualistic and societal needs and problems which become more complex with the passage of time. Even though these needs and problems are taken care satisfactorily, instinctively, human beings constantly crave for improvement in their need fulfillment throughout their lives. It is knowledge that forms the basis to satisfy their emerging needs, solve their problems and take them to higher levels of comfort and satisfaction through its application in every sphere of human activity. It is this application of knowledge in any field of human activity that gives birth to a rich array of new technologies which provide means to human beings to cross almost all hurdles coming in the way of their healthy comfortable and peaceful living. The kind of knowledge which is being referred to here is the outcome of a systematic search by people who have been trained and empowered for this task. This search does not yield infallible truths, rather it leads us to discover that knowledge which solves our life related problems and satisfies our needs. This kind of search for knowledge is research which is the most valuable pinnacle of the entire education system operating in any society. This obviously means that an education system without the fine quality of the pinnacle at the top of its tertiary sector has a limited worth in any reckoning of the strength of the education system of that society.

In the democratic world if school education is provided to all children and higher education to a reasonable size of the eligible population, as it is happening in many developed and some developing societies, it is considered a commendable achievement of the State and the people. However, merely making this kind of distributive educational arrangement may not be a sufficient measure

for the advancement of the society and for the continued up gradation of quality of life of its people. What would really make the society achieve new heights of development is its ability to reach new frontiers of knowledge and through it acquire newer ways of creating more comfortable, safer and equitable means and living environment. Research in different disciplines of knowledge is the only medium through which this ability is acquired. It is for this reason that today the ability to create new knowledge and the capacity to apply it for development has almost become the 'barometer of affluence'.

It is rightly stressed that the intrinsic strength and the affluence of a nation can be attributed to the strong knowledge base created by independent and original contribution to knowledge (Basa 2003) which, in turn, depends on the strength of the system of higher learning existing in the country. This reality has not only been understood effectively by the developed world which devotes a sizeable amount of its educational expenditure to research activities, but its worth has also dawned on many developing societies including, for example, China, Brazil, etc. as well. However, India is yet to fall in line, even moderately, with these societies, so far as its original contribution to knowledge and investment on research activities is concerned. There is no denying the fact that India has many state of the art research centres and laboratories and, as observed by Kothari Commission, the standards of research in these institutions and in certain subjects are high and comparable to those abroad. However, it is difficult to say the same for many subjects and for all universities.

Educational research provides fresh knowledge for the solution of problems in the field of education. In the entire education system it occupies a special significance for it helps in improving and strengthening all aspects of the education system including curriculum, its transaction, teacher preparation and performance, development of teaching learning material, learning achievement and evaluation, institutional management, educational access, etc. on the one hand, and on the other, in formulating appropriate policies and plans for educational development, which ultimately have a bearing on the quality as well as equitable distribution of education.

The Education Commission (1964-66) was of the view that educational research in India in 1964-66 was in infancy, its quantity being small and quality mediocre or poor due to the fact that most of this research then was confined to teachers training colleges which had inadequate facilities for research and few competent people to guide it. A couple of decades later, the National Commission on Teachers I (1985) found this situation only somewhat better when it observed that

> "Awareness that research in education, as indeed in other disciplines, needs to be promoted with a much greater effort and investment of resources has been growing during last three decades. As a result, the number of institutions and number of research projects all over the country has increased to some extent" (Chattopadhyaya 1985, p. 81)

However, the Commission painfully also placed on record their assessment that both quantitatively and qualitatively, the record of research in education was far from impressive. It is very undeveloped and is quite insufficient to serve as a basis for policy formulation and administrative 'decision making'. Elaborating it further it observed that 'during their visits to the States they heard of many changes and new educational programmes in curriculum development, in learning, teacher orientation and so on, but nowhere did they see any evidence that such decisions had been prompted or influenced to some extent at least by any good research or study'. One very important reason of the present malaise in our education system is that the quality of our decision making in education is quite unsatisfactory owing to our apathy to educational research and field study. Though in the educational budgets of the States and the universities, allocation of funds for this component of higher education has improved especially after the implementation of National Policy on Education (1986) and research activities in departments and colleges of education are said to have increased substantially, yet it is mostly confined to quantitative improvement.

UGC has started the Special Assistance Programme under which selected departments are given support at three levels. These include Departmental Research Support (DRS) that can be successively upgraded to give the Departments the status of Departments of Special Assistance and finally to the Centre of Advanced Studies (CAS). Surprisingly, very few departments of education have been able to earn the status of DRS, much less the status of DSA and hardly two or three of CAS. The other scheme to encourage research in departments by giving recognition to chosen ones the status of Departments for Potential of Excellence has hardly been availed by Departments of Education. UGC also promotes research by way of minor and major research projects in various disciplines including education. Over the decades budgetary allocation for research through stand alone research institutions has also enhanced. However, two important observations of the latest report of the National Knowledge Commission (2008) in connection with the state of research in India merit attention. One, that 'the importance attached to research has eroded steadily over time and two, the volume of research in terms of frequency of publications and the quality of research reflected in the frequency of citations or the place of publication, on balance, is simply not what it used to be'. In fact, NKC was critical of the stand alone research institutions in all disciplines including education which in its view were pampered with resources in the belief that research should be moved out of universities for improving its quality. The Commission rightly observed that in this process 'we forgot the important principle that there are synergies between teaching and research that enrich each other and that it is the universities which are the natural home for research'. In fact for universities research is essential in the pursuit of academic excellence. So it is time to 'reverse what happened in the past and make the universities the hub of research once again'. This of course would need 'change in resource allocation, reward system and mindsets'. It has been observed that not all the existing universities have separate departments of education where research activities can be pursued. Where these departments exist they conduct mostly routinised degree related research. In a recent

AIU meet of Vice Chancellors from all over India, it was proposed to establish department of education in every university so that they can work for both advancement of research and quality teacher education. However, many Vice-Chancellors of those universities where no department of education exists forwarded financial reasons that stand in the way of starting a new department. They complained of lack of support from State Departments and the UGC in this regard. While endorsing the recommendations of the Kothari Commission that deliberate efforts should be made to increase the allocations for educational research.

National Commission on Teachers I also suggested that 'at least one percent of each State's budget should be allocated for educational research'. National Knowledge Commission also held similar views and suggested that substantial grants should be allocated for research and provision of these grants should be competitive and the criteria for these grants should be different from the usual criteria for non-plan and plan grants. This obviously would create a better and more autonomous environment for conducting research and encourage those to conduct meaningful research, who are often constrained to initiate it for financial and administrative limitations and bottlenecks. Another issue that merits priority attention relates to dissemination of research. Because of non-existence of a centralized robust clearing house system for this purpose, lot of good work remains in oblivion and hardly reaches the hands of different players and decision makers in the field of education. It is rightly pointed out that 'even the little good research that has been done has largely remained in the archives and the administration has not used its findings for formulation of policies'. Although this role is being played partly by the NCERT, ICSSR, etc., their efforts are still not up to the satisfaction of the end users of these researches.

A complex issue relates to priorities in educational research. As these priorities in educational research at the national level from the standpoint of educational planners and administrators would be very different from similar priorities at lower levels or from the point of view of teachers, a rigid framework of priorities need not be evolved. This should be left to research grant disbursing agencies and the universities to decide about the research priorities at different levels.

Quality of educational research is the ultimate unfinished agenda that still demands a serious attention. It is not merely a question of selection of a relevant theme or problem for investigation rather it relates to the whole environment of research in university departments and colleges and centres of education. This ambience is generated through interplay of number of factors most important among them being the availability of able faculty members who have the capability and experience of conducting quality research and interest in guiding research with a view to create new knowledge and present new solutions to the educational problems and issues on scientific basis. It demands a conscious effort to attract and retain talented faculty members whose capacity is continuously upgraded by involving them regularly in professional development

programmes.

Other factors contributing to this ambience for quality research include easy access to required material for conducting research in electronic and print forms through effective networking of concerned institutions, administrative support and fair degree of autonomy to those engaged in research and access to avenues for sharing their research works and learning from others experiences. The research associations like this one can play an important role in both disseminating the accomplished works and also in providing a platform for capacity building and networking of scholars and research organizations as also in promoting a culture of enquiry among educators and research and study based decision making among educational administrators. The National Knowledge Commission has also suggested that besides other steps, the universities may be conferred with ownership rights, linking this ownership system with patent system. This in its view will make research more attractive and in the process bring about a radical change in the research landscape in India.

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# INADEQUACIES OF SIGNIFICANCE TESTS IN EDUCATIONAL RESEARCH

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*Tests of statistical significance are a common tool of quantitative research. The goal of these tests is to determine the probability that the results observed could have been the result of chance where the null hypothesis is exactly true in the population. The tests, however, have been used widely in the past 70 years as "proof" of the effectiveness of a given treatment or the existence of noteworthy relationship between variables. Researchers frequently have used the results of a significance test to assess whether their findings are valid. Although the value of significance testing continues to be debated, most experts believe it is inappropriate to make a judgment about the truth of a relationship between variables based upon the results of a significance test. In one sense, there is nothing wrong with significance testing. Rather, the inadequacies of the interpretation and application of the results are at issue. The purpose of this article is to summarize the criticisms and limitations that have been leveled at significance testing and also suggest effect size as supplement statistical significant procedures.*

## INTRODUCTION

Scholars have used statistical testing for research purposes since the early 1700s (Huberty 1993). In the past 300 years, applications of statistical testing have advanced considerably, most noticeably with the advent of the computer and recent technological advances. However, much of today's statistical testing is based on the same logic used in the first statistical tests and advanced in the early twentieth century through the work of Fisher, Neyman, and the Pearson family. Specifically, significance testing and hypothesis testing have remained at the cornerstone of research papers and the teaching of introductory statistics courses.

Currently, we are in an era where the value of statistical significance testing is being challenged by many researchers. Research methodology literature in recent years has included a full frontal assault on statistical significance testing. The assault is based on whether or not statistical significance testing has value in answering a research question posed by the investigators. One of the most important contemporary criticisms emphasises the need that researchers must evaluate the practical importance of results, along with testing for statistical significance. Kirk (1996) agreed that statistical significance testing is a necessary part of a statistical analysis. However, he asserted that the time had come to include practical significance in the results. He recommended the use of statistical significance testing; however, it must be considered in combination with other criteria. Specifically, statistical significance is one of the three criteria that must be demonstrated to establish a position empirically; the other two are being practical

significance and replicability. This paper considers both use of and problem with statistical significance testing. First, some relevant issues related to statistical significance testing in research are briefly reviewed and then the major criticisms of statistical significance tests are explained. Finally, in response to the criticisms, reporting effect size which should be done in conjunction with statistical significance testing has been suggested.

## Use of statistical significance testing in research

It is important to have a good understanding about what basic purpose statistical significance testing provides for researchers. The fundamental concept underlying statistical significance testing is sampling variation: from a population with known parameters (e.g., known population mean), sample statistics (e.g., observed sample mean) will vary around the population parameter to certain extent. How much sampling variation can there be? How likely will an observed sample statistic (e.g., sample mean of 68) can occur due to sampling variability (i.e., by chance) for a given population parameter (e.g., population mean of 80)? In a nutshell, statistical significance testing is conducted to evaluate the viability of null hypothesis by assessing how likely some observed sample statistic could have occurred as the result of random sampling variation for a given population parameter. More specifically, statistical significance testing answers the question: what is the probability of obtaining an observed sample statistic for a given or known population parameter?

Assuming that there exist two treatment conditions, A and B ( A represents a new instructional approach in teaching mathematics, while B, represents the conventional instructional approach currently in use). The program evaluation team is interested in knowing if A is better and more effective than B in teaching maths to children. The null hypothesis in this situation is that A and B are equal, i.e., students under A and B will learn equally well. Obviously, because of sampling variation, the two samples (one under A, and the other under B) typically will not have the same statistics, even if A is needed the same as B. The question becomes: how different the sample statistics should be between A and B samples when one can say with confidence that A is different from B in effectiveness. Given the null hypothesis of no difference between A and B treatments, smaller observed difference between A and B samples is more likely to occur than larger observed difference between two. When the difference between the two samples become sufficiently large relative to the theoretical random sampling variation such that it becomes highly unlikely if A and B are equally effective (null hypothesis of no difference), one concludes that the observed result is very unlikely to have occurred if the null hypothesis is indeed true. As a result, the null hypothesis of no difference is rejected and it is concluded that A and B are not the same in their effectiveness in teaching maths.

It may be noted that in statistical significance testing, all that is assessed is the probability of obtaining the sample data (*D*) if the null hypothesis (H0) is true. If *p* is sufficiently small (e.g., smaller than .05 or .01), the null hypothesis will be considered not viable, and will be rejected. The rejection of the null hypothesis reveals that the random sampling variability is the unlikely explanation for the observed statistical results, but it gives no indication about importance of the obtained statistical results. Going back to the example of A and B approaches in teaching mathematics, rejection of the null hypothesis simply reveals that it is unlikely that A and B are equally effective, but it does not give one any indication about how much more effective A is than B, or vice versa . The real meaning of statistical significance testing, however, has often been lost in research practice, and the importance of statistical significance tends to be greatly exaggerated.

## COMMON CRITICISMS ABOUT SIGNIFICANCE TESTING

The most frequently expressed concern is simply that statistical significance testing identifies statistically significant results but not necessarily practically significant results. This criticism is partly a product of the relationship between the size of a study (number of participants or degree of freedom) and statistical significance. Even the smallest relationships can become statistically significant, if a large enough sample is used for the study. Thus, the argument goes, many studies are getting published and taking on disproportionate importance because they demonstrate statistical significance, even though the magnitude of the effect measured has no practical value.

Biskin (1998) pointed out that increased sample size will eventually yield statistically significance only if the null hypothesis is false. Further more because the null hypothesis refers to population parameters. They are truly experimental studies in which the null hypothesis is true. However, Vacha-Haase and Thompson (1998) have questioned whether this inference can be extended from a theoretical population to actual sample values. They and others have argued that in practice the null hypothesis is essentially always false. Thus, statistical significance testing becomes a tautological exercise in demonstrating evidence for what is already known.

The second criticism of the use of statistical significance testing is that the null hypothesis, which is fundamental to all statistical significance testing, is often misunderstood and misinterpreted (Kirk 1996). The typical null hypothesis assumes in advance that there are no differences between groups or, in the case of continuous variables, there is no relationship between the variables. The significance test then determines the probability that the reported data would occur given that there is no relationship. However, generally investigators do not

want to know this probability. Instead, it would be much more useful to know the probability that there is no relationship, given the reported data. The probability that a researcher's null hypothesis is false, given some set of data, may be quite different from the probability that these data would occur, given the null hypothesis. Ottenbacher (1989) pointed out that this error results from a failure to consider Type II errors. Type II errors result from failing to reject a null hypothesis even though it is true. The probability to Type I errors, which is controlled in conventional significance testing, does not imply that the probability of Type II errors is controlled at similar levels. Cohen (1994) noted in this regard that significance testing "does not tell us what we want to know, and we so much want to know what we want to know that, out of desperation, we nevertheless believe that it does".

A third criticism has to do with the a priori selection of an alpha (á) level against which the probability level for each test statistic is to be compared .Whereas conventional choices of alpha levels, such as 0.5, are commonly used in an effort to balance the application of a study's power toward avoiding both Type I and Type II errors (Olejnik 1984; Ottenbacher 1989). Most authors make little effort to actually assess the power as irrelevant (Rosenthal 1979). Moreover, the selection of a specific alpha level imposes an artificial dichotomy on a static (*p*) that is continuous (Kirk 1996; Thompson 1997; Young 1993). The practical difference between calculated probability of .049 as opposed to one of .051 is certainly not as dramatic as the dichotomous decision that only the former result is statistically significant, with all that it may imply, whereas the other is not. Frustration with this arbitrary dichotomy may encourage authors to refer to some results as "nearly significant" or "approaching significance.

A fourth criticism of the use of significance testing involves misuse of the results. Perhaps as a consequence of the combination of previously cited criticisms, some authors seem to associate significance testing with replicability or reliability (Schmidt & Hunter 1995; Thompson 1996; 1997; Vacha Haase & Nilsson 1998), which leads to the assumption that a p value of .001, for example, is somehow more important or more impressive than a p value of .05. Certainly, p values are not a measure of the likelihood that a given result will be replicated (Cohen 1994). Nevertheless, getting a very small p value often leads to the potentially misleading description of a result as "highly" significant or as evidence of a "strong effect", in spite of the fact that p level does not imply the strength of the relationship (Friedman 1968; Vacha-Haase & Thompson 1998).

Schmidt and Hunter (1995) also cautioned against another all too common error when reporting nonsignificant results which is also related to the magnitude of the p value. That is, some authors infer incorrectly that nonsignificance implies that there is no effect. Clearly, a nonsignificant

result only indicates that the data being tested do not provide adequate evidence to reject the null hypothesis, given a particular alpha level. The nonsignificant result does not demonstrate that the null hypothesis is true.

Two additional, somewhat more technical criticisms were raised by Thompson (1993). The first criticism involves hierarchical testing within the same data set. Given the recommendation that higher order interactions should be tested in factorial ANOVA studies before main effects (Keppel 1991), Thompson has reminded that each of these tests may represent very different distributions of the samples size across means. These differences could result in very different power to detect differences for each test. Thus, whatever a significant result may mean in an omnibus test that includes the entire sample means, it may mean something very different for a main effect or for some other specific comparison in the same data.

The second technical concern of Thompson (1993) about significance testing relates to the relationship between the sample size and the assumptions on which significance testing is based. For example, ANOVA assumes homogeneity of variances, and ANCOVA additionally assumes homogeneity of regression. In testing these assumptions, investigators conduct significance tests in hopes of not rejecting the null hypothesis. Ironically, the same large sample size that provides power against Type II errors will also increase the likelihood that the null hypothesis rejected, making the use of those significance tests more questionable.

At this point, it should be clear that the objections to the use of significance testing are intimately interrelated. They certainly could have been organized and grouped differently here. Nevertheless, they also represent important concerns for investigators who want their results to be significant in the sense of having practical value.

## RECOMMENDED CHANGE IN PRACTICE (SUPPLEMENTING THE STATISTICAL SIGNIFICANT TEST)

Some authors due to criticisms noted previously, have recommended the complete elimination of significance testing (Carver 1993; Morse 1998; Schmidt & Hunter 1995). However, most have taken the more moderate view that significance testing should be supplemented with or placed in the context of additional information. Most regrettably, however, empirical studies of articles published since 1994 in psychology, counseling, special education, and general education suggest that merely "encouraging" effect size reporting has not appreciably affected actual reporting practices (Kirk 1996). Due to this lack of change, authors have voiced stronger opinions concerning the emphasized recommendation (Thompson 1996). 'Effect size' is simply a way of quantifying the size of the difference between two groups. It is easy to calculate,

readily understood and can be applied to any measured outcome in Education or Social Science. It is particularly valuable for quantifying the effectiveness of a particular intervention, relative to some comparison. It allows us to move beyond the simplistic, 'Does it work or not?' to the far more sophisticated, 'How well does it work in a range of contexts?' Moreover, by placing the emphasis on the most important aspect of an intervention – the size of the effect –rather than its statistical significance (which conflates effect size and sample size), it promotes a more scientific approach to the accumulation of knowledge. For these reasons, effect size is an important tool in reporting and interpreting effectiveness.

## CONCLUSION

Kirk (1996) recently noted that, our science has paid a high price for its ritualistic adherence to null hypothesis significance testing. The overuse and misinterpretation of statistical tests has been frequently decried in the literature. Nevertheless, the use of statistical significance tests remains common, and empirical studies reflect even an increased use of these methods. Use of statistical significance testing as an introduction and foundation for the discussion in this paper reviewed and followed by major criticisms of statistical significance tests. A quick perusal of the criticisms against statistical significance testing cited in present paper, confirm that more appropriate strategies such as effect size reporting which is already discussed and attention to practical significance must be taken to supplement statistical significance tests. Hence, researchers should be encouraged to analyze their results more carefully and demonstrate practically their study outcomes. It is hoped that researchers will be able to find out that the criticisms are having a noticeable impact on educational researches, planning of analysis and reporting of quantitative results.

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# FRIENDSHIP SKILLS OF THE PRIMARY SCHOOL TRIBAL CHILDREN IN RELATION TO THEIR SEX AND TYPE OF FAMILY

**Rita Chopra**
**P. K. Sahu**

*The aim of the present investigation was to study friendship skills of the primary school tribal children in relation to their sex and type of family. The findings reveal that there exists significant difference between the friendship skills of Primary School male and female tribal students. The study found no significant difference between the friendship skills of tribal students belong to nuclear family and joint family and significant difference in the mean scores of the friendship skills of Primary School tribal and non-tribal students.*

Scheduled Tribes, the most disadvantaged groups in India, are enlisted in Article 341 and 342 of the constitution. In India 8% of the population belongs to scheduled tribe. But majority of them live in scattered habitations located in interior, remote and inaccessible hilly and forest areas of the country. Efforts are being made by the Govt. of India to provide numerous facilities to the disadvantage groups with a view to bring them at par with the various privileged sections. According to Article 46 under Directive Principle of State Policy of Indian constitution, the State shall promote, with special care, the educational and economic interests of the weaker sections and in particular of Scheduled Castes and Scheduled Tribes and shall protect them from all social injustice and all form of exploitation. The constitution of India prescribes certain safeguards for the tribal along with other disadvantaged groups either specially or by the way of general rights of the citizens. The objective of such safeguards is to promote the educational, socio-cultural, political, economic and service interest of the disadvantaged sections of the country. The Govt. of India has formed the National Commission for Scheduled Castes and Scheduled Tribes, with the passing of Constitution (68$^{th}$ Amendment) Bill 1990, for the welfare of the tribal population of the country. The union government has also created a special Ministry called Ministry of Tribal Affairs, which looks into the matters exclusively related to tribal development. In spite of numerous efforts made by the government of India, these disadvantaged groups, especially the tribal section, have not been able to derive full advantage given to them. The tribal people are backward not only in educational and economic aspects but also in social aspect. Bakwardness develops a sense of inferiority among them and influences directly on tribal school going children. These factors cause low self-confidence among the tribal children and hampers their social relationship too. The children fail to maintain better friendship not only with the children of own group, but also with the non-tribal group of children. The major problem that tribal children face in forming friendships is that their interaction opportunities are constrained by geographical factors. They live in scattered remote areas, separated by substantial distances from other children and to make contact outside of school may be difficult and impractical. The formation and maintenance of a satisfactory friendship is an interpersonal achievement built upon a foundation of interpersonal

skills. Some of these skills contribute to social success in the broader sense of peer acceptance; others are specific to the requirements of friendship. To be sure, the features and course of friendships reflect an intermingling of the expectations and interpersonal skills of the two participants. Additionally, broader encompassing social circumstances-such as structural interaction opportunities, changing group membership and local and cultural group norms – also influence friendship. Bierman, Miller and Stabb (1987) studied the quality of peer relationships among children exposed to different families. In this study three hundred sixty-three school-aged children from joint and nuclear families were interviewed about their friendship networks, frequency of social contact and the interpersonal quality of their friendships. However, children exposed to nuclear reported feeling lonelier and having more conflict with a close friend as compared to the children from joint family. Findings confirm that it is important to examine the quality of relationships to determine how children at risk fare in their social lives. Blurton and Buhrmester (1990) studied friendship formation during preadolescence and adolescence period. Results indicated that children, especially girls, possessed better friendship skills than the boys. Choi and Kim (2003) looked into the effects of coaching children in social skills. With a view to improve social interaction and peer acceptance, small sample of primary age children were taken for the study. The result revealed that the coaching provided to the children of small group affects significantly social acceptance and peer acceptance. As social skills are important for every individual, it is essential to undertake maximum studies in these aspects. But the literature on this field, especially on children's friendship skills, has not progressed to a point where one can confidently enumerate the specific social tasks involved in friendship or the interpersonal skills necessary or sufficient for friendship success. As tribal children in India are as much important as others, there is a great need for adequate research in this field.

**OBJECTIVES**

To study the friendship skills of Primary School tribal children.

To study the difference between the friendship skills of male and female Primary School tribal children.

To study the difference between the friendship skills of Primary School tribal children belong to nuclear and joint family.

To study the difference between the friendships skills of tribal and non-tribal Primary School students.

**HYPOTHESES**

There exists no significant difference between the friendship skills of male and female Primary School tribal children.

There exists no significant difference between the friendship skills of Primary School tribal children belong to nuclear and joint family.

There exists no significant difference between the friendships skill of of tribal and non-tribal Primary School students.

## METHOD AND PROCEDURE

For the present study, the investigators decided to adopt descriptive survey method. It is a method of investigation to study, to describe and interpret what exists at present. A sample of 300 tribal students and 100 non-tribal students of Primary School was selected randomly from Kalahandi District of Orissa. Out of 300 students, 150 students belonging to joint family and 150 students belonging to nuclear family (both male and female), were selected from the tribal dominated area of Kalahandi District. Similarly 100 students, other than tribal communities, were selected from the same region of Kalahandi District. The researchers developed a questionnaire to measure the friendship skills of Primary School students. There were 30 questions in the questionnaire to be scored on 5-point scale. These five points are: - Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. For the positively worded statements, Strongly Agree carries 5 marks, Agree carries 4 marks, Undecided carries 3 marks, Disagree carries 2 marks and Strongly Disagree carries 1 marks. For the negatively worded statements Strongly Agree carries 1 marks, Agree carries 2 marks, Undecided carries 3 marks, Disagree carries 4 marks and Strongly Disagree carries 5 marks. The investigators collected data from the target sample by visiting the selected schools of tribal dominated area of Kalahandi District of Orissa.

## RESULT AND DISCUSSION

In order to find out the differences in the friendship skills of tribal children within their own group and with the non-tribal children, t-ratios were employed by the investigators. The hypothesis framed to achieve the objective stated above is that there exists no significant difference between the friendship skills of male and female Primary School tribal children. The obtained t-ratio for the friendship skills of primary school male and female tribal students i.e.4.31 is more than the table value at.01 level of significance. Therefore it is significant at .01 level. It means that there exists significant difference between the friendship skills of Primary School male and female tribal students. Thus, the null hypothesis ($H_o$), which states that there exists no significant difference in friendship skills of Primary School male and female tribal students, is rejected. The mean score of the tribal male students i.e. 88.30 is considerably higher than the mean score of tribal female students i.e. 67.80. Therefore, it can be interpreted that the male primary school students have better friendship skills than the tribal female students. The calculated t-ratio for friendship skills of primary school tribal students belong to nuclear and joint family is 1.67, which is not significant at both .05 and .01 levels. So it can be interpreted that there exists no significant difference in mean scores of the friendship skills of Primary School tribal students belong to nuclear family and joint family. Hence, the null hypothesis ($H_o$), which states that there exists no significant difference in friendship skills of Primary School tribal students belonging to nuclear family and joint family, is accepted. Though the mean score of tribal students belonging to joint family is a bit higher (i.e. 78.90) than the students belong to nuclear family (i.e. 75.22), it does not promise any noteworthy difference. The obtained t-ratio for the friendship skills of tribal and non-tribal students was 5.02 was greater than the table value at .01 level. It means that there exists significant difference in the mean scores of the friendship skills of Primary School tribal

and non-tribal students. Thus, the null hypothesis ($H_o$), which states that there exists no significant difference in friendship skills of Primary School tribal and non-tribal students, stands rejected. The mean score of the primary school non-tribal students is 89.37, which is higher than the mean score of tribal students i.e. 71.36. It shows that the non-tribal students are better in their friendship skills than their tribal counterparts.

## CONCLUSION

From the above result, it was found that there exists significant difference in mean scores of the friendship skills of Primary School male and female tribal students. The mean score of the tribal male students is considerably higher than the mean score of tribal female students. It reveals that the tribal male students have better friendship skills as compared to the tribal female students. The result concerning the differences between the friendship skills of tribal students belong to nuclear family and joint family reveals that there exists no significant difference in the friendship skills of tribal students belonging to nuclear family and joint family. Though the mean score of tribal students belonging to joint family is a bit higher than the students belong to nuclear family, it does not promise any noteworthy difference. Whatever the difference between the scores of the tribal students belonging to nuclear family and joint family existed, it may be due to fluctuation in sampling and chance factor. The finding was contradictory to the findings of Bierman, Miller and Stabb (1987). It may be due to the sample, tool used, and geographical area taken for the research. The investigators, further, found significant difference in the mean scores of the friendship skills of Primary School tribal and non-tribal students. The mean score of non-tribal students is significantly higher than the mean score of tribal students. Thus, it can be concluded that the non-tribal students possess better friendship skills than their tribal counterparts. It may be due to the geographical differences, socio-economic status and education of the family. It has also been observed that the tribes keep relation with their own group, whereas the non-tribal people have a wide social circle.

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# ESSENTIAL FACILITIES FOR QUALITY BIOSCIENCE TEACHING IN SECONDARY SCHOOLS

**Gitanjali Mohanty**

*To ensure quality bioscience education the essential facilities like text book, teacher, teaching aids, library, laboratory and co-scholastic activities are required .The study was undertaken to analyse the status of bioscience education in secondary schools of Orissa. The data were collected from the bioscience teachers and analysed. The study found that textbooks need much improvement like prefacing the objectives and guidelines to the teachers, chapter-end summary, suggestions for practical activities, and clarity in concepts with clear, colourful and labelled diagrams. The study suggested provision for science laboratories in schools and more emphasis on co-scholastic activities and improvisation of apparatus to step up teaching learning process.*

## RATIONALE

Effective science education is the need of the day. Human thirst to acquire more knowledge for better life has been encouraging research on various branches of science and the results, discoveries and inventions in the twentieth century have been eye opener of the humanity. The global population at large feels exploration and acquisition of further knowledge to make life on the earth easier and comfortable, is the priority in the 21st century. Therefore, science, particularly Biological science assumes the highest importance. These basic objectives led nations, worldwide, to redesign with a view to developing the curriculum on science. In India too, there have been persistent efforts in this direction from the later part of the 20th century. Biology is concerned with the study of living organisms which are immeasurably diverse and complex than the non-living matter. Hence, Biology is also described as life science. Hence, fundamental knowledge of biological science is required for students To cope with the modern age, Biological science should be taught effectively in the schools so that every student acquires fundamental ideas related to biological science.. The essential facilities required for effective bioscience education are: science text book of good quality, competent science teacher, black board and chalk, library with adequate science related books, well equipped science laboratory, audio-visual aids, science club, science fairs and exhibitions, science museum, botanical garden, excursions and visits to places of scientific importance, and Improvisation of low cost teaching materials

## OBJECTIVE

To analyse the essential facilities available in the secondary schools of Orissa for teaching biological science.

## PLAN AND PROCEDURE

To collect both qualitative and quantitative information, it was decided to elicit information from teachers through a self devised questionnaire.

**Sample**

The data were collected on the basis of random sampling. The technique of stratified random sampling was adopted for the purpose. The sample for the study was drawn from secondary schools of Khordha district, Orissa, basing on the level of achievement of the school in the Annual High School Certificate Examination, 2007 conducted by the Board of Secondary Education, Orissa. The level of sum total of scholastic achievement of a school as a whole was taken in to consideration. Eleven high level schools (securing more than 80 percent result), ten average level schools (having 40-60 % result) and ten low level schools (with result below 30 percent) were selected. Thirty one Biological Science teachers were contacted and their thoughtful views and remarks were collected through questionnaire.

**ANALYSIS**

**Teacher**

It was revealed from the data that 90 % of the teachers were having B.Ed degree of whom 50 percent were science graduates and 40 % were science graduates with post graduation,7 % were untrained graduates and 3 % having only +2 qualifications. Majority of the post graduates were having PG qualification in other subjects than Bioscience.

**Quality of Science Text Book**

The perceptions, views, opinions and suggestions of the teachers on different aspects of the prescribed text books "Science & Technology "for class IX and X as gathered through questionnaire are given as under. It was found that 83.87 % of the sample teachers in general, were of the view that the language, correctness of spellings and grammar in the text books are appropriate and effective. So also, 87.09 % opined that the titles and subtitles were appropriate to the content. With regard to the adequacy of the content provided in the text book in translating the objectives of teaching learning through appropriate Biological Science context, 77 % of the teachers responded positively. As regards the arrangement of the topics and sub topics in logical sequence in the text books, 81 percent of the teachers upheld the arrangement in the text books. Eighty seven per cent of the sample teachers expressed that universally accepted symbols, units and technical terminologies were used in the text books. In order to ensure enhanced visual attraction of the important words, sentences, illustrations and tables in a book it is necessary to high light such portions in bold letters, cater to colours and shades. In response to the point 87 % of sample teachers responded in agreement. Seventy four per cent of sample teachers mentioned that the illustrations in the text books were accurate and appropriate in shape and size, 70.96 % expressed appropriately labeled and captioned, 90.90 % opined relevant to the text and 83.87 % expressed that those are interesting and effective in communicating the desired ideas. Conversely, the illustrations were not accurate as perceived by 45.46 % of the teachers of high level schools, not appropriate in shape and size according to 25.81 % not appropriately labeled and captioned as viewed by 29.04 %. All the sample teachers expressed that there was no gender bias in illustrating the examples and all the examples in the text books were relevant to the text. The

study found that 40 % of the sample teachers opined that the following concepts in the text books required solved examples for better comprehension by the students: Blood group, blood clotting (factors), Respiration (mechanism), Excretion(description), Circulation(mechanism), Tissue and cell structure, Autonomic nervous system, Cell division, Structure of chromosome and Mendelian proportion of genetic characters. There should be a picture of green house in appropriate colour to teach effect of green house. The summary at the close of each chapter of the Biological Science text book presented the overview of the contents of the chapter which was favoured by 84 % of the sample teachers. On the chapter end exercises in the Science & Technology text books, 87 % of the sample teachers mentioned that there were varieties in the form of items (e.g. multiple choice type, short answer type, very short answer type), 90 % mentioned that the exercises cover the content of the chapters and test different objectives (knowledge, understanding, application, attitude and skill). To mention about the impact of the exercises, if catered to the requirement of slow, average and bright students, 65 % of the sample teachers opined that the exercises catered to slow and bright learners and 90 percent mentioned that those catered to the average students. Conversely 35 % of the teachers opined that the exercises did not slow and bright students.

**Laboratory**

Experiment plays a vital role in the process of learning science. Many intricate scientific concepts and principles can easily be grasped by the learners through direct involvement in practical experiment. The visual observation leaves an imprint in the mind of the learner. A laboratory is essential in secondary school to practice various experiments by the students and get convinced about the facts, events, phenomena etc. Regarding presence of laboratory in schools, facilities and scope extended to the students to observe experiment done by the teacher and to do experiment themselves. There was science laboratory in only 19.35 % of the sample schools, 80.65 % of the schools used to go without science laboratory. There was no science laboratory in all the low level schools which included Government schools. Science store was available only in 29.03 % schools. Separate Biological Science laboratory was available only in one private school. Facilities for doing Biological Science experiment by the teachers were available only in 12.90 % schools. Facilities for doing Bioscience experiments by students were available only in 6.45 % schools. Conversely experiment facilities by teachers and students were not available in 87.10 % and 93.55 % schools respectively.

**Audiovisual Aids**

It was found that 80.64 % of the sample schools had microscope, 77.41 % had maps, charts and models and only 68.75 % of the urban schools were having microscope. 72.72 % of high level schools and 62.5 % of urban schools were having computer facilities.

**Improvisation of Apparatus and Field visit**

Information elicited from the sample teachers about other measures taken to make bioscience

teaching effective through improvisation of apparatus and field visits. It revealed that in maximum high level schools(72.72 percent ) apparatus were improvised but 70 percent average level school conduct field visit and it happened in 60 percent low level schools, but unfortunately 54.55 percent high level schools found not to have the facility. In comparison to urban schools ,the schools located in rural set up used to conduct more field visit (66.66 percent) but contributed less (26.66 percent) improvising apparatus. High level schools were best among all the schools for making improvisation of apparatus and it was very poor in case of low level schools. The figure shows that performance of teachers for improvisation of apparatus is very good in respects of high level schools and very poor in respect of average level, low level and rural schools.

**Availability of Garden in the Sample Schools**

Garden is a vital necessity in imparting biological science knowledge to the students. Different aspects and scientific concepts of plants can be advantageously explained to the students by instant demonstration through the components available in the garden. From the information provided by sample teachers regarding availability of garden in the sample schools it is revealed that out of 31 schools garden was available in 20 schools which constitute 64.51 % of total schools and the gardens were not adequately equipped as per the requirement of studies in Biological Sciences.

**Biological Science Museum**

Though Biological Science museum plays a vital role in teaching biology, none of the sample schools was having a Biological Science museum as ascertained from the sample schools.

**Science Exhibition and Science club**

It was found that 58.06 % and 19.35 % of schools in general organize science exhibition and science club respectively. More average level schools (80 percent) organize science exhibition than other category of schools.

**Library**

A good library is the treasure of knowledge. Every learner ought to frequently visit the library in pursuit of knowledge as and when he or she finds leisure. In the secondary schools of Orissa the existence of full fledged library is very rare. In most of the schools library was limited to some *almirahs* and a teacher remains in-charge of library. There is a provision of classroom library and library period in the time table of each class. The transaction of library books takes place during the period. Students get rarely a chance to visit library for reading books in reading room, which is mostly non existent in the schools. It is revealed from the data that 52.5 percent of the students of sample schools visited library.

**SUGGESTIONS**

Review of the existing text books is essential .The objectives should preface each unit in Science

and Technology text book along with a word to teacher regarding method of teaching, co-scholastic activities and practical suggestions for improvising the relevant bioscience apparatus. Bigger, simpler, well labelled and self explanatory multi coloured clear diagrams should be provided in the text book. The textual material should possess clarity and should be organized in a systematic manner. A summary of the subject matter should be given at the end of each unit. Glossary of important scientific terms should be appended at the end of the book. The supplementary activities for the topics must be suggested at the end of the unit. Life sketches of Biologists like Linnaeus, Camillo, Golgi, Robert Hook, Lamark, Hill, Mendel, Darwin, Edward Jenner and their contribution should be briefly placed in the text book to set role model in front of the learners. The text of the book needs to be reviewed for use of simpler and colloquial words as far as possible. The text books should be attractive with hard cover binding. Keeping the present Biological Science Curriculum in view, the minimum qualification of the secondary school Bioscience teacher should be post graduation in Botany /Zoology / Life Science with a degree in Education. A biological science laboratory cum bioscience room is the basic requirement of the high school. In bioscience room charts, diagrams, graphs are to be displayed. Laboratory equipments and chemicals are to be stored as per requirement. There should be an aquarium and terrarium in each school. Till laboratories are established in the schools, alternative arrangements like high school students doing experiments in the nearest college laboratory may be explored. Schools should have adequate audio-visual aids. Every school must have a garden with plants, involving the bioscience syllabus. The students should be encouraged to take interest in maintenance of garden to acquire practical knowledge of plants and gardening. Every school should endeavour to maintain a bioscience museum displaying at least objects, specimens available in the surroundings. The community members should be associated in maintenance and growth of the museum. Every school must have a library with books supplementary to the test books with arrangement of sitting and reading by the students. Periodical magazines on bioscience should be available in the library. The existing arrangement of holding annual state level and circle level science exhibition / fair should be extended to school level. There should be a science club in every school.

## CONCLUSION

For imparting quality Biological Science education, to meet the national aspiration in line with the present curriculum, it is essential to provide adequate numbers of qualified and trained Biology teachers. Keeping in view the new text books, the teachers need to be well oriented on the topics in the textbooks and be aware of up-to-date developments in the field of Biological Science. Although laboratory is a basic prerequisite for a secondary school, it remains a dream for the high schools; even the schools have no store room. Provision of a well equipped laboratory in every school is essential. The text books need to provide, index, chapter end summary, suggestions for practical activities etc. They need to be reviewed and redesigned with clear, colourful and labelled diagrams for better comprehension of the concepts.

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# EFFECTIVENESS OF CAI PACKAGE IN BASIC ELECTRONICS TEACHING

**M. Kanmani**
**M. Radha**

*The study was athe pre-test – post-test equivalent- group design, for conducting the experimentto explore the effectiveness of a CAI package developed by theresearchers.It was conducted on B.Sc. students. It came out with strategies for improving instruction..*

## INTRODUCTION

Education is a natural, harmonious and progressive development of man's innate powers. It is a medium through which the society transmits its heritage of past experiences and modifications, system of values and the modes or skill of acquiring it. It provides children, youth and adults with the power to reflect, make choices and enjoy a better life. It is a key ingredient in economic and social development. In the 21st century "Information Explosion" and "Population Explosion" are the major problems in the higher education. Realising the danger of this disastrous situation, India has embarked upon a great adventure; the adventure of putting to use modern information and communication technologies for the delivery of education services. New experiments, creative innovations and appropriate strategies are being developed and tried out to improve education at all levels. To satisfy the needs of the 21st century education must be harnessed with technology and the teachers and learners are to be made familiar with and use ICT tools in their teaching learning process. Computer is now regarded as a super teaching machine. Computer based learning systems integrate seeing, learning and doing and thus making learning more effective. CAI packages of today are much more user-friendly and entertaining, than their predecessors. Students can now work at their own pace regardless of the level at which they are supposed to be. This promotes self-confidence, as it gives the student a feeling of control over what s/he is learning. CAI forces the student to remain focused on the topic at hand. In a classroom, it is easy for the students to simply nod their heads every time the teacher looks in their direction. However, CAI programmes are especially helpful in teaching subjects with which students often have difficulty.

## OBJECTIVES

To study the level of gain scores of experimental and control group students;
To study attainment of knowledge, understanding and application level objectives in the gain scores;
To study association between the habit of journal reading and gain scores of students.

**DESIGN OF THE STUDY**

The study chose the pre-test – post-test equivalent- group design, for conducting the experiment. Pre-tests (O1O¬3) were administered before the application of the experimental and control group treatment and post-tests were conducted after the treatment period

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**Sample**

Randomly selected 36 girl students of II year B. Sc Chemistry, Holy Cross College, Nagercoil, Kanyakumari District, were chosen for the study which constituted the total sample. Cattell's Culture Fair Intelligent test was administerd to split the sample into two equivalent groups. Based on the intelligence test score, they were categorised as Experimental and Control group by matched randomisation method. The researchers selected pairs or sets of individuals with identical or nearly identical I.Q scores and assigned one of them to the experimental group and the other to the control group. Hence, there were 18 students in experimental and control groups respectively.

**Tools**

1. CAI package in Basic Electronics, 2. Achievement test in Basic Electronics, 3. Catell's Culture Fair Intelligent Test, and 4.Personal Data sheet.

**Development of CAI Package**

The investigators had prepared a CAI package on the topic BASIC Electronics for this study. This topic was part of II year under graduate Physics course. The following steps were used for developing the CAI package.

**Validation of the Learning Package**

To enhance the quality of CAI Package, the researchers validated the package using expert validation, small group try out and individual try out.

**Achievement Test**

To evaluate the effectiveness of the CAI package used in the study and to compare the traditional method and the experimental method, an achievement test was prepared by the investigators based on the contents of the CAI package.

**Pilot Study**

To standardise the tool, a test was conducted to the sample consisted of 18 students in Experimental and Control Group respectively. The test consisted of 80 objective type questions. Each questions had four alternatives. The items that were answered correctly were noted down, and then the difficulty value and discrimination indexes were found. After item analysis, 30 items were deleted

and modification was made in the required item. The final form of the test contained 50 objective type questions. This tool was used to conduct the pre and post achievement test for this st udy. The content validity of the tool was ensured by giving the tool to the expert in Physics of Holy Cross College. The item validity of the test was determined through Item Analysis. The questions having 25% below difficulty value were ensuring content validity and they were taken for the achievement test. Reliability of the tools was found using split – half method and the reliability co-efficient of the test was found out to be 0.85, which indicates that the tool was reliable. There were fifty items in the achievement test. All are objective type questions. For every correct response, one mark was awarded and no mark was reduced for the wrong responses. Before starting the Experimental treatment, pre –test was administered to both experimental and control group students in Second year B. Sc Chemistry, Holy Cross College. After conducting the pre – test to both the control and the experimental group, the experimental group was taught on the topic Basic Electronics using CAI package with LCD projectors. It was conducted around 10 days. The control group was taught the same content using lecture method by the investigators, for the same time period. After conducting the experiment both the experimental and the control groups were given post–test. Their responses were valuated with the help of the scoring key prepared by the investigators. Appropriate statistical techniques were employed.

**FINDINGS AND INTERPRETATION**

In the experimental and control groups, 22% of the students had high level of gain score. There was a significant difference between the control and the experimental group students in the gain scores. Hence, the experimental group students are better than the control group students in the gain score. It is inferred from the finding that the experimental treatment is effective to the students. There is a significant difference between the control and the experimental group students in attainment of knowledge level objective in the gain scores. Hence, the experimental group students are better than the control group students in attainment of knowledge level objective in the gain scores. There is a significant difference between the control and the experimental group students in attainment of understanding level objective in the gain scores. That is the experimental group students are better than the control group students in attainment of understanding level objective in the gain scores. There is a significant difference between the control and the experimental group students in attainment of application level objective in the gain scores. Hence, the experimental group students are better than the control group students in attainment of application level objective in the gain scores. There is significant association between the habit of journal reading and gain score of control group students. Hence, the control group students gain score and their habits of journal reading are closely associated.

**RECOMMENDATIONS**

On the basis of findings the following recommendations are offered. Each college /school must have computers and LCD projector. The teachers must be trained to prepare Computer Assisted

Instruction package in their subjects. The educational authorities can supply the educational software at free of cost to all the schools and colleges. CAI package can be used in Physics teaching, which helps the students to analyse things systematically and keeps them to actively engage in the class room activity. The school library should provide opportunities to the teachers to use E-resources for their class preparation. The college library must have computers with multimedia kits. Libraries should be equipped with educational software CDs. The teacher training institutions can conduct training on 'Digital library' and use of E-resources in teaching. Students should be trained to use the technology in constructive way. CAI package can be used to teach the distance learners. The teachers who teach the specially challenged children are advised to use CAI packages for the better development. Parents should find time to take care of their children for the proper use of the technology with regard to their education. Government should take steps to enhance technology enrich classrooms. NCERT and SCERT could take up the task of developing Computer Assisted Instructional packages (CAI) and Computer Mediated Instructional Packages (CMI) for all subjects.

## CONCLUSION

Teaching is generally considered as an activity which is designed and performed for multiple objectives in terms of changes in pupil behaviour. Pupils on the other hand have multidimensional personalities having different styles. The common implication of both these facts is that the teacher should use different strategies of teaching which match the objectives of teaching on one hand and pupils learning styles and personality dimensions on the others. CAI package in Basic Electronics have revolutionised the whole teaching and learning process. This package would improve the knowledge of both teacher and students.

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# TOTAL QUALITY MANAGEMENT (TQM) IN EDUCATION – PERCEPTION OF SECONDARY SCHOOL TEACHERS

**Hadi Mohammad Pour**
**K. Yeshodhara**

*This paper aims to present the perception of secondary school teachers in Mysore city (India) regarding Total Quality Management (TQM) in education. It is an attempt to understand how these perceptions vary by demographic variable such as, gender & subject specialization (Arts and Sciences). Data were collected from 156 high school teachers in Mysore (India) on the Bonstingle's conceptualization of Demming's 14 points Total Quality Management (TQM) in Education (1992) and were analyzed using SPSS version 14.0. Analysis of Variance (ANOVA) was employed to find out the significance of difference between variables subscales. Significant difference was found between male and female teachers in the perception of total quality management. Female teachers had higher mean score than male teachers. Tthere is no significant difference between Arts and Sciences secondary school teachers in the perception of TQM in education.*

## INTRODUCTION

Quality has been the goal of an eternal through the corridors of human history. It has been the driving force for all human endeavours. Quality is the inspiration for transcendence from the mundane to the higher realms of life. It is the source of craving behind the unfolding human civilization through ages immemorial. Yet it has successfully eluded the dragnet of definitions proving the inadequacy of human intelligence. Quality stares at you. You recognise it. But you cannot define it. Any length of description of the anatomical details of a fragrant and beautiful flower- its petals, colour, shape, size, fragrance, softness, all put together- falls short of conveying its beauty fully. Quality lies in the perception of the consumer. What is "great" for one may not be good enough for another (Mukhopadhyay 2006, p.22). There are various well-known definitions of quality. Crosby (1979) defines quality as "conformance to requirement" while Juran and Gryna (1980) define quality as "fitness for use". Deming (1986) defines quality as "a predictable degree of uniformity and dependability at low cost and suited to the market". It is more towards quality in operation. Many organisations found that the old definition of quality, "the degree of conformance to a standard", was too narrow. Consequently, they used a new definition of quality in terms of "customer focus". It is reported that many companies had initially concentrated all their efforts on improving internal processes with little or no regard for the relationships between those processes and the organisation's ultimate customers (Brigham 1993). This failure to include the customer focus had resulted in companies struggling hard to survive. In the context of higher education, due to the intangible nature of its processes, there is a considerable discussion on the notions of educational quality (Green 1994 & Harvey 1995). Fincher (1994) describes how quality perspectives have evolved in education over the years by going through a shift from experience to technique, style and finally to process. Harvey and Green (1993) in their seminal

work point out that quality is a relative concept. Instead of having a single definition of quality, Harvey and Green provide five discrete but interrelated notions of quality. Quality has a variety of meanings and its range of meanings does cause confusion, as each individual's perception of quality differs (Shields 1999).

There are a number of researchers who have formulated frameworks for quality improvements (Johnson 1993; Susan 1995). These frameworks are entitled as Continuous Quality Improvement (CQI), Strategic Quality Management (SQM) or Total Quality Management (TQM). Even though there might be some differences among these approaches, the term TQM is considered to be more general to capture the essence of quality improvements. TQM has been defined as a strategic architecture requiring evaluation and refinement of continuous improvement practices in all areas of usefulness. Corrigan (1995) gives a definition with an emphasis on customer satisfaction: that " TQM is a management philosophy that builds a customer-driven, learning organization dedicated to total customer satisfaction through continuous improvement in the effectiveness and efficiency of the organization and its processes" (p. 61). According to Kaufman (1992), total quality management provides what is required as judged by the client. It is accomplished through everyone in the organisation being committed to achieve results, a passion for quality and decisions based on performance data. TQM emphasises that it is important for all elements to fit together to turn raw materials into the products and deliverables that satisfy clients. Customer satisfaction is the result most addressed by TQM (Crosby 1979; Caplan 1990). Neves and Nakhai (1993) describe the basic tenets of TQM which are as follows: "long-term perspective, customer focus, and top management commitment, systems thinking, training and tools in quality, increased employee participation, development of a measurement and reporting system, improved communication between management and labour, and continuous improvement". It can be seen from the above definitions that TQM describes two main notions: 1. Continuous improvement and 2. The tools and techniques/methods used. In general, TQM encompasses many management and business philosophies and its focus gets shifted, based on the scenario where TQM is applied. Whether it is in industry or higher education, TQM philosophy revolves around the customer.

TQM in education surfaced in 1988 at Mt. Edgecombe High school in Sitka, Alaska, when David Langford, the school's technology teacher/coordinator, applied Total Quality concepts in his classes. TQM has become increasingly popular in education, as evidenced by the plethora of books and journal articles since 1990 (Tucker 1992). TQM has also spread into mainstream of educational organisations. The Association for Supervision and Curriculum Development, for example, devoted its entire November, 1992 issue of its journal, Educational Leadership, to the quality movement in education. In support of the TQM initiatives in education, Crawford and Shutler (1999) applied Crosby (1984) model to suggest a practical strategy for using TQM principles in education. Their strategy focused on the quality of the teaching system used rather than on students' examination results. They argue that examinations are a diagnostic tool for assuring the quality

of the teaching system. To satisfy the educational needs of students, continuous improvement efforts need to be directed to curriculum and delivery services. From such a perspective, various root causes of quality system failure in education have been identified. These include poor inputs, poor delivery services, lack of attention paid to performance standards and measurements, unmotivated staff and neglect of students' skills (Ali and Zairi 2005). One of the weaknesses of such a perspective is in its concentration on the student as a customer whereas TQM in education should concern the customer beyond students. Literature available, points to a growing interest in applying TQM in education and for a wide variety of reasons (Thakkar et al. 2006; Temponi 2005). Some of the reasons include: pressures from industry for continuous upgrading of academic standards with changing technology; government schemes with allocation of funds, which encourage research and teaching in the field of quality; increasing competition between various private and government academic institutions; and a reduction in the pool of funds for research and teaching, implying that only reputable institutions will have a likely chance of gaining access to various funds.

The TQM framework should be built upon a set of core values and concepts. These values and concepts provide foundation for integrating the key performance requirements within the quality framework. A set of fundamental core values forming the building blocks of the proposed TQM framework is : Leadership and quality culture; continuous improvement and innovation in educational processes; employee participation and development; fast response and management of information; customer-driven quality and partnership development, both internally and externally. A quality circle consists of small groups of people that meet on a regular basis to discuss problems, to seek solutions, and to cooperate with management in the implementation of those solutions (Juran and Gryna 1980). Quality circles utilise organised approaches to problem solving and operate on the principle that employee participation in decision-making and problem solving improves the quality of work. In education, quality deals with monitoring and identifying the areas that affect the levels of teaching. The roles of the six core elements of a TQM framework are described as follows:

The past few decades were considered with pioneering work on educational leadership (Bensimon and Neumann 1993, Westerman 1994, Kezar 1998 and Friedman 2004). The leadership component deal with examining senior management personal of leadership and involvement in creating and sustaining a customer focus, clear goals, high expectations and a leadership system that would promote performance excellence. It also examines leadership system and policies internally that would impact staff and students and public responsibilities, establishing partnerships with industry, parents, and general community externally. Improvements in leadership effectiveness could be achieved through a participative management style that includes inputs from a comprehensive 360-degree feedback system from these internal and external stakeholders. The strategic planning of this element would examine how the institution sets strategic directions and how it determines

key plan requirements with a primary focus on customer satisfaction. This element examines the key aspects of process management, including learner-focused education design, education delivery, services and business operations. It examines how key processes are innovatively designed, effectively managed and continuously improved. The performance results of this element would examine student performance and improvement using key measures and indicators. This element examines how staff development and training is aligned with the institution's objectives. It would also examine the efforts to build and maintain a climate conducive to achieve performance excellence, full participation and organisational growth. Some of the strategic thrusts of this element would be on manpower development such as staff recruitment, training and career development, staff performance and recognition and quality work environment. The information management element should examine the management and effectiveness of the use of data and information to support overall mission-related performance excellence. It should ensure reliability and accessibility of the necessary key information required for day-to-day operational management. It would also focus on making analysis of facts and information and respond to situations in a fast and effective manner. This element examines how the institute determines the needs and expectations of students and stakeholders. It would include determining different performance measures and how the targets could be achieved. Some of the performance measures could be based on student satisfaction surveys, student forums and dialogue sessions, industry needs and satisfaction surveys and evaluation of teaching and learning effectiveness.This element should examine how partnerships at various levels, internal and external could be established. Effective leadership, good education management, efficient human resource management and versatile information management would definitely help in managing dynamic relationships with internal and external stakeholders. Implementing this proposed TQM framework involves complex and inter-related educational business processes. This would encompass various dimensions of quality (Lagrosen et al. 2004), including corporate collaboration, information responsiveness, teaching and non-teaching facilities/resources available, teaching and evaluation practices and the type of courses offered. But it is important to observe that all six core values and elements of the proposed TQM framework have an obvious customer focus with an emphasis on customer satisfaction and continuous improvement. Realizsng these six core values and elements is to identify the core educational business process, namely teaching and student learning, that provides the main vehicle for achieving customer satisfaction and quality improvements. Hence, it is important to focus on the TQM issues related to teaching and how continuous improvement provides the necessary foundation.

**NEED FOR THE STUDY**

Defining quality in education is a massive challenge since it deals with the most sensitive creation on earth –the human being. Industrial products are finished goods- take them or leave them. Nothing can be done once they are finished. Service is here and now. You can look for better quality only next time. Education has no such finished product, nor even the graduates. They are on the way "to be". Education only charges the human propensities to evolve and unfold it till the

last breath, a process that covers the human journey from 'womb to tomb'. Human beings continue to learn, and evolve, 'to be' (Mukhopadhyay 2006).Education is goal-oriented. Accordingly, quality of education has been seen with reference to excellence in education, value addition in education (Feigenbaum 1983), fitness of educational outcome and experience for use (Juran and Gryna 1988), conformance of education output to planed goals, specifications and requirements (Crosby 1979), defect avoidance in education process (Crosby 1979) and meeting or exceeding customer's expectation of education (Parasuraman et al. 1985). Holt (2000) argues, 'I shall suppose that education is concerned with the development that of minds of the pupils; school produce educated persons who, by virtue of their schooling, to be construe? Commitment to quality makes student proud to learn and work hardly for improvement. Quality improvement is a never ending process. Education quality leads to a prospective future. Hence, insight on quality indices and virtual implementation need to be given top priority and due attention should be paid to the category in the wide range of educational strata e.g. school, university, educational management, and the staff.

## OBJECTIVES

To study the level of perception of secondary school teachers in Mysore city regarding TQM in education.

To study the difference between Male and Female secondary school teachers in the level of perception regarding TQM in education.

To study the difference between Arts and Science secondary school teachers in the level of perception regarding TQM in education.

## HYPOTHESES

There is no significant difference between Male and Female secondary school teachers in the level of perception regarding TQM in education.

There is no significant difference between Arts and Science secondary school teachers in the level of perception regarding TQM in education.

## METHODOLOGY

### Sample

A total of 156 teachers swere elected from 21 secondary schools in Mysore. Teachers were randomly selected. Randomly, 21 schools were selected from total 61 secondary schools Mysore city (India). All the teachers of Science subject and Arts subject selected school were considered as sample for the study. Thus, the sample for the study consisted of 126 teachers of secondary school.

### Tools

Survey Instrument of Bonstingle (1992) was used to get the data on perception of secondary

school teachers regarding TQM in education. The original form of this tool consisted of 84 items based on Bonstingle's conceptualisation of Demming's 14 points of Total Quality Management (TQM) in Education. All the items under 14 points are to be rated by the sample respondents on 4- point Likert's scale having the ratings of " Not applicable"(0), Low (1) Medium (2),and "High" (3). In this study, 6 out of 14 points of Deming consisting of only 30 items were considered because they were very much related to school programmes, teacher teaching and student learning (Mukhopadhyay 2006). They were 1. Create constancy of purpose, 2.Adopt new philosophy, 3. Improve constantly, 4. Institute training on the job, 5. Institute leadership, 6. Drive out fear, so that everyone may work effectively for the institution.

**Procedure**

The selected school teachers were met individually for explaining purpose of the study and were instructed how to respond to the scale survey instrument of Total Quality Management in Education. Further clarifications were offered on the questions/doubts raised by them.

**Statistical Analysis**

The scales were scored as indicated above and the data obtained were subjected to statistical analysis using SPSS for windows (Evaluated Version 14.0). Mean and SD were calculated separately for all the 4 points in the scale and the total scale to describe the level of perception of secondary school teachers regarding TQM in education.The study employed "t" test for significance of difference between means to test the hypotheses formulated for the study. Considering the possible range of total scores on TQM questionnaire (0 to 90), the sample teachers were categorised into 3 groups: AA (Above Average), A (Average) and BA (Below Average) in perception about TQM in education. For this purpose, the total possible score 90 was divided equally into 3 groups: Teachers scoring between 0-30 as Below Average, 31-60 as Average and 61-90 as Above Average. The details of the number and percentage of teachers of 3 categories were: AA (No.38 and 24.3%) A (No.87 and 55.8%) and BA ( No. 31 and 19.9%). The study employed "t" test to find out the significance of difference in the perception about TQM in education between difference categories of teachers, Male and Female, Arts and Science, in Mysore. SPSS for Windows (version 14.0 was used for statistical analysis.

**RESULTS**

Results indicated that more than 50% secondary school teachers (58.2%) exhibited Average level of perception about TQM in education. However, the percentage of teachers with Above Average level of perception about TQM was more (24.3%) than that of teachers with Below Average level of perception about TQM (19.9%). According to the first null hypothesis "There is no significant difference between Male and Female secondary school teachers in the level of perception regarding TQM in education". The obtained results taken by SPSS 14 indicated that, there was significant difference between female and male teachers of Mysore in the perception

of TQM (t = 2.11 significance of 0.03 level). The observation of means between male and female secondary school teachers in Mysore indicated that the mean score of female teachers (mean = 1.76) was higher than that of male teachers (mean= 1.63). It is concluded that female teachers have better perception than male teachers regarding TQM in education. Thus, rejecting the null hypothesis, it is inferred that, there is significant difference between male and female teachers in the perception about TQM in education. **T**he second null hypothesis sated that "There is no significant difference between Arts and Science secondary school teachers in the level of perception regarding TQM in education". The obtained results taken by SPSS 14 indicated that, there was no significant difference between Arts and Science secondary school teachers of Mysore in the perception of TQM (t = 1.17 significant of 0.11 level). Thus, respecting the null hypothesis, it is inferred that, there is no significant difference between Arts and Science secondary school teachers in the perception about TQM in education.

## FINDINGS AND DISCUSSION

There is significant difference between male and female teachers in the perception about TQM in education. There is no significant difference between Arts and Science secondary school teachers in the perception about TQM in education. More than 50% secondary school teachers exhibited Average level of perception about TQM in education. Female teachers in secondary schools had better perception about Total Quality Management (TQM) in education than male teachers. Arts and Science teachers in secondary school do not differ in the perception about TQM in education. To conclude, educational organisations, such as schools, colleges and universities should have individuals who are committed to their organization, profession and well-being of their students. The vitality of all educational organisations lies in the willingness of principals to contribute to the development of their organisations. The process of TQM will lead to all round development of the institution, principals, teachers and students. The literature reveals that there is no difference between male and female of teachers in the level of perception total quality management in education(Thakkar et al. 2006; Temponi 2005). In contrast, study found the significant difference between male and female secondary school teachers in the perception about TQM in education. It has been suggested that total quality management may be a more feminine style of leading, but (Ali and Zairi 2005) found a significant difference between female and male teachers and total quality management. Men attributed their use of power and direct styles to total quality management, whereas women attributed their use of relational styles to total quality management.

## CONCLUSION

In all fields, especially education quality has an important matter. Total Quality Management as a necessary element always has a direct influence on the human improvement. It can be also led to high commitment and sprit in work environment. According to the study majority of secondary school teachers have exhibited Average level of TQM in education. However, the percentage of

teachers with Above Average level of TQM is more than that of teachers with Below Average level of TQM. Usually the common observation is that, females' teachers are more sincere and committed to their work. Always give importance to the quality as such female teachers in the present also study have better perception than male teachers about TQM in education. However, it can be suggested that, measures should be taken to see that, male teachers also have better perception of TQM and all the activities of the school to promote quality education. It is better for all the teachers of the institutions to be exposed to more quality in education which in turn would influence the perception of teaching. Teachers should be encouraged towards positive aspect of TQM and to take active participation to render quality education.

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# EFFECT OF SIGHT AND GENDER ON ENVIRONMENTAL AWARENESS AND PRO-ENVIRONMENTAL BEHAVIOUR AMONGST SCHOOL STUDENTS

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**Debasri Banerjee**
**Pintu Kumar Maji**

*Inclusive education is now one of the accepted educational policies in India. As students with sensory impairment are an integral part of mainstream society it is necessary that they too grow up as environmentally responsible citizens of a country .This study is based on quasi-experimental approach seeking to make a comparative analysis of environmental awareness and pro-environmental behaviour between sighted and visually impaired students belonging to secondary stage of education in the state of West Bengal, India. A self constructed standardised Likert type questionnaire was used. The statistical analysis found that that two groups did not differ in respect of environmental awareness and Pro-environmental behaviour. The degree of relationship between the environmental awareness and pro-environmental behaviour scores in the context of sightedness and gender was also found to be insignificant. Thus, the sense of sight or the gender does not have impact on the environmentalism.*

## INTRODUCTION

The objective of environmental education is to develop environmental literacy as part of school education for every child who comes to school including the special children who are integral part of inclusive society. It is difficult to define environmental literacy as no general accepted meaning has emerged. According to the National Environmental Education Advisory Council, to be environmentally literate is to understand how each and every component in an ecosystem interacts with and affects one another. In this formulation, environmental literacy has four aspects. Ecological concepts provide knowledge to make ecologically sound environmental decisions. Conceptual awareness is concerned with how individual and collective behaviours influence the quality of life and quality of environment. Issue investigation and evaluation develop the knowledge and skills to investigate environmental issues and evaluate solutions for remedying them. Environmental action skills develop skills for taking positive actions to help resolve environmental issues (Hungerford et al. 1980). According to another definition, environmental literacy is where an individual is not only knowledgeable about ecology, but is also able to combine knowledge and values, leading to action. It has been observed that a number of research works on environmental education has been conducted in the context of normally abled students in different areas of the world including state of West Bengal. The research areas in this respect include environmental knowledge (Meinhold & Malkus 2005), perception, awareness, attitude, literacy and particularly pro-environmental behaviour of the different categories of students including the teachers teaching environmental education. However, the researchers were unable

to locate any research work in the context of environmental education conducted on differently abled students (visually impaired, hearing impaired etc.) either in India or abroad , although a few awareness programmes for the nature's special children were organised by the West Bengal Pollution Control Board (WBPCB) to enhance their environmental awareness. WBPCB conducted a programme in association with Birla Industrial & Technological Museum (BITM) and Indian Institute of Cerebral Palsy (IICP). The main components of the programme comprised: "Sense the smell of nature" for students; Tactile game titled "Touch and Find"; and Painting competition and Quiz on nature and environment.

The researchers wanted to find out whether such awareness programme and school education has had any impact on the visually impaired students. Physically impaired children are integral part of the society (Kalyanpur 2008). Their education and normal development is the responsibility of the education system. Hence, it is necessary to know about their feelings and attitude towards environment and whether they differ in this respect from the other children, devoid of any such impairment. Besides it also requires that special children must come under the influence of environmental education. The study is especially important as it seeks to find out the present knowledge and awareness level of visually impaired children. The study did not include all types of special children, as the number of visually impaired children is highest among the all types of impairments, for which visually impaired group was compared with the normal group.

## OBJECTIVES

To study the effect of sightedness and gender on the scores of environmental awareness and pro-environmental behaviour of the students.

To study the degree of relationship between environmental awareness and pro-environmental behaviour of normally sighted students and visually impaired students.

## HYPOTHESES

There is no significant difference in environmental awareness between the normally sighted and visually impaired students-boys and girls.

There is no significant difference in pro-environmental behaviour between the normally sighted students and visually impaired students-boys and girls.

There is no significant difference between the normally sighted and visually impaired students-boy students as well as girl students in the degree of relationship - environmental awareness and pro-environmental behaviour scores.

## METHOD

### Sample

Purposive sampling was applied. It is a non-probability sampling. The present sample comprised 97 students (50 normally sighted and 47 visually Impaired).

**Tools**

Environmental Awareness Scale (EAS) developed by the researchers was Likert type (3-point) scale having a reliability of 0.72 (KR-21) and its item validity was also tested by Tetra choric correlation. Pro-environmental Behaviour Scale (EAS) developed by the researchers was a Likert type (5-point) scale having a reliability (KR-21) value of 0.66 and its item validity was tested by Tetra choric correlation.

## PROCEDURE

The students belonging to the secondary stage were studied. The average age at this phase of education is 14-16years. At this phase of development, the children pass through the formal operational stage of mental development towards the stage of hypothetical deductive reasoning as proposed by Piaget. Hence, they are likely to be impressed by the various environmental issues and the basic foundation of moral character is laid at this time. Moreover, it has been proved that environmental protection or action is positively correlated with social values. Sensorial deprived children may not perceive the environment as normally endowed children do. The items in the questionnaire were read out to both the sample groups by the researchers and responses were noted down. The researchers tried to maintain the objectivity as far as possible. The Mean (M), Standard Deviation(SD), Analysis of Variance (ANOVA), correlation and Fisher's z, were done to find out effect of the sightedness and gender.

## RESULT AND DISCUSSION

The results showed that the gender or sight had no significant effect on environmental awareness and pro-environmental behaviour. The means and the standard deviations of the awareness scores of different groups were: Total normally sighted (M-76.16, SD - 7.09), Total visually impaired (M-76.72, SD - 6.33 ) and the Sub sample boys ( for Normally sighted M-74.64, SD - 6.75 and for Visually impaired M-75.44, SD - 5.50), and girls ( for Normally sighted M-77.68, SD - 7.25 and for Visually impaired M-78.18, SD - 7.01), did not differ much. On the other hand the means and the standard deviations of the pro-environmental behaviour scores of different groups were: Total normally sighted (M-109.32, SD - 13.95), Total visually impaired (M-113.09, SD - 12.96) and the Sub sample boys ( for Normally sighted M-108.96, SD - 15.88 and for Visually impaired M-112.92, SD - 12.55), and girls ( for Normally sighted M-109.68, SD - 12.05 and for Visually impaired M-113.27, SD - 13.71), also did not differ much. The fact that these differences were statistically insignificant was further demonstrated, where all the F values for awareness (Total sample -.169, boys-.211and girls-.211) and for pro-environmental behaviour (Total sample -1.889, boys-.957 and girls-.915) were found to be insignificant. It is commonly believed that high level of environmental awareness will automatically make an individual adopt pro environmental behaviour indicating strong positive correlation between the two variables. However, previous research findings reveal that the relationship between the two is positive but weak (Gaterslaben etal. 2002; Bamberg 2003). It means that environmental awareness per se does not lead to environmental activism and some other factors like motivation and values are

involved. Analysis found that relationship between awareness score and behaviour score is weak but positive (r=0.27 for normal sighted and r=0.34 for visually impaired).The coefficients of correlation (r) between environmental awareness and pro-environmental behaviour for the sub-samples under study were tested for their significance of difference by computing the t-value. The obtained correlations were first corrected to the nearest two decimal figures (Corrected r) and the corresponding Fisher's z functions were found out followed by the estimation of t-value ( Total sample .3336, boys.4312 and girls.5428) . The first hypothesis was retained as the F value was not significant, which means that in respect of environmental awareness scores students with normal vision and those with visual impairment do not differ significantly. In the same way, all other hypotheses in this study were also retained as all the related F values were found to be insignificant. This revealed that the relationship between awareness and action is similar for both the two groups, that is visually impaired and the normally sighted.

## CONCLUSION

The study was conducted to find out the level of environmental awareness and pro-environmental behaviour among the normally sighted and visually impaired students. It was expected that the two groups may differ in the context of two above mentioned variables but statistical analysis did not show any such difference which means that the two groups belong to same population. It may also be concluded that the sensory impairment does not come in the way of the development of environmental awareness and adoption of pro-environmental behaviour. Probably, the schools were able to teach the visually impaired students about environment related problems. Therefore, it may be accepted that educational policy in the context of special education has been realised to some extent.

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# USE OF MATHEMATICS LABORATORY FOR TEACHING MATHEMATICS

**Donnipad Manjunath**

*The study developed a strategy for of teaching Mathematics in a Mathematics laboratory. It found use of Mathematics laboratory was more effective tahn the tarditional meth***od.**

## INTRODUCTION

Mathematics, according to National Education Policy 1986, should be visualised as the vehicle to train a child to think, reason, analyse and articulate logically. Apart from being a specific subject, it should be treated as a concomitant to any subject involving analysis and reasoning. With the introduction of computers in schools, educational computing and emergence of learning through understanding of cause-effect relationships and the interplay of variables, the teaching of Mathematics will be suitably redesigned to bring it in line with modern technological devices so that learning takes place effectively. Learning often takes place best, when students have opportunities to express ideas and get feedback from their peers. Feedback, to be most helpful to learners, must consist of more than the provision of correct answers. It ought to be analytical, to be suggestive, and to come at a time when students are interested in it. And then there must be time for students to reflect on the feedback they receive, to make adjustments and to try again - a requirement of Mathematics education that was neglected due to rigorous use of traditional methods of teaching. The traditional methods of teaching are no longer adequate to meet the demands of modern Mathematics education. In order to develop the skills reiterated in the policy and to provide practical experience of mathematical concepts, assumptions, assertions and rules, a strategy for teaching mathematics and a suitable platform to use such strategy is the need of hour. Every student has a unique way of thinking, learning and making sense of what s/he listens or observes. His/her active imagination constantly builds new connections. It assimilates new information. If the teacher is active speaker, the learning takes backseat and in the process, some faulty ideas can also form and lead to several learning gaps. These learning gaps need to be identified, questioned and corrected before they result into misconceptions. These misconceptions lead to low self- efficacy among students resulting low performance in the subject of mathematics. Learner learns faster, when s/he is influenced by his/her peer group. The role of teacher is reduced to facilitator. However to reduce the role of a teacher to facilitator, a change in methods of teaching is inevitably seen. A strategy for teaching Mathematics in a Mathematics Laboratory atmosphere that would transform the position of the teacher from being active speaker to facilitator of learning is the need of the hour. Hence this experimental study was taken up.

## OBJECTIVES

To study various methods ofteaching Mathematics in regular classes;
To study teachers' opinions about Mathematics Laboratory

To develop a strategy for use in a Mathematics Laboratory set – up a

**HYPOTHESIS**

There is no difference between teaching Mathematics through Traditional Methods of teaching and teaching through a strategy developed for teaching mathematics in Mathematics Laboratory atmosphere.

**METHOD**

**Assumptions**

Teachers are not using Mathematics Laboratory as an alternate platform for teaching Mathematics.

**Variables**

Independent variable was the use of strategy evolved in a Mathematics Laboratory to teach Mathematics and the dependent variable was performance of students.

**Sample**

For this experimental study purpose, two different samples were chosen. The sample of the study consisted of a total of 80 students of class X standard of Kendriya Vidyalaya, Ojhar and 100 teachers of Mathematics working in schools in and around Nasik. The sample of 80 students was divided into two groups: controlled and experimental, matched on the basis of their marks obtained in class IX on the basis of continuous and comprehensive evaluation.

**Tools**

Questionnaire consisting of 18 questions and Interview Schedule

**Procedure**

Questionnaire was constructed and administered among 100 secondary teachers. On the basis of the data gathered and analysis made, interviews of teachers was carried out, besides making online interviews with Laboratory heads abroad. Mathematics Laboratories located in different parts of country including the one in NCERT, New Delhi. While selecting the teachers on simple random sampling method, it was ensured that majority of teachers selected were secondary teachers, who were in touch with class $10^{th}$ contents of Mathematics. The researcher visited the Mathematics Laboratories functioning at NCERT, New Delhi and a few other Laboratories located in different part of the country. The responses to the questionnaire were analysed. A strategy consisting of three methods: Expository method, Cooperative Learning Method and Problem Solving method coupled with Modelling was developed. The strategy developed was used by the researcher for 10 weeks on the experimental group of the sample to teach mathematics in a Mathematics Laboratory atmosphere; whereas, the control group was taught the same Mathematics content using normal classroom teaching. The lesson plans (excluding the method

of teaching and Mathematics Laboratory), worksheets and modules were the same for both control and experimental groups. At the end of 10 weeks, a post-test was administered to both groups to evaluate and assess the performance of students. The data gathered through questionnaire and post-test administered on students were analysed.

**RESULTS AND DISCUSSION**

The difference between the mean scores of Experimental Group and Control Group on posttest was quite significant. The t – value statistically arrived was 5.59. The degree of freedom was 78 for which the level of significance at 0.05 level was 2.00; while the level of significance at 0.01 level was 2.66. Hence, t- value statistically arrived was greater than the levels of significance at both 0.05 and 0.01. Hence, the strategy developed for the purpose of teaching mathematics in a Mathematics Laboratory atmosphere was effective. Hypothesis was rejected on the basis of statistical inference drawn. It was concluded that the strategy evolved to teach Mathematics in a Mathematics laboratory was more effective than the traditional methods of teaching.

**CONCLUSION**

Mathematics Teaching could be carried out in a Mathematics Laboratory by integrating mathematics laboratory into regular curriculum. The strategy developed was a new way of teaching Mathematics. Mathematics teachers could be provided ample training in using this strategy, by inducting this strategy in teacher training curricula.

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# TIME CONCEPTS IN PRIMARY SCHOOL DEAF CHILDREN

**Sharmista**

*This paper studied the time concept in primary school deaf children. It was a pre-testa nd post-test design. results indiacted significant differences in time concepts of deaf and normal primary school students.*

## INTRODUCTION

The issue of time focuses upon the experience of past, present, future, simultaneity and duration. It is also possible to divide the question of time into two complementary concepts : (1) Time as an order of events or as relation of the type 'now', 'earlier', 'later' and (2) Time as duration or as the experience of the measure of time.The development of concepts of time is an abstract mental process involving reasoning. Without speech, the reasoning powers of the deaf are stunted.The deaf children use sign language which makes the learning of time concepts even more difficult. The vocabulary of the deaf children is limited. They only understand the words for which there are equivalent signs. The deaf children with sign language have limited exposure to conversational situation. The learning of time depends on memory and retention. The deaf children cannot retain what they learn for a long time. Without hearing the deaf children are deprived from their direct experience with the environment and input from others which are essential in the development of concepts of time in children.

## REVIEW OF RELATED LITERATURE

Studies of deaf children's more advanced conceptual and reasoning abilities of time are less common. This may be due to the difficulty in studying the thought and reasoning processes of deaf children who may not understand task instructions and researchers who may not understand the deaf children they test. It has been found that the deaf children did not understand the notions of temporal sequence and duration of time intervals and so were prevented from thinking and planning for the future. In the deaf children, the understanding of time and related concepts is inadequate, incomplete and often virtually non-existent. Levin (1984) studied a total of 630 boys and girls from kindergarten to second grade who were asked to compare durations that differ in beginning times with those that differ in ending times. Possible sources of children's failure to integrate beginning and end points when comparing durations were discussed. Byholt (1997) reviewed the literature on how and when children acquire temporal concepts in the context of the acquisition of time concepts by deaf children. The stages at which children acquired concepts of clock, calendar, historical time, and chronology, and effects of language acquisition were discussed. A more formal structure of temporal concepts in the curriculum was recommended. Robert and Jay (1975) conducted six experiments in which deaf and hearing subjects decided the temporal order of events in picture series and in sentences. The deaf subjects, 8 and 11 years old, performed as well as hearing children on a nonverbal picture sedation task. Both deaf and hearing subjects also described most picture series in the natural

left-to-right order in which they were shown, and identified the left-hand picture in most series as happening first and the right-hand picture as happening last. In most respects, the deaf children's linguistic performance resembled that of much younger hearing children. Two major results were that deaf children generally used a sequence of simple sentences to describe the events shown in a picture series, and responded to most multiple-clause sentences presented as though the events being described had occurred in the order they were mentioned.

## OBJECTIVES

To study the development of time concepts in primary school deaf children in comparison to hearing children of their own age group.

To study the effect of intervention on primary school deaf children in the development of time concepts.

To study the difficulties involved in forming the time concepts by the primary school deaf children.

## METHOD

### Sample

Purposive sampling technique was used to select the sample. The sample consisted of deaf children and hearing children in the age group of 6-11 years drawn from the different primary schools of Mysore city. The size of the sample was 200 out of which 100 were deaf children.

### Tool

Test on basic time concepts for primary school children developed by the investigator was used. The test consisted of 25 items. The children had to fill in the blanks or put a tick mark to the right answer. Questions regarding 'yesterday' 'tomorrow', 'now', 'earlier', 'later', the names of days, months, counting years (in relation to before-after concept) date, week were given.

### Procedure

The study was experimental in nature with pre-test post-test design. The investigator visited the different primary schools of Mysore city selected for the study for the collection of data. The test on basic time concepts for primary school children was administered to both deaf children and hearing children as pretest. The pretest helped to know the difficult areas in time concepts for both deaf and hearing children. The deaf children and hearing children were divided into experimental group and control group. The experimental group consisted of 100 children out of which 50 were deaf children and the remaining 50 were hearing children, similarly the control group also consisted of 100 children out of which 50 were deaf children and remaining 50 were hearing children. Intervention was given only to experimental group for six months for both the groups of deaf and normal. The control groups of deaf and hearing children were exposed to regular classroom teaching. After the intervention, again the test on basic time concept was administered as post test.

## ANALYSIS AND DISCUSSION

The t' test was used for the analysis of the data. There was a significant difference in the development of time concepts between primary school deaf children and primary school hearing children, as the value of 't' in pretest was 2.762 significant at 0.01 level and in post test the value of 't' was 2.84, significant at 0.01 level. The hearing children learnt the time concepts easily and rapidly than the deaf children. Time is an abstract concept that can be particularly difficult for deaf children to understand. Learning to tell time and understanding the concept of time is actually different, deaf children may memorise how to tell time without actually understanding the concept of time. It is important to cultivate attitudes, environments, and techniques that enable the deaf children to learn concepts all day long. It is essential that they have many opportunities every day to make up for what they miss due to limited or distorted hearing. The intervention was meaningful and effective not only for deaf children but also for hearing children. 't' test was used to find the difference in performance after intervention between the experimental and control groups of both deaf and hearing children. For deaf children, the value of' t' was 7.926 significant at 0.01 level and for hearing children the value of 't' was 10.700 significant at 0.01 level. This means that the performance of the experimental groups of both deaf and children with hearing were better than the control groups of both the deaf and hearing children. The deaf got benefited by the multisensory experiential learning. During intervention the investigator observed that the following difficulties were faced by the deaf children in forming the time concepts. The deaf children took more time to respond to abstract time concepts than normal children. They had difficulty in (a) describing the abstract time concepts and in applying them to new situations, (b) separating symbols from their images, and (c) dealing with abstractions as they have little opportunity to process stimuli that were out of their visual proximity. They had the inability to attend to stimuli for a sufficient length of time. For the deaf children, the simple time concepts had to be concretised.

## CONCLUSION

The poor time concepts among the deaf children were not due to language defects rather it can be concluded that since the deaf children were poor at abstract reasoning they could not develop the concepts of time on par with the normal children.

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# ATTITUDE OF TEACHERS TOWARDS THE USE OF ACTIVE LEARNING METHODS

**Gara Latchanna**
**Asrat Dagnew**

*This study was undertaken to find out the attitude of teachers towards the use of Active Learning methods at Bahir Dar University in Ethiopia. The subjects were 23 university teachers purposively selected from foreign language department at Bahir Dar University. Data about the subjects were collected through questionnaire. Results of the study have demonstrated positive outcomes.*

## INTRODUCTION

Attitude is an important concept to understand human behaviour. It is defined as a complex mental state involving beliefs and feelings. Anastasi (1957) defines attitude as tendency to react in a certain way towards a designed class of stimuli. Attitude has been defined as a mental and neutral state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. People's attitudes towards their profession have an effect on their performance. This case is also valid for the profession of teaching. According to Bradley (1995), inadequate funds of schools, lack of parent and community support, and insufficient salaries are examples of those factors. Marchant (1992) added the role of experience to the factors influencing teachers' attitudes for their profession. Dodeen et al. (2003) found that female teachers have more positive attitude than male teachers. The attitude and expectation of society in general and of the family of the learner in particular affect how learning is viewed and how teaching is organised. These attitudes and expectations vary from society to society and attempting to copy learning and teaching strategy from one society into another, without trying to adapt into the local conditions may not be successful (Derebssa 2006). Studies have pointed out that teacher's negative personal and professional behaviour and poor social image of the teacher and teaching profession are serious factors responsible for teacher's low status. Awanbor (1996) reported that teacher trainees had a negative attitude towards teachingn and those teacher trainees who had positive attitude towards teaching did so with strong reservation which range from the poor social image to the teaching profession, the comparatively poor financial remuneration for the teacher, to the general lack of encouragement by educational authorities. The attitude of teachers comes to the fore as they reflect upon the language that they use in teaching. Consciously or unconsciously, their attitudes play a crucial role in language's "growth or decay, restoration or destruction" (Baker 1988). Their attitudes, too, as part of their cultural orientation, influence heavily their younger students (Shameen 2004). There has been a general agreement that the attitude of teachers towards teaching is significantly correlated with teaching success. In general, it may be concluded that there are indications that teacher's attitudes have a positive relation with success in teaching. Researchers identified many factors and situations that influence the development of attitudes

are: type of schooling, the parental attitudes, and the attitude of friends, teachers, and siblings. The negative attitude of teachers has been documented in many studies (Houck 1992; Lobosco & Newman 1992; Allred, Brullle & Shank 1990). Another important factor is attitude or belief towards the subject. Callahan and Clark (1988) indicate that one can facilitate development of attitude by providing a conducive atmosphere and models. Development of understanding may enhance the development of attitudes just as value clarification, role playing, and discussion of dilemmas may enhance the development of values and morals. Teachers can have general attitudes towards students. According to Brophy (1974), general attitudes stem from the teacher's personality and definition of his role as a teacher. Many attitudes are the results of deliberately planned education and religious training and influences and propaganda. Person-oriented teachers are likely to enjoy their contacts with students and to hold generally favourable attitudes towards them. In contrast, introvert and withdrawn teachers may prefer to minimize social contacts with students and more likely to develop neutral or relatively negative attitudes towards them. Teachers' attitudes can affect teacher-student interaction. That is, once a teacher forms a particular attitude toward an individual student, the teacher is likely to begin to treat this student in individualised way. Thus, attitudes have the potential for affecting students and for functioning as self-fulfilling prophecies.

## OBJECTIVE

To study attitude of English language teachers towards the use of active learning methods in teaching communicative English.

## METHOD

### Sample

The sample consisted of 23 English language teachers (All teachers0at Bahir Dar University in Ethiopia.

### Tool

A questionnaire developed by the researchers.

### Method

Data analysis used percentages, frequencies and narrative description .

## FINDINGS

Out of the 23 questionnaires distributed to the English language teachers, 20 were filled in and returned. The response rate was 86%. Data on English language teachers' attitude towards the importance of active learning methods for communicative English language teaching revealed that 17(85%) of the subjects were in favour of the idea that active learning methods can give students a sense of participation; while 3(15%) were not in favour of this idea. With regard to the idea that active learning methods can integrate students' experiences, 14(70%), and 6(30%)

respondents agreed and disagreed, respectively. To the idea that active learning method creates desirable attitude towards communicative English language teaching, 13(65%), and 7(35%) of the English teachers responded agree and disagree, respectively. Moreover, to the item that students are engaged in reading, writing, listening, and speaking activities 15(75%), and 5(25%), responded agreed and disagreed, respectively. In summary, the great majority of the teachers had good attitude towards the significance of active learning method as it enables English language students to participate actively in English language classes, and integrate their learning experiences. Therefore, the English language teacher respondents are in favour of utilisation of active learning methods to teach English language. The respondents were asked about students' learning experience in collaborative and supportive environment. It was found that 15(75%), 4(20%), and 1(5%) English language teachers replied agree, undecided and disagree, respectively. From this, one can see that majority of the English language teachers have agreed with this idea. In the second item, the subjects were to respond as to how students identify, analyse, and resolve problems by using their previous experience. It was found that 12(60%), 6(30%), and 2(10%) responded agree, undecided, and disagree, respectively. Thus, it seems to be true that students use their previous experience to identify, analyse, and resolve problems. Regarding the enhancement that the English language teachers provide for their students' motivation, it was found that 14(70%), 5(25%), and 1(5%) replied agree, undecided, and disagree, respectively. However, majority of the students responded that their English language teachers did not motivate them at all. Concerning whether students participate to learn sufficient content through active learning, it was found that 4(20%), 5(25%), and 11(55%) of them responded agree, undecided, and disagree, respectively. Most of the English language teachers opined that students' participation to learn the content was not sufficient. The English language teachers were also asked as to how far active learning method helps to classroom interaction. It was found that 13(65%) agreed and 7(35%) disagreed. Therefore, active learning method improves their classroom interaction. The fruitful support of active learning method utilisation becomes realised, only when equipments are available, class size is small, and the English language teachers has necessary training on active learning method utilisation.

## CONCLUSION

The English teachers under study showed quite a positive attitude towards the utilisation of active learning methods. They were of the opinion that utilising active learning methods is crucial as it makes students participate in discussion, integrating their learning experiences, and raising their interest of learning English. Besides, teachers underlined the paramount significance of active learning as it helps them improve their English teaching methods. Though teachers showed positive attitude towards the utilisation of active learning methods, there were a number of factors hindering them from utilising the approach properly. These included lack of enough training and experience, inadequate budget meant for the purchase of instructional materials and the shortage of enough seats for the students. Since quality of education is a product of stable and solid leadership, sound and conducive polices, great concern and sustained commitments are

vitally important. The reform of instructional practice in higher education must begin with faculty members' efforts. An excellent first step is to select strategies promoting active learning that one can feel comfortable with. Faculty developers can help, stimulate, and support faculty members' effort to change by highlighting the instructional importance of active learning in the newsletters and publications they distribute. Academic administrators can help these initiatives by recognising and rewarding excellent teaching in general and adoption of instructional innovations in particular. Comprehensive programmes to demonstrate this type of administrative commitment should address institutional employment policies and practices, the allocation of adequate resources for instructional development, and the development of strategic administrative action plans.

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# EMOTIONAL INTELLIGENCE AND CREATIVITY OF SCHOOL STUDENTS

**Renuka Sharma**

*Present study compared emotional intelligence and creativity of students in three types of schools:Gurukuls, Public schools and Govt. schools and found best performance in Public schools. .*

## INTRODUCTION

Emotional intelligence has been conceptualised as a multidimensional construct as proposed by Goleman (1995, 1998) and Mayer and Salovey (1993, 1995). According to this conceptualization, emotional intelligence consists of "abilities such as being able to motivate one and persist in the face of frustrations; to control impulses and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope". Further research in this area has indicated that an emotionally intelligent person is likely to be skilled in two key areas within one's emotional competence framework, namely "personal competence" – how one manages the self; and 'social competence" - how one manages relationships. While the former essentially implies self-awareness (of internal states, preferences, resources, and inhibitions), self-regulation (of internal states, impulses and resources) and motivation (traits that facilitate accomplishing goals); the later comprises empathy (the ability to understand other's emotions, and other's talents or skills needed to influence, communicate, lead, develop others, manage conflicts, promote team work, or catalyse change), and social skills such as expertise in inculcating desirable responses in others (Kierstead 1999; Bhalla and Nauriyal 2004). Thus, emotional intelligence is made up of a set of skills and these skills can be improved through education. Schools serve as the prime location for the promotion of emotional intelligence (Tiwari and Srivastava 2004). Goleman (1998) considered school as one place which can turn to compensate children's deficiencies in emotional and social competence. As such schools face the challenge to teaching as well as nurturing the emotional skills of children.

There are four distinct approaches of creativity: (a) product, (b) person, (c) press, and (d) process. The product approach to creativity focuses on outcomes and those things that result from creative process. It is concerned with important characteristics that distinguish more creative from less creative products as perceived by different people for different purposes. Creative products are emphasized for elements of newness, freshness, and inventiveness they have. The quality of originality is represented in these products involving fusion of perception in new way, finding new connections and relationships, producing new insights, and moulding of experiencing in new organizations. Creative products are novel – they are not imitations, nor are they mass produced. (Barron 1988; Sternberg 1988; Torrance 1981). The person approach is based on research on personal characteristics. Advocates of this approach have attempted to identify

personality and motivational characteristics, cognitive abilities, and behavioural or biographical dispositions associated with creativity. Personality researches have also considered intrinsic motivation as core characteristic of creative persons (Amabile 2003). Some cognitive correlates of creativity such as field independence, (Noppe & Gallagher 1977), problem solving styles, cognitive complexity and wisdom (Sternberg 2003) have also been identified. The press approach to creativity typically includes the total complex situation (press) in which creative processes are initially stimulated and sustained through completion. Press influences may be general and operate through implicit evaluation and tradition; or more specific. Family structure and school environments have been found to be relevant contributors in the development of creative potentials (Gaynor & Runco 1992; Hasirci & Demirkan 2003). The process approach has been less personal and more behavioural and has been more oriented to delineate various steps, styles, and strategies within the creative process. Generally, creativity is taken as a process of seeing or creating relationships comprising process of discrimination from many alternatives and synthesizing elements in altogether new and original ways (Pesut 1990, Sternberg 2003). In tune with this approach, Torrance through factor analytic studies has identified four factors of creative thinking - fluency, flexibility, originality, and elaboration which are indexed in his famous tests of creativity.

## OBJECTIVE

To examine the relative effects of three types of school environment on the levels of emotional intelligence and creative thinking.

## METHOD

### Sample

The sample consisting of 300 girls (100 each from three types of schools – Public, Govt. and Gurukuls) participated in the present study. One sample of 100 secondary school girl students in the age range of 14 to 16 years was drawn from various public schools of Rohtak city. Only those subjects were included in the samples who were residing in city and whose parents belonged to villages originally and still have social contacts with their native places. The second sample also consisting of 100 girls in the same age range and grade was drawn from Govt. High schools for girls of Khanpur Kalan and Gohana. Parents of these girls were basically from villages. The third sample was drawn from BPS Kanya Gurukul, Khanpur Kalan (Sonepat) in the same age range and grade. It may be noted that subjects drawn from three types of schools, came from the same stock, and belonged to the same socio-economic strata. Right from the beginning they had almost same living style, dietary habits, and family environment; but different school environments. By doing so it was assumed that students of three samples belonged to the same population and could be regarded as comparable before they joined their respective schools. However, no empirical data were available to compare their intellectual capacities before they joined their respective schools.

**Procedure**

The following tests were administered to the subjects of all the three samples: (1) Multidimensional Measure of Emotional Intelligence (Darolia 2003); and (2) Torrance Test of Creative Thinking with Words (Torance 1966). Multidimensional Measure of Emotional Intelligence (MMEI) developed by Darolia (2003) consists of sixty five multiple response choice items indexing five dimensions of emotional intelligence viz., Empathy, Self-awareness, Motivating Oneself, Managing Emotions, and Handling Relations. On each item subject is required to check and report one of the five response choices that describes his or her behaviour the best. The internal consistency coefficients for five scales have been assessed in terms of alpha coefficients and were found to be ranging from .76 to .83. The construct validity of scales was established through factor analysis and found to be satisfactory. Torrance Test of Creative Thinking with Words comprises a verbal battery of seven subtests known as 'activities'. Each activity is believed to bring into play somewhat different mental processes, yet each requires the subject to think in divergent directions. Scoring of these activities provides scores for four basic dimensions of creativity namely, fluency, flexibility, originality, and elaboration. The testing sessions were conducted in classroom settings. Both the tests, being group tests, were administered to a group of 15-25 subjects in respective classes. The test responses were scored as per respective scoring keys/ procedures mentioned in manuals. The MMEI was scored for five variables, namely empathy, self-awareness, motivating-oneself, managing emotions, and handling relations. Torrance test of creative thinking with words was scored for four factors of creativity viz. fluency, flexibility, originality, and elaboration. Nine variables in total (5 of MMEI), and 4 of TTCT) were used in the present study.

**RESULTS AND DISCUSSION**

The obtained data were analysed using descriptive statistics (mean, standard deviation, skewness, and kurtosis) and t-ratios. Frequency distributions of all the nine variables used in the study were set up separately for three groups of subjects (Public schools, Gurukuls and Govt. schools). Descriptive statistics were computed to ascertain the normalcy of data, and t-ratios were computed to compare the three groups in terms of significance of differences in mean scores of different measures.

Public school students scored significantly high on three of five measures of emotional intelligence, namely Empathy (Pub. Sch. Mean = 53.87, SD= 8.38; Gurukul Mean = 48.98, SD = 5.62; t = 4.85 p< .01), Motivating oneself (Pub. Sch. Mean = 55.64, SD = 6.64; Gurukuls Mean = 48.03, SD = 7.49' t = 7.60 p <01), and Handling Relations (Pub. Sch Mean = 52.75, SD = 7.52; Gurukuls Mean = 47.96, SD = 8.24; t = 4.29 p < .01) and low on Managing Emotions (Pub. Sch. Mean = 49.22, SD = 6.36; Gurukuls Mean = 50.51, SD = 4.86; t = -1.61 NS) than their counterpart Gurukul students. Both groups did not significantly differ on the mean scores of Self-awareness. It posits that public school students tend to be more empathetic, motivating themselves, and apt in handling relations but less capable of managing their emotions while interacting with others

than their counterpart Gurukul students. It was also found that Public school students scored significantly high on all the four dimensions of creativity i.e. Fluency (Pub. Sch. Mean = 54.04,SD = 14.06; Gurukuls Mean = 42.33, SD = 10.85; t = 6.59 p < .01), Flexibility (Pub. Sch. Mean = 34.60, SD = 8.93; Gurukuls Mean = 24.60, SD = 6.74; t = 8.94 p < .01), originality (Pub. Sch. Mean = 42.26, SD = 15.48; Gurukuls Mean = 26.91, SD = 9.23; t = 8.52 p < .01), and Elaboration (Pub. Sch. Mean = 15.36, SD = 7.64; Gurukuls Mean = 11.54, SD = 3.79; t = 4.48 p < .01) than their counterpart Gurukul students. Hence, Public school students tend to be high on all the four factors of creativity - fluency, flexibility, originality, and elaboration.

Public School students scored significantly highier than their counterpart Govt. School Students on Empathy (Pub. Sch. Mean = 53.87, SD = 8.38; Govt. School Mean = 47.57, SD = 8.61; t = 5.25 p < .01), Motivating oneself (Pub. Sch. Mean = 55.64, SD = 6.64; Govt. Sch. Mean = 47.93, SD = 7.39; t = 7.76 p < .01), Self-awareness (Pub. Sch. Mean = 49.57,SD = 6.27;Govt. Sch. Mean = 46.29, SD = 8.77, t = 3.04 p < .01), and Handling Relations (Pub. Sch. Mean = 52.75, SD = 7.52; Govt. Sch. Mean = 48.36, SD = 6.29; t = 4.48 p< .01). On fifth measure of emotional intelligence i.e. Managing Emotions, both the groups did not differ significantly. Hence, Public School students tend to be more empathetic, motivating themselves, self-aware of their emotions, and apt in handling relations while interacting with others than their counterpart Govt. School students. It was also found that Public school students scored significantly higher than their counterpart Govt. School students on all the four measures of creativity viz. Fluency (Pub. Sch. Mean = 54.04,SD = 14.06; Govt. Sch. Mean = 42.74, SD = 16.05; t = 5.30 p < .01), Flexibility (Pub. Sch. Mean = 34.60, SD = 8.93; Govt. Sch. Mean = 28.68, SD = 11.08; t = 7.13 p < .01), and Elaboration (Public Sch. Mean = 15.36, SD = 7.64; Govt. Sch. Mean = 4.67, SD = 3.68; t = 12.60 p < .01). Hence, Public school students tend to be high on divergent thinking capacities such as fluency of thoughts, flexibility of thoughts, originality or novelty of thoughts, and elaboration of thoughts than the Govt. school students. This significant high level of creative potentials in Public School students (Stimulating Environment Group) can be attributed to the stimulating environment of the public schools.

Gurukul students scored significantly high on two measures of emotional intelligence i.e. Self-awareness (Gurukul Mean = 49.24, SD = 6.92; Govt. school Mean = 46.29, SD = 8.77; t = 2.64 p < .01), and Managing Emotions (Gurukals Mean = 50.51, SD = 4.86, Govt. Sch. Mean = 48.47, SD = 5.32; t = 2.83 p < .01) than their counterpart Govt. school students. Hence, Gurukul students tend to be more capable of self-awareness and management of their own emotions while interacting with other than Govt. school students. In case of four measures of creativity, Gurukul students scored significantly high only on Elaboration (Gurukuls mean= 11.54, SD=3.79; Govt Sch. Mean =4.67, SD=3.68; t=13.01 p<.01) than their counterpart Govt. school students. On remaining three measures of creativity i.e., fluency, flexibility, and elaboration two groups did not differ significantly. Hence, Gurukul students tend to have more elaborative thoughts than heir counterpart Govt. school students.

The comparative evaluation of three types of school students hereby posits that Public School students have scored significantly high on three measures of emotional intelligence (empathy, motivating-oneself, and handling-relations) than the students of Gurukuls; and on four measures of emotional intelligence as compared with Govt. School students (empathy, motivating-oneself, self-awareness, and handling relations). Overall, Public school students tend to be high on emotional competencies as compared to the students of Gurukuls, and Govt. Schools. It suggests that public schools provide more stimulating and prompting environment for the cultivation of emotional competencies and skills than Gurukuls and Govt. schools. Comparison of Gurukul students with those of Govt. schools in terms of their performance on five measures of emotional intelligence suggests that Gurukuls tend to provide slightly more stimulating environment for the cultivation of emotional skills among their students than Govt. Schools.

Overall comparison of students of three types of schools in terms of their performance on verbal measures of creative thinking suggests that Public School students have scored significantly high on all the measures of creativity i.e., fluency, flexibility, originality, and elaboration than the students of Gurukuls, and Govt. schools. It suggests that Public Schools tend to provide more stimulating and prompting environment for the cultivation and enhancement of divergent thinking capacities among their students than Gurukuls, and Govt. schools. Govt. and Gurukul students have not found to be significantly different from each other in terms of their performance on creativity tests. It implies that both the Gurukuls and Govt. schools do not tend to provide conducive environment for the cultivation of creative thoughts among their students.

## CONCLUSION

The findings cannot be considered fully generalisable since the control of genetic factors was somewhat inadequate. For more generalisable findings, more large scale studies with control of genetic, familial, and socio-cultural variables are required. On the basis of present finding, it is suggested to the management of both the Gurukuls and Govt. schools to look forward for the strategies required for the cultivation of emotional competencies and creative thinking among their students, so that they can be brought at par with the students of Public schools.

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# MENTAL HEALTH: A STUDY OF RURAL ADOLECENTS

**Tejpreet Kang**
**Asha Chawla**

*Present paper is based on the study on the mental health of rural adolescent boys and girls. Socio-Economic Status Scale was used to assess the socio-economic status of the respondent. Mental Health Checklist assessed both mental and somatic health status of the respondents. Results showed a non-significant gender difference across mental health status but a significant difference in somatic health status of adolescent boys and girls. Boys were found to be having better somatic health status as compared to girls.*

## INTRODUCTION

The concept of mental health is as old as human beings. Mental health commutates those behaviors, perceptions and feelings that determine a person's overall level of personal effectiveness, success, happiness and excellence of functioning as a person. Bhatia (1982) describes it as the ability to balance desires, feelings, ambitions and ideals in one's daily living. It may also be understood as the behavioral characteristics of a person. According to Kumar (1992), mental health is an index which shows the extent to which the person has been able to meet his environmental demands – social, emotional or physical. A mentally healthy person shows homogenous organisation of desirable attributes, healthy values and righteous self-concept and a scientific perception of the world as a whole. Mental health presents a humanistic approach towards self and others. It is an important factor that influences an individual's various activities, behaviour, happiness and performance. However, when s/he finds himself/herself trapped in a situation s/he does not have matching coping strategies to deal with it effectively, s/he gets himself/herself mentally strained. This mental strain is generally reflected in symptoms like anxiety, tension, restlessness or hopelessness among others. If it is felt for too long and too extensively by the person, these symptoms may take a definite form (or get 'syndromised') representing a given illness. Mental health, therefore, should not be confused with mental illness. It is a study of pre-illness mental condition of the person. Mental health, as such, represents a psychic condition, which is characterised by mental peace, harmony and content. It is identified by the absence of disabling and debilitating symptoms, both mental and somatic in the person (Schneiders, 1964). Age and mental health has a very close relationship. As it deals with adjustment problems at every stage of life; it helps a person to adjust his/her ways of thinking, feeling, behaving and attitudes in accordance with his/her make up, the environment and the newer developments. Adolescence is considered as the most important transition period of life. Adolescents face an intense turmoil because of the cognitive, biological and social changes taking place in this period. Further more, adolescence is a period of heightened risk with high rates of depression, conduct

disorders, suicides, drug and alcohol addiction and antisocial behavior. Adolescent could navigate this transitional period with much success, happiness and confidence without much uncertainty and distress, but it could be possible, in only one condition i.e. with sound mental health. Numerous developmental studies have examined the effect of age and gender as well as their interaction on the epidemiology of mental health and have consistently revealed that problems are less common in early adolescence than in late adolescence (Fleming and Offord, 1990) and females experience higher rates of such problems than males (Sprock and Yoder, 1997).

## OBJECTIVE

To study the mental health of rural adolescent boys and girls.

## METHODOLOGY

### Sample

The sample for the present study consisted of 100 rural adolescents equally distributed over both the sexes (50 boys and 50 girls). The age range of selected adolescents was from 18 to 20 years. They belonged to middle socio-economic status families and were studying in senior secondary classes.

### Tools

Socio-Economic Status Scale by Bhardwaj (2001) was used to judge the socio-economic status of the respondents. )Mental Health Check – List by Pramod Kumar (1992) was used to study the mental health of the adolescents. The check-list consisted of 11 items, six mental and five somatic.

### Procedure

Scoring was done according to the instructions given in the manual of the check-list.

## RESULTS AND DISCUSSION

### Gender Differences across Mental Items

Non-significant differences existed between mental health status of adolescent boys and girls. Chaudhary (2006) also found non-significant gender differences in mental health of adolescent boys and girls. But critical look at the table shows that more number of girls (46%) were having good mental health status as compared to boys (40%). Sanwal et.al (2006) also inferred that girls were mentally healthier than boys as they have more patience, tolerance and were better adjusted than boys.

### Gender Differences across Somatic Items

Results revealed a significant difference in somatic health status of adolescent boys and girls as calculated X2 value was found to be 8.2, which was significant at1% level of significance. More

number of girls (42%) were having poor somatic health status as compared to the boys (16%) indicating that they suffered more from problems like headache, fatigue, sleeplessness, indigestion and acidity as compared to boys.

## CONCLUSION

Above results revealed that non-significant differences existed in mental health status of rural adolescent boys and girls. Girls were found to be on the better side of mental health as compared to boys who were found to be more restless, lonely, angry and uneasy. Whereas significant differences were found in somatic health status where boys were found to be have better somatic health as compared to their counterparts indicating that they suffer less from somatic problems like headache, fatigue, acidity, sleeplessness etc. as compared to the girls.

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# ENVIRONMENTAL AWARENESS OF SECONDARY AND SENIOR SECONDARY STUDENTS

**Rajinder Kaur**
**Manpreet Kaur**

*The present study gathered data through survey method. Survey of 600 secondary and senior secondary school students in the city centre and villages of Patiala district found that rural students and students studying in government schools were still not aware of the various threats of environment and natural calamities and most of the Government rural schools did not possess basic literature related to Environment (in regional language). The paper suggested environmental awareness campaigns like competitions, vanmahotsavs, tree plantation, celebration of world environmental day etc. be carried out in these areas.*

## INTRODUCTION

Polluted environment endangers the human race by threatening its survival on planet earth. Boundaries of any nation can not limit these environmental problems to a particular country and region, but its impact is global one. This large scale environmental degradation has caused a global concern about the conservation and protection of the earth's environment. Hence, efforts are being made for inculcating environmental consciousness or awareness among the masses. It is education which can make the human being conscious and knowledgeable about environment and environmental problems. Moreover, awareness is essential for the action. The main purpose of environmental education in schools is to acquaint and sensitize the young minds to the environmental problems and concerns, to inculcate in them healthy personal and social attitude and behaviour towards environment. Thus, students must have awareness about environment and the problems associated with it so that they can play their role very effectively. Hence, it is necessary to know how far the school students are aware about environment and environmental problems.

## OBJECTIVE

To study the environmental awareness level of students.

## HYPOTHESES

There will be no significant differences in environmental awareness between secondary and senior secondary students, boys and girls in government, semi-government and private schools.

## METHOD

Present study was conducted on 600 students selected from different schools situated in rural and urban vicinity of Patiala district. Stratified random sampling technique was used to collect the sample. The tool used in the present investigation was the environmental awareness scale

(EAS) developed by Haseen Taj. This tool measures the extent and degree of awareness of students about environmental degradation and its protection. The statistical measures used in the present study are Mean, SD and t-test (significance level).

## RESULTS AND DISCUSSIONS

### Level of Environmental Awareness Among Secondary and Senior Secondary Students

There were 117 items in the EAS and each item was given a credit of '1' point and a 'zero' for wrong answer. The observed means score of the entire sample of secondary and senior secondary students was 88.16 which is quite high. The secondary (M=88.62) and senior secondary (M=87.5) students of Patiala district have more awareness regarding the environment. The reason behind it is that Patiala is considered to be the educational hub having all kinds of educational institutions like a university, engineering colleges, medical and dental colleges, various arts and science colleges and numerous schools.

### Variation in Environmental Awareness between Secondary and Senior Secondary School Students

Mean (M) score of environmental awareness of secondary school students was 88.62 and that of senior secondary school students was 87.58. Standard deviation (SD) score of secondary school students was 11.90 and that of senior secondary students was 11.95. Critical Ratio score (t-value) was 0.08 which was significant at 0.05 level of significance. Therefore, the hypothesis no. 1 that there might be no significant difference in environmental awareness of secondary and senior secondary school students was accepted. As it is concluded that both secondary and senior secondary students have almost equal environmental awareness shown by non significant value (t=0.08). The main reason for non-significant differences in environmental awareness between secondary and senior secondary students is that these days environmental education is being taught as a compulsory subject in all schools throughout the India, after an order by the honourable Supreme Court was passed in this regard in the year 2005. The main aim of this order was to educate the people of India about the various environmental issues affecting our planet earth. As the students at both the levels have studied environmental education in school so no significant difference in environmental awareness exists between them.

### Variation in Environmental Awareness Gender wise

Mean (M) environmental awareness score of boys was 87.89 and that of girls was 88.43.Standard deviation (SD) score for boys was 12.25 and that for girls was 10.19 and the t-value was 0.428. Therefore, the hypothesis that no significance difference exist between male and female school students environmental awareness was retained at 0.05 level. It is concluded that gender is not a factor for affecting environmental awareness of school students. The main reason for almost equal environmental awareness of boys (M=87.89) and girls (M=88.43) is that they are studying together in the same teaching learning environment in the schools.

**Difference in Environmental Awareness between Students of private and Government schools**

Mean (M) environmental awareness score of students of private schools was 96.22 and that of students of Government schools was 78.78. Standard deviation (SD) scores of students of private schools was 9.57 and that of Government school students was 8.303. t-value was 14.53. Therefore, the hypothesis that there might be significant differences in environmental awareness of students of private schools and government schools was retained at 0.01 level. These findings reveal that students of private schools have more environmental awareness than government school students. The main reason for higher environmental awareness among students of private schools (96.22) than government school students (78.78) may be the family background and educational qualification of parents. Parents of students studying in private schools are graduates and are having well to do and affluent family background. Such parents are mainly concerned with inculcating environmental awareness in their children as they are aware of the dangers and consequences of environmental degradation at global level. On the other hand, students staying in Government schools come from poor families and have less educated or illiterate parents. Their main priority is to fulfill the needs of their family members. They are not aware of environmental issues so they can't pass on these awareness measures to their children so the students of government schools do not get the learning environment in their homes because of which they score less than students of private schools.

**Difference in Environmental Awareness between Students of Semi-government and Government Schools**

Mean (M) environment awareness score for semi-government school students was 87.45 and that for Government School students was 78.78. Standard deviation (SD) scores for Semi-government School students was 9.036 and for government school students was 8.303. t-value was 7.41. Therefore, the hypothesis that there might be significant difference in environmental awareness between students of semi-government and government schools was retained at 0.01 level. These findings reveal that students of semi-government schools (87.45) have more environmental awareness than government school (78.78) students. The main reason for this difference is that the students in semi-government school have better educational environment than those in government schools. The teachers in semi-government schools make more efforts to provide better education and environmental awareness to their students than the teachers of the government schools who make little efforts in this regard.

**Difference in Environmental Awareness in Students of Rural and Urban Areas (Rural Urban Variation)**

Mean (M) environmental awareness score of students in rural areas was 80.17 and that in urban areas was 95.43. Standard deviation (SD) score of school students in rural areas was 8.14 and that in urban areas was 9.17. t-value was 16.23. Therefore, the hypothesis that significant differences exist in environmental awareness of school students of rural and urban areas is

retained at 0.01 level. Therefore, it is concluded that environmental awareness of urban areas school students is much higher than that of rural areas. The main reason for such differences is that school students in urban areas have more facilities in terms of education, entertainment, competitions etc. than students in rural areas. Urban areas school students have an easy access to internet which provides them information about various factors which are responsible for degrading the environment in different parts of the World. Their parents are educated and they got good learning environments at home, which increase their knowledge concerning environment. Various programmes like Van Mahautsav, World Environment Day, No Tobacco Day etc. helps in creating awareness about environment among school students. Whereas, rural school students do not have such facilities. Their home environments are also where they do not get any awareness about the environment. They are not aware about the various threats to the environment. They mostly study in government schools where very little efforts are made to provide them environmental awareness.

**Difference in Environmental Awareness between Students Studying in Punjabi and English Medium Schools**

Mean score of environmental awareness of Punjabi Medium students was 78.78 whereas the mean score of English medium students was 96.92. Standard deviation of Punjabi medium students was 8.303 whereas the standard deviation of English medium students was 9.576. The t-value comes out to be 14.53. Therefore, the hypothesis that there might be significant differences in environmental awareness of students studying in Punjabi and English medium is retained at 0.01 level. The main reason of this difference is that most of English medium schools and students are in Urban areas and Punjabi medium schools are in rural areas. Students studying in English medium have more environmental awareness because most of the literature on environmental issues is available in English medium. On the other hand Punjabi medium students have limited access to world environmental problems and environmental awareness because they never leave their homes to know about the rest of the world and very limited literature is available in Punjabi medium related to environmental awareness.

## CONCLUSION

All these findings urges us and the government to make efforts to provide the necessary infrastructure in the form of internet facilities, proper classrooms, library facilities, environment related books in Punjabi medium for the students studying in different schools run by the different types of school managements and specially in the government run schools.

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# TEACHER EDUCATION IN UNION TERRITORY OF DAMAN & DIU

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*This paper is a survey of teacher education programme of the Union Territory of Daman and Diu. It anlyses problems and suggests a few measures for improvement.*

## INTRODUCTION

The Union Territory of Daman and Diu has a total area of .72 sq. kms. Physiographically, Daman is a small part of the South Gujarat coastal land. The Damanganga river divides the town in to the Moti Daman in the south and the Nani Daman in the north rises from the Sahyadri hills. Primarily the economy is based on fishery, agriculture, tourism and growing industries around. The UT boasts of a multifaceted cultural heritage of tribal, urban, European and Indian culture. It came into existence on 30th May, 1987 after delinking from the erstwhile Union Territory of Goa, Daman and Diu. In 1993, the first college for the training of teachers was started in Daman and that was the College of Education, Nani Daman.

## INITIAL TEACHER TRAINING PROGRAMME FOR ELEMENTARY SCHOOLS

There is no DIET in Daman. The two PTC colleges conduct their training programme with the help of DIET of Valsad district which is under GCERT of Gujarat State. The teachers are given short and medium term courses and training from time to time. The examination process and evaluation of the trainees of the P.T.C course is conducted by the Gujarat State Examination Board.

### PTC Course

The structure of the F.Y.PTC course has already been changed from academic year 2008-09. The subjects are : 1. Educational Psychology (100 Marks ), 2. Measurement and Evaluation (100 Marks), 3. Teaching of Gujarati (100 Marks), 4. Teaching of Mathematics (100 Marks), 5.Teaching of Environment (100 Marks), 6. Teaching of Hindi (100 Marks ), 7. Teaching of English (100 Marks), and 8. TLM and Computer Education (100 Marks): Total 800 marks. The present course structure for S.Y. PTC consists eleven subjects, which are: 1. School Administration and Management (100 marks ), 2. Measurement and Evaluation (100 Marks), 3. Problems and Trends of Primary Education (100 Marks), 4. Teaching of Gujarati (100 Marks), 5. Teaching of Mathematics (100 Marks), 6. Teaching of social study (100 Marks), 7. Teaching of science(100 Marks), 8. TLM and computer education (50 Marks), 9. Teaching of English (50 Marks), 10. Teaching of Hindi (100 Marks), and 11. Teaching of Sanskrit (50 marks): Total 1000 marks. The trainees are given practice teaching with 40 lessons (20+20) for both years and weekly co curricular activities are organized compulsorily like, creative activities, project works, student exhibitions etc. so that the trainees get enough experience in teaching and organizing activities

and have all round development. Hostel stay is not compulsory now. The amount of fee a candidate pays as annual fee for this two year programme is Rs. 17,280 /- in each term excluding of the hostel charges.

**INITIAL TEACHER TRAINING PROGRAMME FOR SECONDARY & HIGHER SECONDARY SCHOOLS**

The Union Territory has two teacher training institutions. After the establishment of first B.Ed. college in 1993, only one college has been established in last 16 years. The earlier one is Grant-in-aid College and the later one is self-financed college. The grant-in-aid college is affiliated to Veer Narmad South Gujarat University, Surat, Gujarat and the self financed college is affiliated to S.N.D.T. Women University, Mumbai, Maharashtra. Thus, both the colleges have affiliation with the universities in the neighbouring states. The total intake of the grant-in aid college is 60, while that of the self-financed is 100 in which 20 seats as management quota.

**Course Structure and Evaluation Pattern**

The grant-in-aid college is having the curriculum construction based on 50-50 % weightage of internal and external evaluation. The courses of study of Veer Narmad University, Surat is followed by this college, updated in 2006-07, has five theory papers containing 2 sections in each. The papers are:

I Education in Emerging Indian Society, and Educational Technology.
II. Educational Psychology and Modern Trends and Current Problems of Education in India
III. Elements of School Management and Educational Measurement and Evaluation
IV Methodology of Teaching (Two Special subject Sections)
V Content of Teaching (Two Special subject Sections).

Each section carries 50 marks. Theory and practical aspects have balanced weightage. The total marking is of 1000 in B.Ed. course in which 500 marks are for theory papers of external examinations. The course of study has 3 compulsory papers and 2 papers for method and content of the respective two methods of teaching. The total weightage of practice teaching is of 300 marks and remaining 200 marks are for other co-curricular activities and practical submissions like project, teaching aids and small scale researches like surveys, case studies and action researches. The self-financed college follows the courses of study of S.N.D.T. Women's University, Mumbai, which has been revised in 2008. Theory and practical aspects have balanced weightage. Theory papers are: 1. Foundations of Management of Education as a System, 2. The Teaching Learning Process, 3. Current Concerns and Trends in Education, 4. Understanding and Developing the Learner, 5. Method and Content of Special Method – 1, 6.Method and Content of Special Method - 2. Each paper carries 100 marks weightage: Total marks 1200, in 600 marks for e theory papers of external examinations. The total weightage of practice teaching is of 300 marks, and remaining 300 marks are for internship, other co-curricular activities and practical submissions like research project, teaching aids and small scale researches like surveys, case studies, psychological experiments, seminars etc. Amount of fee in case of the grant-in aid

college is annual fee of Rs. 4,280 /- (Rs. 2340/- first term, Rs. 1940/- second term). The fee in case of the self-financed college is 30,000/- (Rs. 15,000/- in each term).

**CONTINUED PROFESSIONAL DEVELOPMENT PROGRAMME FOR ELEMENTARY SCHOOL TEACHERS**

Being a small Union Territory, Daman & Diu has only 1 Block Resource Centre and 3 Cluster Resource Centres for continued professional development programmes for elementary school teachers..

**QUALITY OF TEACHER EDUCATORS AND ADMINISTRATION**

The quality criteria of teacher educators in the both teacher education institutions in U.T. of Daman & Diu differ in fundamentals. As the grant-in-aid college is affiliated to Veer Narmad South Gujarat University, Surat, they still follow the NCTE's earlier eligibility criteria for teacher educators i.e. minimum P.G. in concerned subject with 55 % and M.Ed. with 55 % from the recognized University and s/he has to clear SET/NET or obtain M. Phil. / Ph.D. Degree in Education before the completion of five year. The self-financed college has adopted the new eligibility criteria proposed by NCTE and they complete their staff by appointing P.G. and B.Ed. fresh candidates as faculty. Yet they give preference to M.Ed. candidates, but that is not mandatory for them. The self financed college is functioning with in-charge principal because they have not got any recognised principal after several attempts. The grant-in-aid college has recognised principal and the total approved staff. Salary structure of the grant-in aid college is as per the central government norms and that is paid by the Department of Education, U.T. of Daman& Diu. The self financed college also follows the same scale of pay, but the salary is given by the trust only and that is from the fees collected from the trainees. Theoretically, the salary structure is uniform in both the colleges.

**CURRICULUM TRANSACTION PROCESS**

The transaction of theory and practical aspects of curriculum is carried out as per the requirement of the course and local infrastructure. The analysis carried out during last two years shows that both the colleges differ slightly in the curriculum transaction as they have different affiliation and different status, experience and quality of faculty members. The grant-in-aid college has well established physical infrastructure and human resource. The overall academic progress of the college is satisfactory as in the sense that they have completed the process of NAAC accreditation and got the 'B' grade. The self financed college is still in growing phase. The process of curriculum transaction in this college is naturally at a different level as compared to the other college. Due to the inexperience and under eligibility of faculty members, the trainees face problems in comprehensive skill acquisition, practice teaching and overall perception of concepts. Evaluation process also differs in remarkable way that the students of the S.N.D.T. B.Ed. college gets higher marks in internal as well as external examination, while that of the college having affiliation of Veer Narmad South Gujarat University is always below level. This is a major point of discussion

in Gujarat and U.T. of Daman & Diu that the trainees of self financed colleges get higher marks as compared to the grant-in-aid colleges. The quality of practice teaching lessons and demonstrations is exactly in opposite level in these colleges. This is probably due to the different attitudes and approaches of concerned university and college. As the colleges are affiliated to the universities of other States, they feel that in case of special projects and major co-curricular programmes, the process of approval becomes complex. If the process can be simplified, then the quality of teacher education programme may be improved. The special duties and projects assigned by the Department of Education and Government of Gujarat sometimes resist the mainstream programme of teacher education.

## CONCLUSION

The forces of globalisation and liberalisation have eroded the insularity of the education sector in U.T. and entire country. Effective teacher training programmes will help the teacher to become an enriched, dedicated and committed professional. In the rapidly changing scenario, teacher education institutions (TEIs) of U.T. need to be innovative to cater to the needs and challenges of schools, society and the whole education system.

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## COMMON ERRORS IN WRITING A SCHOLARLY ARTICLE / RESEARCH PAPER

*Reference mentioned in the text does not appear in the reference list at the end of the article.
*Reference in the text, let us say, “Hussain, 1997”, whereas the reference list at the end gives “Hussain, 1987”, for the same source.
*Spelling of the surname mentioned in the text does not match with the spelling of the surname in the Reference list
*Mistake in name of the place of publication
*Mistake in name of the publisher
*Mistake in the year of publication
* Giving Foot notes, although the journal does not accept it
*Mistake in arranging reference list as per journal reference style
*Spelling errors in the text (Spell check in computer does not take care of all errors)
*Grammatical errors in the text
* Inconsistency in Tense
*Inconsistency in presentation
*Missing words / sentences at the time of correction by the author
*Inconsistency in use of language version:: UK English / USA/ English

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# TEACHER EDUCATION IN HIMACHAL PRADESH

**Ajay Kumar Attri**
**Renuka Chandel**

*This paper is a survey of teacher education programme of the State of Himachal Pradesh. It anlyses problems and suggests a few measures for improvement.*

## INTRODUCTION

Himachal Pradesh also known as *Divya Bhoomi or* the land of gods , spread over 55,673 square kilometres and with a population of 60,77,90 (2001 census), is situated at south of Jammu and Kashmir, north-east of Punjab, north-west of Haryana and Uttar Pradesh and west of Tibet. It is a mountainous region, known for the natural beauty of its forests, rivers, valleys, hills and dales, which are as rich in material resources as in cultural and human values. Being located on the international border with Tibet, it is of high strategic importance. The most prominent landmark of the state is the permanent white snowline on various peaks. There are wide variations in areas and population of the districts. The district-wise density varies from 2 persons per sq. kilometre in Lahaul and Spiti to 369 persons in Hamirpur district. Himachal Pradesh has the highest percentage of rural population among all the States of the country. According to 2001 census, the overall literacy percentage of Himachal Pradesh was 76.5% (85.30% for males and 67.40% for females). Comparatively, it is much higher than the all-India literacy rate, which is 65.38%. Himachal Pradesh is characterised by a very strong correlation between sex ratio and literacy. Districts with higher density of female population as compared to male population have high literacy rates.

## PRIMARY TEACHER EDUCATION

The primary education in the State is being looked after by the Directorate of Elementary Education through a Deputy Director of Education (DDE) at the district level. The DDE (P) is supported by Block Primary Education Officers at the block level. The primary school teachers comprise the JBT trained teachers (with 2 years pre-service training), Contract teachers (TGTs with B.Ed. qualification and C&V teachers ( Shastris, Drawing teachers etc.), Volunteer teachers (Matriculates, now absorbed as regular teachers after putting in more than 5 years service and completed condensed in-service training at the DIETs) and Vidya Upasaks (Para teachers on fixed honorarium basis). The appointment of Gram Vidya Upasaks and part time water carriers in primary schools is done by *Gram Panchayats* also. Initial teacher training for primary schools is imparted by 12 District Institutes of Education and Training (DIETs) and 15 self-financing Colleges. The seats for JBT course in DIETs are decided on the basis of the population of the district. Out of total JBT seats, 15% seats are for SC, 7.5% for ST and 7.5% for OBC candidates.

In 15 self-financing colleges, 50 % seats are subsidised and 50% are non-subsidised seats. The H.P Board of school Education Dharamshala makes the admissions to these 12 District Institutes of Education and Training (DIETs) and 15 self-financed colleges. Admission is made on the basis of Joint Entrance Test. Amount of fees to be paid in DIET is Rs. 5,950/- from boys and Rs. 5,698/- from girls for two year. In case of private colleges, fee for a subsidised seat is approx. Rs. 25,000/- and for a non-subsidised seat approx. Rs. 35,000/- .

**JBT Course**

Foundation Courses consist of: 1. Principles and Problems of Elementary Education in Emerging India (50 Marks); 2. Educational Psychology and Child Study (50 Marks), and 3.Teacher Education (50 Marks). Methodology courses consist of: Teaching of English (25 Marks), Teaching of Hindi (25 Marks), Teaching of Mathematics (50 Marks), Teaching of Environmental: Science (25 Marks), Social studies (25 Marks), Health and Physical Education (35 Marks), Art Education (50 Marks), Work Education (50 Marks). Additional Specialisation include: Multigrade Teaching (Internal 15 Marks), Non-Formal Education (Internal 15 Marks), Girls' Education (25 Marks), Special Education for Disabled (Internal 15 Marks). Practical of Teaching Practice carries 250 Marks.

**SECONDARY TEACHER EDUCATION**

All the Colleges of Education within the territorial jurisdiction of Himachal Pradesh are affiliated to Himachal Pradesh University, Shimla. The University Department of Education has 100 seats in B.Ed., out of which 50 seats are in Non-Medical stream, 30 in Medical stream, 15 in Arts stream and 5 in Commerce stream. The State of Himachal Pradesh has only one Government College of Teacher Education. It is located at Dharamshala. It has also been getting funds from the Government of India as College of Teacher Education. The college has a total 235 seats (Non-Medial Stream = 160, and arts and Commerce Stream = 75) in B.Ed. In addition to this, the college has 10 seats reserved for in-service teacher candidates. They are required to apply through proper channel to the Principal of the college as and when a notice is published in this regard. Teacher educators working in Govt. College of teacher education, Dharamshala are the deputed teachers from senior secondary schools of Himachal Pradesh. Out of total 18 teacher educators, only six (33%) teacher educators have M. Ed. Degree. One teacher educator is a Ph. D. in Education. There are 72 private B.Ed. colleges. Some of the colleges function in private buildings. Fee structure of the B.Ed. course in private colleges under self-financing schemes is : Tuition fee for subsidised seats: Rs. 21,450 /-; Non-subsidised seats: Rs. 35,750 /-; Annual Charges: Rs. 3,640 /-, Monthly charges: Rs. 220/-, Library Security Charges (Refundable) Rs. 1,000/- The levi charges @ 10% on tuition fee is charged by H. P. University, Shimla at the time of counselling. The applicant for B.Ed. course is required to have at least 45% marks (40% in case of SC, ST, and Ex-serviceman categories). Age limit is 26 years for General category boy candidates, 28 years for General category, girl candidates, and 29 years

for SC and ST candidates both boys and girls. In case of ex-servicemen, the seats are only available in Government College of Teacher Education, Dharamshala. All seats in the Department of Education, H. P. University, Shimla and in the Govt. College of Teacher Education, Dharamshala are subsidised and roster of reservation is applicable on all seats available in the respective institutions. All the seats available in each college under self-financing scheme, 50% are subsidised and 50% are non-subsidised. 10% of the seats of non-subsidized category have been reserved as 'Management Quota'. Hence, the university fills up 95% of the seats in each college under self-financing scheme and 5% seats are filled up by the college management strictly in accordance with the eligibility conditions for B.Ed.

International Centre for Distance Education and Open Learning (ICDEOL) of HP University offers B. Ed. course through distance mode. The course is open to in-service teachers working on regular basis in government / recognised / affiliated schools within the State of Himachal Pradesh. The duration is two years. The Centre admits 450 seats (Non-Medical: 25, Medical: 25 and Arts: 400). The programme provides printed lecture scripts. There is provision for personal contact programmes. Duration of personal contact programmes for the B.Ed. course is 25 days per year. The medium of instruction is English and Hindi. Each student is required to submit written responses to each assignment. The admission is made on the basis of merit of marks obtained in the Entrance Test. Course fee for the 1st year is Rs. 8,500/- for those who are already registered with the University The fees given here include the tuition fee, examination fee, PCP fee and mailing charges etc. If a student is not already registered with Himachal Pradesh University Rs. 30/- as registration and Rs. 15/- as sports fee is charged.

**B.Ed. Course**

B.Ed. course theory papers include: 1. Education in Emerging Indian Society (100 Marks); 2. Development of Learner and Teaching Learning Process (100 Marks); 3. Development of Education System in India (100 Marks); 4. Essential of Education Technology (100 Marks); 5. Education for Values (100 Marks); 6. Environment and Human Rights (100 Marks); and 7. School Management (100 Marks). Each candidate offers two teaching method courses (100 Marks each) out of Physical science, Life science, Mathematics, Social sciences, English, Hindi, Sanskrit, and Commerce. Other courses are: Work Education and Work Experience (100 Marks) and Skill in Teaching (100 Marks in each teaching subject). Each theory paper of 100 marks consists of theory 80 marks and internal assessment 20 marks (except Work Education and Work Experience course).

**State Council of Educational Research & Training (SCERT), Solan**

The College of School Education established at Solan in 1954, was converted into State Institute of Education (SIE) in 1970. In 1984, the SIE was converted as SCERT. In 1997, the SCERT became a society, with a provision of grant-in-aid from the Government. The objectives of SCERT are: 1. To improve the quality of education in the State by imparting in-service training

to teachers, teacher-educators, administrators and other educational personnel; 2. To provide academic leadership within the State and act as the hub of academic research, innovation and motivation by organizing workshops and seminars on various issues; 3. To be a symbol of quality and to provide valuable insights by conducting studies on issues related to quality education in the State. The Council is headed by a College Cadre Principal. Existing faculty comprises 8 lecturers of college cadre, 6 lecturers of school cadre and 2 TGTs (Arts and Science).

## CONCLUSION

In short, Himachal Pradesh is producing large number of primary and secondary teachers every year. Even if trained teachers are available, the State Government employs para teachers, *vidya upashaks* and PTA teachers. Teacher training programmes face inadequate facilities for teacher educators and teacher trainees.

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**AIAER NEWS: NEW ADDRESS OF OLD MEMBERS (Cond. from paage 110)**

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***Meghalaya***
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***Puducherry***
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0153 Prof. (Mrs.) M. S. Lalithama, Head, School of Education, Pondicherry University, PUDUCHERRY – 605 014
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1382 Dr. Amruth Kumar G., Lecturer, School of Education, Pondicherry University, PUDUCHERRY -605 014
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# EFFECTIVENESS OF VILLAGE EDUCATION COMMITTEE ON PROMOTING UEE – A CASE STUDY

**Ranjan Kumar Dash**
**B. N. Panda**

***The paper deals with functioning of village education committees sret up by the government for improving quality of elementary education. The acse study acrried out in a tribal district of Orissa found it functioning effectively.***

## INTRODUCTION

In India, it was the Vedic days when education was almost teacher centred, the ancient *Rishies* were the pivot around which the whole system revolved. It was they who played the key role in whom to teach, what to teach, and who to teach. The other influential components of the then society had almost little involvement in deciding the policy of education. A number of prominent teachers of those days tried to maintain their uniqueness that is why we have got a wide range of Upanishads, preaching different variety of philosophies. Involvement of the society in the process of education was negligible. On the other hand, schools in the form of Ashrams were located far away from human habitation with a fear lest the social odds affect the process of education. There is a saying in Sanskrit, *"Yath Lokaaha, Tatha Shikshana Karmaah"*. As the people are, so is the education system. If the community is indifferent towards its teachers, its school and the educational system, it has no reason to expect its children to get good education. If people want their children to be educated properly, they should be willing and ready to put in their own efforts towards the all-round development of education system, beginning with their immediate neighbourhood. For successful implementation of elementary programmes of education, peoples' participation is of the utmost importance. Further this involvement should be at the grassroots level which will as a result bring about participation of voluntary organizations and social activities. Till to-day we have anticipated that the school will transform the society and how we are anticipating that the same society to transform the school. However, the school and the community are related to each other in a cyclic relationship of mutual benefit. If the school serves the community through its education programmes, the community, in turn, will help enhancing the status of the school. On the other hand, if the community supports the school in implementing the educational progress, the school in turn will help in improving the community.

## RATIONALE OF THE STUDY

Universalisation of Elementary Education (UEE) has been one of the most important goals of educational development in India since independence. One of the greatest weaknesses for poor progress in achieving UEE is the lack of community involvement in school programmes. The National Policy of Education 1986 gave stress on the community involvement in educational

management. It states that local communities through appropriate bodies will be assigned a major role in the programme of school management. Community involvement would establish a close linkage between school and community and help in improving quality in education, reduction of absenteeism and irregularity. The Revised Policy in Education in 1992 also called for community participation in educational planning and management. With the enactment of the 73rd and 74th Amendment Act (Panchayati Raj Act), 1992 the focus is now concentrated on democratically elected bodies at the district, sub-district and Panchayat levels. These Panchayat Raj Bodies, which cater to adequate representation of women, scheduled castes and scheduled tribes, minorities, representations of parents, educationists and appropriate institutions, will have the responsibility of preparing development of plans and implementing educational programmes besides dealing with subjects closely related to education such as health, social welfare and women and child development. Keeping with the view, the government has established Village Education Committee (VEC), in all elementary schools. They are the statutory bodies to see the educational development of the children in village schools. The role of VEC has become very vital in promoting enrolment, retention, achievement and school effectiveness. Although VECs have been constituted in almost all schools, their effectiveness is to be looked after. Of course some VECs have proved very effective and their role in the promotion of UEE is worth noting. So the study was proposed to establish the role of VECs to achieve universalisation of elementary education at the grassroots level.

## OBJECTIVES OF THE STUDY

To find out the effectiveness of village education committee at the grassroots level of education.
To study the actions taken by VECs in generating awareness among the community members for participating in the school improvement activities and the strategies followed by them for the purpose of quality education.

## METHOD

Analytical survey method was used for the study.

### Sample

Nabarangpur district of Orissa has been taken for the present study for population purposively. On the basis of effective VECs of different areas 10 primary schools have been selected randomly. For the present study, 30 VEC members were selected and were interviewed by developing a structured interview schedule.

## RESULTS AND DISCUSSION

The VEC members were supposed to be involved in taking care of the school situation and assist the school in managing different activities.
All effective VECs were involved in construction of school building for primary schools satisfactorily. About 96.67 % of VECs were trying their best for improvement of school

environment, 90.00 % of them were working satisfactorily for improving the school garden and plantation, and 93.33 % of VECs were working for development of TLM adequately and for its effective use. About 90.00 % of VECs were working for adequacy of care of other school materials to the best of their capacities. Thus care and management work for the VECs were quite adequate and appropriate.

The VECs are supposed to be involved in organising different activities in the school in cooperation with the teachers. It was found that 86.67 % of VECs organized different awareness programmes quite effectively. About 93.33 % of VECs coordinated different functions and meetings satisfactorily, 96.66 % of VECs coordinated mother welfare *samittee* activities spectacularly, 93.33 % of VECs organized enrolment drive meticulously, 90.00 % of VECs organized tribal conventions satisfactorily. Most of the VECs coordinated different awareness programmes satisfactorily for attitudinal change of the villagers.

The VEC members contributed some exemplar effort for improving schooling habits of children. All the VECs were interested in taking steps satisfactorily to identify the non-enrolment and problems of drop-out children in the tribal area. As many as 93.33 % VECs were planning fruitfully for changing the schooling habit of non-enrolment and drop-out children, 96.67 % of VECs were used to take steps effectively to maintain good relation and co-operation among parents, 90.00 % of VECs organized active steps for regular attendance, 96.67 % of VECs rendered adequate help to youth club and Mahila Samittee for school improvement and 86.67 % of VECs developed suitable school map and organized micro-planning. Thus facilitation role of all the VECs were impressive.

The role of VECs in school improvement cannot be ignored at any case. In the district of Nabarangpur the role of VECs in school improvement programme. It was found that 96.67 % of VECs took satisfactory steps to maintain cordial relation and co-ordination among parents and teachers. Most of the VECs, (90.00 %) supervised work of the school system with intent for regular attendance of teachers, 93.33 % of VECs put forth satisfactory steps for good teaching in the schools, 86.67 % of VECs took satisfactory steps for good results in the schools and 66.67 % of VEC members used to take classes at the time of need. Thus effectiveness of VECs was quite constructive and were reciprocated by the teachers for school improvement.

The schools are in receipt of some financial assistance from different corners. For transparency of the utilization of the grant of VECs have to discharge some functions. All the VECs took steps for proper utilization of annual grant in the school. It represented that 93.66 % of VECs were used to take steps for utilization of TLM grant. As good as 90.00 % of VECs took suitable steps for collection of fees for school improvement and 96.67 % of VECs were taking interest to collect more funds from government and other agencies. Thus economic activities of all effective VECs in collaboration with the teachers for school improvement were satisfactory.

The headmaster / assistant teacher is the member secretary of Village Education Committee. The headmasters / teachers have the important role to create good school-community relationship. The headmaster organized meeting with the VEC members. Before conducting the meeting the teacher of the school sent notices to the VEC members through the students before three days. In this meeting the VEC members discussed school related programmes like enrolment of children, prevention of drop-out, school management and development of infrastructure, school environment cleanliness, preparation of TLM, taking extra classes and collection of funds for school improvement. All these programmes discussed in VEC meeting and after meeting it was recorded as resolutions in the minute / resolution book. The VEC members were taking some developmental work in collaboration with the teachers. Teachers play a vital role for establishment of school-community relationship.

**DISCUSSION**

Most of the Village Education Committees worked excellently for all round development of primary schools. All the VECs were took care and management work of primary schools satisfactorily. VECs organised different awareness programmes satisfactorily for attitudinal change of villagers. Facilitation role of all VECs were very impressive. VECs undertook different steps to improve the financial status of primary schools. Proper care and management of primary schools, taking steps to increase enrolment and to reduce drop-out rate, organising different cultural activities in schools, working for development of school environment and helping the teacher to prepare TLM were significant works of VEC, which significantly affected the environment of the local primary schools. Facilitation role, attitudinal role, school improvement role, economic activities and miscellaneous works have been performed by VECs effectively for all round development of the respective school.

**CONCLUSION**

The role of VECs is very essential and important for the improvement of primary education. The success stories of different VECs would certainly act as examples for the weaker VECs so as to improve working style for improvement of management system and effective participation. Since Nabarangpur is a tribal dominated district, it will be helpful for other tribal school VECs to learn to bring change in their mode of activities for all round development of primary school in respect to enrolment, retention, achievement and school environment etc. To achieve universalisation of elementary education the role of community is quite significant. Education is the primary need of human being. So every body has basic fundamental rights to get compulsory primary education. To universalize the elementary education the function of community is proved to be effective in all kinds of activities in the school in relation to care and management, enrolment, teaching learning process, organizing different cultural activities, maintaining a clean school environment, preparation of TLM and sustenance of financial support to school.

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# A **FEW TOPICS FOR RESEARCH IN TEACHER EDUCATION**

**Sunil Behari Mohanty**

The list of research topics given below has been developed for perusal of teacher educators and researchers in teacher education. The areas in which suggested topics have been listed are as follows: 1. Student teachers and school teachers; 2.Teacher educators; 3. Teacher education courses; 4.Management of teacher education; 5. Evaluation of performance of student teachers; 6. Admission procedures; 7. Laboratory/pre-practice teaching preparation; 8. Innovations; 9. Practice teaching, Internship and field experiences; 10.Supervision; 11.Laboratory / demonstration / professional development schools; 12. Linkage of Teacher education institutions and their linkage with others; 13. Continued professional development of teachers; 14. Gender issues; and 15. Technology and teacher education.

**1.0 Student Teachers and School Teachers**

1.1 Study of affective and cognitive characteristics of student teachers of teacher training institutions/ units/ departments preparing teachers.

1.2 Development of profile of student teachers of teacher training institutions/departments/units preparing teachers.

1.3 Study of the attitudes of student teachers towards teaching profession.

1.4 Study of the psychological traits of student teachers.

1.5 Study of the characteristics of student teachers with respect to their predictive validity as regards to success in becoming an effective teacher.

1.6 Comparative study of attitudes towards teaching profession of B A (Education) students who had practical work in school teaching as part of their course work and B. Ed. students.

1.7 Comparative study of the characteristics of student teachers belonging to fresh and in-service categories.

1.8 Comparative study of the attitudes of fresh student teachers with those of in-service categories.

1.9 Comparative study of the teaching aptitude of fresh categories of student teachers with those of in-service categories.

1.10 Study of personality traits of successful and unsuccessful student teachers.

1.11 Study of interpersonal behaviour of teachers, student teachers and teachers.

1.12 Study of changes taking place in teachers in pedagogy, attitude towards learners, and self concept with their growth in age and experience.

1.13 Compilation of success stories of effective teachers for their use as instructional material in teacher training programmes.

1.14 Study of attitudes of student teachers towards the humanistic approach to teaching and learning in schools.

1.15 A longitudinal study of classroom behaviour of student teachers.

1.16 Comparative study of entry characteristics of trained and untrained teachers.

1.17 Comparative ratings of teacher image by student teachers of RIEs, University B.Ed. Departments/ colleges of education, IASEs, CTEs, B.Ed. departments of general colleges, Education departments offering B.A. (Education) courses (having or not having school teaching practical) of general colleges and other teacher training institutions.

1.18 Comparative study of teachers' image of student teacher of DIETs and other elementary teacher

training institutions.
1. 19 Study of demographic characteristics of teachers with reference to classroom behaviour.
1.20 Study of effect of pre-training teaching experience on student teachers.
1.21 Case studies of effective teachers as inputs in teacher education curriculum.
1.22 Longitudinal study of classroom behaviour of student teachers of integrated courses of teacher education (B. Sc., B. Ed.; B. El. Ed. etc.)

**2.0 Teacher Educators**

2.1 Study of characteristics of teacher educators in institutions/departments/units for preparation of teachers
2.2 Development of profiles of teacher educators at teacher training institutions/departments/units for preparation of teachers.
2.3 Survey of teaching methodologies of teacher educators.
2.4 Survey of relevant school teaching experiences of teacher educators and perceptions of teacher educators about continued school teaching experience at intervals.
2.5 Development of a code of professional ethics of teacher educators.
2.6 Study of working conditions of teacher educators.
2.7 Study of attitudes of teacher educators towards teaching profession.
2.8 Study of awareness of teacher educators about various aspects of andragogy and use of and andragogical techniques in their classes.
2.9 Study of role perceptions and role performance of teacher educators.
2.10 A comparative study of teaching styles of method masters of various subjects.
2.11 Developing instructional materials for training of heads of various levels of institutions.
2.12 Developing a list of competencies for teacher educators.
2.13 Study of knowledge of teacher educators in relation to adult psychology.
2.14 Comparative study of teaching attitudes and teaching performance of teacher educators with and without M. Ed. qualifications.
2.15 Study of the lives of teacher educators.
2.16 Study of writings of teacher educator.
2.17 Study of educational belief systems among teacher educators.
2.18 Study of accountability and teacher educator professionalism.
2.19 Comparative study of attitude towards teaching and expertise in skills of delivering demonstration lessons of teacher educators with and without school teaching experience.
2.20 Comparative study of skills of products of M. Ed. / M.A. (Education) courses that provides skill in teaching Education students at undergraduate or at B. Ed. stage with the products of M. Ed. / M.A. (Education) courses without practical.
2.21 Comparative study of skills of products of M. Ed. / M.A. (Education) courses that provides skill in Methods of teaching a school subject with the products of M. Ed. / M.A. (Education) courses without practical.
2.22 Development of in-service training package on techniques of training through distance mode.
2.23 Development of a self-learning reading material on training skills required of a teacher educator.
2.24 Development of a multi media package for training of heads of schools.
2.25 Development of curriculum outline for 2 year M. Ed. for students who do not possess B.Ed. degrees.

2.26 Study of facilities available for professional development of teacher educators.
2.27 Comparative study of practical teaching skills of teacher educators with and without school teaching experience.
2.28 Development of a plan for organisation of teacher education complexes in states and UTs.
2.29 Development of modules for self directed training of teachers and of teacher educators.
2.30 Compilation of case study of innovations in teacher education for self study of teacher educators.
2.31 Methods of teaching employed in their theory classes by teacher educators- A survey
2.32 Methods of teaching and content area covered by teacher educators in their demonstration lessons- A survey.
2.33 Comparative study of the expertise of faculty members of IASEs, CTEs with other teacher education institutions.
2.34 Study of teaching attitude and teaching performance in teacher education institutions and teaching performance in school subject at the end of first year of their service.
2.35 A follow up study on the participants of ASC refresher courses in Education subject.
2.36 Study of training needs of heads of teacher education institutions and developing a training package.
2.37 Developing a training package for heads of CTEs.
2.38 Case studies of efficient teacher training institutions including IASEs and CTEs.
2.39 Study of professional profiles of teacher educators of different types of teacher education institutions.
2.40 Perception of the need for developing a code of professional ethics for teacher education - A survey.
2.41 Study of specific competencies required for success as teacher educators.
2.42 Study of effect of M. Ed. training on aptitude and performance of teacher educators.
2.43 Developing criteria for evaluation of the performance of student teachers.

**3.0 Initial Teacher Training Curricula**

3.1 Follow up study of ex-student teachers of teacher training institutions/departments/units.
3.2 Evaluation of initial teacher training curricula by the student teachers after publication of their examination results.
3.3 Evaluation of initial teacher training curricula by the beginning teachers after completion of first year of their service as a school teacher
3.4 Evaluation of in-service teacher education programmes through pre-post test design.
3.5 Evaluation of training strategies-delivery of demonstration lessons and theoretical instruction and observations made for giving feedback to student teachers.
3.6 Study of perceptions of student teachers about effectiveness of school teachers whose classes are being taught by them during practice teaching.
3.7 Appraisal of performance of teacher educators.
3.8 Evaluation of quality of programmes by studying the skills of student teachers at the time of joining the course and at the time of completing the course.
3.9 Comparison of teacher training programmes in IASEs/CTEs/DIETs with programmes in other teacher training institutions.
3.10 Study of innovations in teacher training institutions including IASEs, CTEs & DIETs.
3.11 Study of teaching strategies of teacher before and after professional preparation.
3.12 Perceptions of old students about their own training programme.
3.13 Comparative study of teacher education curricula of different examining bodies.

3.14 Study of existing teacher training curricula vis a vis norms of NCTE.
3.15 Study of reactions of teacher educators about existing curricula.
3.16 Developing a model curriculum with flexibility to cover local needs and scope for innovation for training of teachers.
3.17 Study of the utilisation of community (human and material) resources in improving quality of curricular transaction in teacher training institutions.
3.18 Study of programmes for aesthetic, cultural, moral, religious and spiritual development of teacher trainees.
3.19 Study of varieties of lesson planning strategies in use of teacher education institutions.
3.20 Developing a curriculum for one year B. Ed. course covering practical training in all stages of education: pre-primary, elementary and secondary.
3.21 Participation of student teachers in community development activities - a normative survey.
3.22 Participation of school heads, educational administrators and inspectors and professionals such as doctors, farmers etc. in initial training and continued professional development programme for teachers - A survey.
3.23 Study of evaluation practices for assessing teaching skills.
3.24 Study of curriculum of teacher education programmes to ascertain the extent to which encouragement is given for group activities, group projects and awarding group achievements.
3.25 Study of courses of study for teacher education of examining bodies to find out the extent the curriculum is decentralised, area specific and community centered.
3.26 Comparative study of courses of study of autonomous teacher education institutions with those of parent bodies.
3.27 Study of extent of involvement of non-teachers in transaction of teacher education programmes in teacher training institutions and studying their outcomes.
3.28 Study of teacher education programmes with reference to group learning, peer learning and self learning.
3.29 Study of initial teacher training programmes in relation to activities such as visits to homes of school students, teaching without assigning homework and non scholastic areas such as club and house activities etc.
3.30 Evaluation of question papers of teacher education courses
3.31 Developing a teacher training curriculum for teaching in high fee charging English medium and public schools.
3.32 Developing a teacher training curriculum for working in Navodaya Vidyalaya.
3.33 Comparative study of teacher education curricula in India with that of other countries.
3.34 Follow up sequential study about the effectiveness of teacher training programmes by the products of these programmes after first year of their service and after 10 years of service.
3.35 Analysis of teacher training curriculum to analyse the extent to which it develops lifelong learning skills in student teacher.
3.36 Study of strategies necessary in teacher training programmes to cater to psychological, vocational and social needs of teacher trainees.
3.37 Developing instructional packages for developing awareness on population growth problems in student teachers.
3.38 Developing instructional packages for developing awareness on environment related issues in student teachers.

3.39 Study of relation between teaching skills of teacher trainees and their dramatic talent.
3.40 Study of opinions of student teachers about their theory courses.
3.41 Study of training programmes for teachers of special education for planning and implementation of community based rehabilitation (CBR) programmes.
3.42 Development of training strategies based on modern theory for training of adults.
3.43 Developing strategies for teacher training through case study method.
3.44 Developing strategies for improving quality of lectures.
3.45 Study of quality of reflection in student teachers' professional thinking.
3.46 Developing a programme for teacher training for teaching in urban schools.
3.47 Developing a curriculum for teacher training for teaching children of first generation learners.
3.48 A comparative study of teacher training programmes in University departments of education, in departments of education in general colleges and in teacher training colleges.
3.49 A comparative evaluative study of teacher training programmes in IASEs and CTEs.
3.50 Study of the quality and extent of content taught in courses of content cum methodology of teaching various subjects of B.Ed. stage.
3.51 Developing a teacher training curriculum for working in Navodaya Vidyalaya.
3.52 Developing a pre-service teacher training curriculum for teaching in secondary classes of high fee charging private schools.
3.53 A comparative study of elementary/pre-primary teacher training curricula in different States.
3.54 A follow up study of B. Ed.(Elementary) programme products of RCEs of NCERT.
3.55. Comparative study of one year and two year initial teacher training programmes for elementary school teaching.
3.56 Study of the qualities of programme in DRUs for non formal/adult education under DIETs and NGOs
3.57 Study of the characteristics of experts of examining bodies of teacher training programmes for elementary schools.
3.58 Developing a pre-service teacher training curriculum for teachers for elementary classes of high fee charging private schools.
3.59 A comparative study of pre-school training programmes for Anganwadi workers with programmes of courses meant for general pre-primary school teaching.
3.60 Development of a curriculum outline for 1 year B. Ed.(Pre-primary) for introduction in DIETs having faculty as per Central Government guidelines.
3.61 Developing a pre-service training package for teachers of pre-primary classes of high fee charging private schools.
3.62 Developing a training package for heads of pre-primary teacher training institutions.
3.63 Development of a two year course structure for pre-primary teacher education.
3.64 Follow up study to evaluate teacher education in the light of real time experience in the first three years of school teaching.
3.65 Strategies employed for assessing teaching skills of student teachers - A survey.
3.66 Critical study of teacher education curricula for promoting team teaching.
3.67 Orientation to lifelong learning- A critical evaluation of teacher education programmes.
3.68 Promotion of reflective thinking - A critical evaluation of teacher education programmes.

**4.0 Management of Teacher Education**

4.1 Study of financial management of teacher education institutions and their programmes.

4.2 Study of recruitment rules of teacher educators and heads of teacher education institutions in vogue in States and UTs.
4.3 Comparative study of programmes and resources of various types of teacher education institutions run by minority bodies/religious organisations with those run by other private bodies and State Governments.
4.4 Study of managerial skills of principals of teacher education institutions and heads of teacher education departments.
4.5 Study of supervisory skills of heads of institutions and departments of education.
4.6 A comparative study of the cost of various levels and systems of teacher training.
4.7 Study of the organisational climate of teacher education institutions and departments of educations of universities and general colleges.
4.8 Study of manpower planning for teacher education in States/UTs.
4.9 Study of extent of utilisation of various types of supports given to teacher training institutions by the Central Government out of its own schemes and of schemes of international bodies.
4.10 Centrally sponsored schemes for teacher education - An impact study.
4.11 Study of perceptions of stake holders about necessity of introducing mentoring scheme for further training of a person after getting teacher training degree /diploma /certificate to enable him /her to become a regular teacher.
4.12 Study of human and material resource support given by teacher training institutions and Government Departments of School Education to practice teaching schools.
4.13 Study of the extent to which skills of teaching and the teachers' role are context specific or universal.
4.14 Study of the opinions of faculty members of teacher education institutions and heads of school regarding necessity of school teaching experience for applicant for M. Ed. courses and regarding school teaching as a part of duty of faculty members of teacher education institutions.
4.15 Study of the opinion of the SCERT Directors and heads of teacher training institutions as regards creation of a cadre of teacher educators.
4.16 Study of the feasibility of introducing roving teacher educators for subjects such as art, music, dance, craft, etc.
4.17 Study of the possibility of involving non faculty members of teacher education institutions in dealing with certain content areas.
4.18 Study of fees pattern for initial teacher training programmes in States and UTs.
4.19 Study of the developments that have been taken place in teacher education programmes and institutions after functioning of the NCTE.
4.20 Study of extent of utilisation of academic and professional resources in teacher education institutions.
4.21 Study of indigenous system of teacher training to explore utility of certain aspects of the system in the 21st century.
4.22 Study of academic staff structure of SCERTs.
4.23 Comparative study of teacher training programmes under TLC with those of NGOs.
4.24 Comparative study of managerial and financial strategies in teacher training institutions with those of Departments of B.Ed. / Education as part of general colleges.
4.25 Comparative study of effectiveness of teacher educators with M. Ed. qualifications with those without M.Ed. qualifications.
4.26 Study of the opinions of inspecting officers, administrators, heads of schools and teacher education faculty members about the need for introducing teacher licensing system.

4.27 Developing a test for teacher accreditation.
4.28 Developing a training package for preparation of teachers for jobs in remote areas-deserts, hilly regions, islands and swampy land.
4.29 Study of the relationship between research on teaching, educational innovations and teaching practices.
4.30 Study of the research findings and their application in teacher education.
4.31 An evaluative study of the functioning of IASEs and CTEs in relation to the Central Government guidelines.
4.32 Comparative study of the teaching effectiveness of products of one year B.Ed. course with those of four year integrated courses.
4.33 Autonomous colleges of education - An evaluative survey.
4.34 Comparative study of effectiveness of teachers produced by face to face and by distance mode.
4.35 Comparative study of teacher education programmes offered by university teaching departments of Education, departments of Education/ B. Ed. of general colleges and training colleges.
4.36 Comparative study of effectiveness of teachers who had B.A. with Education and subsequently passed B. Ed. examination privately with those of non B.A. (Education) and B. Ed. passed teachers.
4.37 Comparative study of the expertise of faculty members of IASEs and CTEs with those of other types of teacher education institutions.
4.38 Comparative study of teacher training programmes of DIETs with other teacher education institutions.
4.39 Comparative study of effectiveness of teachers who had their training in DIETs with those who had training in other types of teacher training institutions.
4.40 Functioning of DIETs - A critical study with respect to Central Govt. Guidelines.
4.41 Study of programmes of extension centres/units attached to elementary teacher training institutions.
4.42 A comparative study of pre-primary teacher training curricula in different States.
4.43 Study of relevance of school experience of teacher educators in improving quality of teacher training.
4.44 Finance and management of teacher education at micro level: a comparison of different types of institutions.
4.45 Effectiveness of post general degree teacher training and integrated teacher training: A comparative study.
4.46 Does M.Ed. degree qualification contribute to effectiveness of teacher education programmes? A study.
4.47 Teaching competency of faculty in teacher education institutions: A comparative study in IASEs, CTEs, DIETs and other types of teacher education institutions.

**5.0 Evaluation of Performance of Student Teachers**

5.1 Study of provision for evaluation of co-curricular activities in various categories of teacher education programmes.
5.2 Developing strategies for open book examinations in teacher education courses.
5.3 Study of evaluation practices for assessing teaching skills.
5.4 Evaluation of question papers of teacher education courses
5.5 Study of evaluation procedures in B. Ed. programmes.
5.6 Study of evaluation procedures in M. Ed. programmes.
5.7 Study of evaluation procedures in M.A. (Edn.) programmes.
5.8 Study of evaluation procedures in Diploma/Certificate Courses for elementary school teacher training programmes and B. El. Ed. programmes.

5.9 Evaluation of B. Ed. part time programmes.

**6.0 Admission Procedures**

6.1 Study of efficacy of admission procedures in vogue for teacher training programmes in States/ UTs.
6.2 Comparative study of admission procedures followed in States and UTs for teacher education programmes.
6.3 Development of an admission test at all India level, on the basis of opinions of heads of schools and faculty members of teacher education institutions.
6.4 Study of predictive validity of existing admission tests/criteria.
6.5 Study of the perceptions of faculty members of teacher training institutions about increasing level of entry qualifications for elementary teacher training courses.

**7.0 Laboratory and Pre-practice Teaching Preparation**

7.1 Survey of provisions for laboratory experiences in teacher education programmes.
7.2 Study of the quality, methods employed and area covered in demonstration lessons delivered by faculty members of teacher training institutions and school teachers.
7.3 Study of computer assisted teaching strategies in use in teacher education programmes.
7.4 Study of quality of micro teaching programmes employed in teacher education institutions.
7.5 Survey of audio and video recordings of real or simulated educational phenomena in use in teacher education programmes.
7.6 Study of the methods of teaching and nature of content area of the concerned subject covered by teacher educators in their demonstration lessons .
7.7 Study of the methods of teaching and nature of content area of the concerned subject covered by student teachers in their criticism/discussion lessons.
7.8 Comparative study of demonstration lessons given by school teachers and faculty members of teacher education institutions on the basis of perceptions of student teachers.
7.9 Study of the quality of guest lectures delivered to student teachers and the topics covered by them.
7.10 Study of the quality of training programme other than microteaching for development of skills in student teachers.
7.11 Developing story telling skills in teacher education - A study.

**8.0 Innovations**

8.1 Study of case methods employed in teacher training programmes.
8.2 Study of the status, content and evaluation of micro teaching in teacher education curricula .
8.3 Case studies of innovations in teacher education institutions.
8.4 Case studies of innovative teacher education institutions.
8.5 Study of quality of protocol materials developed by CIET and other institutions for their use
8.6 Study of interaction analysis training strategy followed in teacher education institutions.
8.7 Study of use of simulation and role play techniques in teacher training programmes
8.8 Development of curriculum for Competency Based Teacher Education for preparing teachers.
8.9 Development of a curriculum outline for 2 year Master of School Teaching Course.
8.10 Development of curriculum outline for one year Master of Teacher Education with provision for specialisation in one of the stages of school education.
8.11 Development of a detailed curriculum outline for a Bachelor of School Teaching Course of 2 year

duration having provision for specialisation in one area.
8.12Development of laboratory experience programme containing audio and video recordings of regular programmes such as counselling, demonstration lesson, discussion of critical events, educational games, micro teaching, mirror teaching, reflective teaching, role playing etc., protocol materials, simulators and simulations.
8.13 Study of effectiveness of Mini/courses.
8.14 Study of effectiveness of protocol materials.
8.15 Study of effectiveness of simulation strategy in teacher education.
8.16 Study of innovative practices in school education and their implications for teacher education.
8.17 Study of innovations in teacher education in case of programmes for professional development.
8.18 Study of innovations in in-service education of teachers.
8.19 Study of innovations in distance education applied to professional development programmes of teachers.
8.20 Developing a curriculum including instructional material in print for Educational Psychology course based on Vedic Psychology.
8.21 Development of a curriculum outline for 1 year B. Ed. Elementary programme for introduction in DIETs having faculty as per Central Government guidelines.
8.23 Comparative study of pre-service teacher education programmes of IASEs and CTEs with those of other types of teacher training institutions.

**9.0 Practice Teaching, Internship and Field Experiences**
9.1 Study of perceptions of student teachers about effectiveness of school teachers whose classes are being taught by them during practice teaching..
9.2 Study of organisational pattern of student teaching.
9.3 Study of perceptions of teachers and heads of practice teaching schools about the effectiveness of pre-practice teaching preparation at teacher training institution before student teachers are sent to schools for practice teaching.
9.4 Study of difficulties faced by practice teaching schools in relation to student teaching programmes.
9.5 Study of lesson plan formats used.
9.6 Study of extent and nature of participation of student teachers in co-curricular activities of the practice teaching schools.

**10.0 Supervision**
10.1 Study of reactions of student teachers on remarks given by observers on their lesson plan note book/ journal/file.
10.2 Perceptions of student teachers about effectiveness of supervisory strategies.
10.3 Evaluation of supervisory skills of teachers of the practice teaching school.
10.4 Development of a training programme for developing supervisory skills of school teachers.
10.5 Evaluation of supervisory strategies employed by faculty members of teacher education institutions
10.6 Study of remarks given by the faculty members of teacher training institutions and teachers of practice teaching schools.
10 Developing a training package for training of school teachers to act as supervisors of student teaching.

**11.0 Laboratory / Demonstration / Professional Development Schools**

11.1 Study of quality of laboratory/demonstration schools attached to teacher training institutions.
11.2 Study of quality of practice teaching schools.
11.3 Study of perceptions of teacher training institutions/school heads about necessity of laboratory schools and facilities necessary in these schools.
11.4 Study of incentives given to laboratory/demonstration schools and other practice teaching schools.
11.5 Development of criteria for effective laboratory / demonstration school.
11.6 Study of the effects of the practice teaching school climate on the student teachers' attitude towards teaching.
11.7 Comparative study of quality of programmes of demonstration schools/laboratory schools functioning under the administrative control of heads of teacher education institutions, with those of other practice teaching schools of the said institution.
11.8 Comparative study of the effectiveness of teachers of the demonstration/laboratory schools and other schools situated in the town.

**12.0 Teacher Education Institutions and Their Linkage with Others**

12.1 Study of linkage of teacher education institutions with (a) schools, (b) government departments (c) non government agencies and (d) sister teacher education institutions for providing a training programme of quality.
12.2 Study of the schemes of lessons developed and supplied by teacher education associations.
12.3 Extent of participation of student teachers in community development activities - A survey
12.4 Study of the extent of participation of school heads, educational administrators and inspectors and professionals such as doctors, farmers etc. in initial training programmes and in continued professional development programmes for teachers.
12.5 Case studies of effective elementary teacher training institutions including DIETs.
12.6 Need for instituting school level registers for ascertaining availability of community members to act as substitute teachers, in case of teacher absence.

**13.0 Continuing Professional Development of Teachers**

13.1 Need for induction programmes for new teachers.
13.2 Developing a model Induction Programme outline for teachers.
13.3 Developing a self-financing distance cum contact mode Diploma course for continued professional development of teachers.
13.4 Evaluation of in-service education programmes conducted by various organisations.
13.5 Study of incentives and motivational schemes in States and UTs for teachers attending programmes for continued professional development of teachers..
13.6 Study of needs of school system to have a register of supply teachers for utilising as substitutes when teachers go on leave and developing an orientation programme for them.
13.7 Study of organisational pattern of existing programmes for continued professional development of teachers..
13.8 Follow up study of activities undertaken by participants of programmes for continued professional development of teachers with a view to achieving the objectives of the programmes.
13.9 Study of impact of programmes for continued professional development of teachers and their performance.

13.10 Study of self-initiated professional development activities of teachers.
13.11 Study of programmes for continued professional development of teachers undertaken by NGOs.
13.12 Study of school clusters in relation to the continued professional development of teachers. activities.
13.13 Study of problems faced by teachers in the first year of their career.
13.14 Study of the training techniques employed in in-service education programmes.
13.15 Evaluation of modules developed by NCERT for PMOST and SOPT programmes.
13.16 Study of opinions of teachers completing their first years of service about new skills and technologies that they received during the year, which they had not covered during their pre-service training.
13.17 Study of the effectiveness of Cascade model of training.
13.18 Study of continuity and change in teacher development in the first year of career of a teacher and after five years.
13.19 Development of a strategy for school based programmes for continued professional development of teachers.
13.20 Study of innovations in continued professional development of teachers.
13.21 Study of innovations in teacher education in case of programmes for professional development.
13.22 Study on teacher thinking towards professional development.
13.22 Study of extension programmes in teacher education institutions (IASEs) strengthened under Central Govt. scheme for improving teacher education.
13.23 Developing a training package for heads of DIETs.
13.23 Follow up study of SOPT programme.
13.24 Follow up study of MLL programme.
13.25 Follow up study of UNICEF Joyful Learning Programme.
13.26 Follow up study of DPEP training programme.
13.27 A comparative study of human and material resources in DRUs functioning under DIETs and NGOs.
13.28 Study of the system of centre school meetings for elementary school teachers in relation to continued professional development of teachers.

**14.0 Gender Issues in Teacher Education**

14.1 Study of the difficulties faced by female teacher educators.
14.2 Study of the difficulties faced by female teacher trainees.
14.3 Comparative study of effectiveness of male and female teacher educators.
14.4 Perceptions of student teachers - male and female, about effectiveness of their teachers - male and female.
14.5 Perceptions of student teachers - male and female about effectiveness of school teachers - male and female, giving guidance to them during practice teaching.
14.6 Perceptions of school students about effectiveness of male and female student teachers.

**15.0 Technology and Teacher Education**

15.1 Study of quality of protocol materials developed by CIET and other institutions/organisations for their use in programmes for initial teacher training and also in programmes for continued professional development of teachers.
15.2 Studying the effectiveness of teacher education programmes through AIR.
15.3 Studying the effectiveness of teacher education programmes through Doordarshan.
15.4 Studying the position of availability of audio-visual aids in institutions/schools / departments of

education for initial teacher training and their use in delivery of theory classes for student teachers.
15.5 Study of the NCTE norms in respect of audio visual aids in institutions/schools / departments of education for initial teacher training.
15.6 Developing a multi-media package for continued professional development of faculty members of teacher education institutions.
15.7 Developing programmes containing audio and video recordings of regular or simulated educational phenomena including demonstration lessons, discussions of critical events, micro teaching sessions, mirror teaching, peer teaching and classroom events etc.
15.8 Developing a multimedia package for developing verbal as well as non-verbal skills among student teachers.
15.9 Study of current training models and professionalisation of teaching.
15.10 Development of a multi media package for training of heads of schools.
15.11 Study of modern facilities in educational technology in institutions/schools / departments of education for initial teacher training.
15.12 Study of extent of utilisation of technology in transaction of initial teacher training curricula.
15.13 Study of provision existing in initial teacher training curricula for training in use of computer, interactive video and other modern gadgets.
15.14 Study of ICT utilisation in theory classes in initial teacher training programmes.
15.15 Study of ICT utilisation in programmes for continued professional development of teachers.

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AIAER NEWS (Cond. from paage 112)

NEW ADDRESS OF OLD MEMBERS

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**Continued on page 94**

## WORLD EDUCATION RESEARCH ASSOCIATION
## http://www.weraonline.org
## The World Education Research Association
## Holds First Council Meeting and Commemorative Events in Vienna

Vienna, Austria: Representatives of 25 national, regional, and international specialty education research associations from around the world gathered in Vienna on September 29, 2009 to commemorate the founding of the World Education Research Association (WERA). Officially established by a resolution on April 18, 2009 in San Diego, California, WERA was formally recognised at the Vienna ceremony, which included presentations by several distinguished speakers, a signing by WERA representatives of a declaration endorsing the purposes of WERA, and a symposium. Guests and speakers emphasized the importance of promoting international collaboration on scholarly studies of education as embodied in WERA initiatives. They also acknowledged the significance of having this important ceremony take place in Vienna, historically a great international city with multilingual and diverse traditions and cultures.

The ceremony concluded several days of meetings and events in Vienna, including the first WERA Council meeting, which took place on September 26-27. Council elected Yin Cheong Cheng, Past President of the Asia-Pacific Educational Research Association and Representative of the Hong Kong Education Research Association as Interim Vice President. He joins the other two officers, Interim President Ingrid Gogolin and Interim Secretary General Felice Levine who were elected in May 2009. All three will hold office until May 6, 2010. A plan for the election of the first WERA Executive Committee, which will take place in December 2009, was outlined and discussed.

The WERA Council meeting focused on plans for a substantive program of WERA activities for the next several years. Following the WERA Three-Year Programme Plan approved in Singapore in 2008, representatives agreed on implementing WERA symposium and one focal set of WERA sessions each year aligned with the meetings of WERA member associations, capacity building workshops, and research working groups that will engage researchers with diverse expertise in working together on research problems and topics. By design, these activities would draw on worldwide scholarship and scholars, and encourage broad-based participation beyond what any single national, regional, or international specialty association is able to undertake.

The event marked the culmination of more than two years of intensive effort to create a new forum to advance and share scholarly knowledge on education on an international scale. The Education Association of South Africa (EASA) and the Taiwan Education Research Association (TERA) became new members of WERA in Vienna, bringing its membership to twenty-seven. WERA was hosted in Vienna by the European Educational Research Association (EERA) during its annual European Conference on Educational Research (ECER) and the University of Vienna.

**AIAER & WERA**

AIAER was not aware of the first two meetings convened by AERA .Sunil Behari Mohanty, General Secretary and Basanti Dey Chakraborti, an AIAER member now residing at New York participated in the third meeting for formation of WERA, convened by AERA held at New York on 29-30, March 2008. The fourth meeting was held on 2008 November at Singapore was attended by Sunil Behari Mohanty, Basanti Dey Chakraborti and S.K. Bawa. There was no representative of AIAER at the fourth meeting held on April 18, 2009 at San Diego, USA. The first meeting of WERA Council held at Vienna on 2009 September 29 was attended by Sunil Behari Mohanty as a member and by K. Jayaraman as an observer. Sunil Behari Mohanty was given free accommodation.

The members of WERA as on 2009 September 30 are:

1. All India Association for Educational Research (AIAER) India
2. American Educational Research Association (AERA) USA
3. Associação Brasileira de Pesquisadores Negros (ABPN) Brazil
4. Associação Nacional de Pesquisa e Pós-Graduação em Educação (ANPED) Brazil
5. Australian Association for Research in Education (AARE) Australia
6. British Educational Research Association (BERA) UK
7. Canadian Society for the Study of Education (CSSE) Canada
8. Consejo Mexicano de Investigacion Educativa (COMIE) Mexico
9. Education Association of South Africa (EASA) Republic of South Africa
10. Educational Research Association of Singapore (ERAS) Singapore
11. Educational Studies Association of Ireland (ESAI) Ireland
12. European Association for Research on Learning and Instruction (EARLI)
13. European Educational Research Association (EERA)
14. European Science Education Research Association (ESERA)
15. German Educational Research Association (GERA) Germany
16. Hong Kong Education Research Association (HKERA) Hong Kong
17. Japanese Educational Research Association (JERA) Japan
18. Korean Educational Research Association (KERA) Korea
19. Malaysian Educational Research Association (MERA) Malaysia
20. Netherlands Educational Research Association Netherlands
21. Nordic Educational Research Association (NERA)
22. Pakistan Association for Research in Education (PARE) \Pakistan
23. Scottish Educational Research Association (SERA) Scotland, UK
24. Sociedad Española de Pedagogía (SEP) Spain
25. Sociedad de Investigación Educativa Peruana (SIEP) Peru
26. Taiwan Education Research Association (TERA-Taiwan) Taiwan
27. Turkish Educational Research Association (TERA-Turkey) Turkey

**AIAER & APERA http://www.apera.nie.edu.sg/**

AIAE , for the first time became a member of APERA with the participation of Sunil Behari Mohanty, General Secretary at its general body meeting held on at Singapore in Novemnber 2008. The next APERA Conference is scheduled to be held at Malaysia in November 2010. The members of APPERA are:

1. All India Association for Educational Research (AIAER) India
2. Australian Association for Research in Education (AARE) Australia
3. Australian Council for Educational Research (ACER) Australia
4. Educational Research Association of Singapore (ERAS) Singapore
5. Hong Kong Educational Research Association (HKERA) Hong Kong, China
6. Japanese Educational Research Association (JERA) Japan
7. Korean Educational Research Association (KERA) Korea
8. Malaysian Educational Research Association (MERA) Malaysia
9. Pakistan Association for Research in Education (PARE) Pakistan

**The next Conference of APERA shall be held in Mmalauyasia**

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## NEW MEMBERS OF AIAER (Continued from December 2008 issue)

### Institutional Life Members

*Gujarat*

C-92 Principal, Dr. HRG College of Education, Plot No. 658, Ward 12-c, Lila Shah Nagar, GANDHIDHAM – 370 201

*Kerala*

C-85 Principal, St. Thomas College of Teacher Education, PALA, Dt. Kottayam – 686 575

*Maharashtra*

C-88 Principal, Clara's College of Education, Vari Road, Versova, MUMBAI – 400 061

C-91 Principal, GES College of Education & Research, Parel, MUMBAI – 400 012

*Punjab*

B-13 Secretary, Bhutta College of Education, Alamgiri-Rarasahib, BHUTTA, Dt. Ludhiana- 141 206

*Tamil Nadu*

B-12 Secretary, Keerai Tamil Selvam Educational Institutions, KTS Nagar, SATHYAMANGALAM, Dt. Pudukkottai -622 501

C-89 Director, Sri Balaji College of Education, 309/5 Knowledge Temple Campus, CHERANMAHADEVI, Dt. Tirunelveli- 627 414

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(C.A. Malhotra 2009, p.44; S.P. Malhotra 2006, p.53)

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**ALL INDIA ASSOCIATION FOR EDUCATIONAL RESEARCH**
**Registered under Societies' Registartion Act**
**Registration No. 1597-180 of 1987-88, Bhubaneswar**
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**NOTICE FOR MEENTING OF THE GENERAL BODY**
**Next meeting of the General Body of AIAER shall be held on 23.12.08 at 3.00 P.M. at**
**NSCB PG College, Kahali, Terwa, Gausganj, Dt. Hardoi, Uttar Pradesh**
**(Second Day venue of Annual Conference)**

**Agenda:**

1. Confirmation of the minutes of the General Body Meeting held at Jammu on 27.12.2008 at 4. 00 P.M.
2. Consideration of the Audit report 2008-09
4. Election for various posts in the Executive Body: President, Vice-presidents, Treasurer , Joint Secretaries and Members
5. Any other matter

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## EDITORIAL

# SHOULD THE NATION HAVE A NEW NATIONAL POLICY ON EDUCATION?

**Sunil Behari Mohanty**

Twenty one years after becoming independent, the nation had its first National Policy on Education in 1968. After eleven years, in 1979, a Draft national Policy on education was printed and circulated by the Central Government (DOE 1979). After sixteen years of this attempt, in 1985, the Central Government brought out the "Challenge of Education" document and got it widely circulated so as to get suggestions for formulating a new Policy. In 1986, a new National Policy on Education (NPE 1986) was formulated. In 1990, the Central government got the Policy of 1986 reviewed by a Committee chaired by Acharya Ramamurti. Before the Policy could be modified in lines of the recommendations of this Committee, there was a change in the Central Government. In 1992, The Central Advisory Board of Education appointed Committee chaired by N. Janardan Reddy reviewed the recommendations of Acharya Ramamurti Committee. In 1992, based on the recommendations of this Committee, the Central Government brought out a modified version of NPE 1986. During the period 1986-1992, the Central Government brought out a few Programme of Action documents. It has been more than seventeen years since the modified NPE Policy document was published. During these seventeen years, a plethora of changes have taken place. Early childhood care and education has replaced elementary education in the article 45 of the Directive principles of the Constitution. The nation has Right to Education Act 2009. Many statutory bodies have come up to ensure quality in education. Some of the committees formed by the Central Government have questioned the manner of functioning of some of these statutory bodies. There has been phenomenal increase in privatisation of general higher education, technical education, medical education and teacher education. There has been large scale growth of deemed universities. Central Universities have been established in most of the states. At the international level too, a several new developments have taken place. In 1996, the Report of the International Commission on Education of UNESCO chaired by J. Delors was published. In 1998, there was World Declaration on Higher Education. In 2003, there was a follow-up Seminar on WDHE participated by countries in Asia Pacific Region. In 2005, UNECSO brought out its Report on Towards Knowledge Societies. Education has become a part of the World Trade Organisation (WTO) initiated General Agreement on Trade in Services (GATS). There has been a spurt of self-learning opportunities for rich through Internet and other media. The NPE 1986 had stated that "The implementation of the various parameters of the New Policy must be reviewed every five years. Appraisals at short intervals will also be made to ascertain the progress of implementation and the trends emerging from time to time"(Art.11.5). Hence, in view of vast changes in education scenario since 1992, it may be appropriate for the Central Government to take necessary steps for formulating a new policy on education. Some of the issues that the new policy may need to consider may be as follows.

A few strategies mentioned in the National Policy on Education as modified in 1992 are yet to be implemented. Some of the strategies which may need to be reviewed are : (a) Common educational structure, (b) Inclusion of +2 as part of school education (In 2010, many States have +2 as part of higher education and teachers teaching these classes need not have a B. Ed. degree and the concerned State government approved general class size is more than 100), (c) Checking of substandard institutions and substandard programmes, (d) Spending six per cent of national income for education; (e) Operationalising State advisory boards of education, (f) Providing training for educational planners, administrators and heads of institutions (Existing provision is adequate), (g) Making systematic assessment of performance of teachers ( Existing provision is inadequate), (h) Creating Indian Education Service, (i) Appraising performance of institutions ( NAAC gradation does not give assessment of performance of each of the Departments of the University or of a college and does not assess classroom teaching peformance of teachers and school education is not covered by NAAC), (j) Making Payment of adequate salary to teachers and banning part time appointment in regular posts and enforcing teacher accountability, (k) De-linking of degrees from jobs, (l) Making network arrangements; (m) Operationalising national examination reform framework, (n) Operationalising Councils of Higher Education, (o) Increasing flexibility in the combination of courses, (p) Establishing National Evaluation Organisation, etc..

A few new issues that may be considered while formulating a new NPE may be (a) Establishing world class universities ( It may take many years to get worl recognition), (b) In view of proliferation of shadow education at a cost making private coaching by regular teachers punishable, (c) Bringing all educational programmes for SC & ST under one umbrella, (c) Making initial teacher training and study for first degree in medical education free and introducing grant in aid system for private institutions, (d) Utilising non teachers instead of regular teachers in coaching classes being run under government schemes, (e) Banning open university and other distance education and self-financed programmes and coaching programmes utilise teachers in service, (f) Ensuring regular inspection of teaching; (g) Making provision for special coaching facilities for first generation learners, (h) Having teaching competency test included in existing NET and SETs, (i) Considering the situation arising out of large scale increase in opportunities of self-initiated learning and private coaching, making university and board examinations open for all irrespective of previous formal qualifications, (j) Cancelling holidays in lieu of teaching days lost due to strikes and late admissions and providing proportionate benefit to the concerned teachers, (k) Making month wise time tables to give scope for flexibility in curricula and teaching techniques, (l) Making extension work included as part of duty of all categories of teachers, (m) Ensuring maintenance of record for daily activities for all categories of teachers, (n) Ensuring payment of salaries to teachers by cheques as condition for recognition, (o) Making it mandatory for institution to assess their programmes of the previous academic session and make it available for public use by placing these in their web sites, (p) Abolishing statutory bodies like AICTE, NCTE, UGC etc. or changing nature of their functioning by modifying concerned Acts, etc.

A few issues related to school education which may be considered are: (a) Modifying the National Council for Teacher Education Act so as to make it applicable to all States and the Union Territories and making it compulsory for all the members of the General Council and Regional Committees to have experience in school teaching in addition to a M. Ed. or M. A. (Education) degree, (b) Considering the sub standard programmes in preparation of teacher educators, instituting teacher educator selection tests at national and state level ( a large number of M. Ed. degree holders have been produced by universities-government and private without bothering for NCTE norms), (c) Modifying existing Central Government scheme -Establishing institutions instead of giving grants to States run institutions as per Central Government Schemes ( Large numbers of IASEs, CTEs and DIETs being funded by the Central Government scheme do not maintain adequate staff and material resources and in many cases there have been large scale wastage of human and material resources), (d) Making provision for special initial teacher training for teaching gifted children in schools such as Jawahar Navodaya Vidyalayas, and providing better salary to such teachers, (e) Making qualifications for a Lecturer in Education specified by the UGC and by the NCTE same, (f) Instead of extending duration of B. Ed. programme from one year to two years, providing increased duration to existing B. Ed. programmes by making institutions and departments of education offering such programmes function without long holidays and giving faculty members proportionate leave salary benefits, as found in case of Regional Institutes of Education of NCERT, (g) Developing and notifying standards for various types of school teachers and teacher educators, (h) Developing and notifying standards for teacher trainees for various types of initial teacher training programmes, (i) Making school teaching for a specific period mandatory for all faculty members involved in teacher training programmes, (j) Making provision for induction programmes for beginning teachers with provision for selection and training of mentors for training new teachers, (k) Making provision for National level and State level school teacher and teacher educator selection tests and making such tests open for persons with or without formal teacher training qualifications or M. Ed. or M. A (Education) degrees (There have been instances of Professors of Education in Central Universities and NCERT and Principals of Government Training Colleges of many States having no B. Ed. or M. Ed. degrees), (l) Allowing States, having high proportion of untrained teachers, especially NE States, to go for alternative mode of initial teacher training-teacher training through schools as found in case of the UK and the USA, (m) Modifying EGS & AES to have regular teachers instead of para teachers, (n) Making child labour punishable and abolishing schools for child labour, (o) Converting all Anganwadis to pre school centres and making pre school teaching part of elementary school initial teacher training programmes, and (p) Bringing all types of teacher training under higher education.

In order to formulate NPE 1986, in 1985, the Central Government had brought out the 'Challenge of Education' document that highlighted pros and con of various strategies proposed for improving education. There is perhaps necessity for developing such a publication in 2010 that may generate effective dialogue over various issues and provide inputs for formulating a new NPE.

# THE HUMAN QUEST : PHILOSOPHICAL PERSPECTIVES ON LIFELONG LEARNING

**Peter Jarvis**

## INTRODUCTION - WHAT MAKES US HUMAN?

The human genome project seeks to put our humanity into numbers: the human genetic code contains about six billion letters grouped around 25,000 genes. We share more than 95% of our genes with chimpanzees and around 30% with bananas - but nematode worms which grow to about 1mm long have a similar number of genes to us. What a fascinating set of facts about the human being, albeit a very small set – but, even if we could print out all six billion letters around our 25000 genes what would it tell us about of human being? Actually, with the proper training it would tell us a lot about our physical bodies and our evolution, but it tells us nothing about our humanity or what it means to be human. Here then is a major difference – between knowledge, information and meaning – but meaning is a word with many meanings (Bruner, 1990; Jarvis, 1992). The point is facts, in themselves, have no meaning and so this picture of the genetic code needs meaning given to it by the knowledgeable mind if it to be at all meaningful to anybody – but the knowledge that we have from the picture does not tell us about the meaning of our humanity although it can reveal something about how humanity reached this stage in its evolution. We can reach similar types of conclusion when we look at the cosmos through the technological marvels of telescopes – we can understand a little of its content and something of how the cosmos reached this stage in its creation but it tells us nothing about the reason for the cosmos.

But we are faced with this problem that facts have no meaning and yet both the cosmos and human existence are facts – but they have no meaning. Does this mean that our existence is meaningless? Is it just absurd? And is the cosmos meaningless – some form of cosmological accident? Of course there is no intrinsic meaning in the fact of our existence – in this sense it is meaningless – or absurd and it matters not how much we know, we still know that we will never understand the reason for the cosmos or for humanity, if there is one – in this sense it all appears just absurd. But this is contrary to our common sense view of the world. We want to believe that it is not absurd and we keep on asking, 'What's it all about?' Many religious and philosophical texts are based on thoughts that scholars and sages have had in response to this question. But we might go one step further and ask whether the quest itself to discover meaning is absurd because we know that we will never discover that meaning. But this is also contrary to our inclination which is to believe that this is not all absurd, meaningless or accidental. It seems contrary to our humanity – which seems to be on a perpetual quest – to discover and answer the question, 'What's it all about?'

**THE HUMAN BEING**

It is clear, however, from the earliest stages of human evolution that human beings have always known that they do not know – that they are ignorant. One of the most fundamental aspects of our humanity is that we know we do not know and that this has driven us to be meaning seekers and meaning makers: we are meaning seekers if we believe that there is a discoverable meaning in creation or in existence or meaning makers if we believe that whether or not there is meaning in humanity and the cosmos, we still have to invest our own knowledge and give meaning to it. But even more significant is that we are conscious that we do not know – this conscious awareness lies at the root of our humanity but even consciousness is meaningless (Donald, 2001, p.34). We consciously function in the three dimensions of our existence and seek to understand them – the cosmological (natural), the ontological (practical) and the social, and we ask the questions – Who? How? What? Why? When? - in each of these dimensions of our existence. But we only do this when we do not know! If we know, or think that we know, we presume upon the world and take it for granted – as it were. We are 'at home in our world' and this is the state in which we like to be, but there is a danger in it – familiarity breeds contempt! In a sense this is what taken-for-grantedness is and we will return to this later in this paper. Indeed, many of society's structures are premised on the assumption that we will merely repeat the same actions each time we are in similar situations and that society does not change: in this sense the concept of society is premised upon non-learning and stasis. But while we seek to be at home in this world, the fascinating thing about a great deal of our existence is that we can only feel at home if we learn to live with our ignorance! In this technological world, we do tend to do this a great deal even though humankind has more knowledge now than it has ever had before, but even now we are frequently confronted with the reality of our existence and recognise that we do not know! It is this knowledge of our ignorance that makes us profoundly human. It is also what Sartre refers to as a lack – a lack that needs removing or fulfilling.

Since knowledge of our ignorance is at the heart of our humanity, it is hardly surprising that Aristotle regarded human nature as potentiality and Kierkegaard recognised that existence is always becoming - it is always in becoming that we seek to realise our full potential. But we are never able to realise this since we can still keep on becoming for as long as we live and so Vardy (2003), among others, is concerned about what type of person we should become, and so he asks ethical questions. However, answers to this question also depend on how we understand our place in the world and we will return to this later.

In seeking to eradicate our ignorance, we keep asking questions about the world – this, then, is at the heart of our humanity and we ask them in each of the domains of our existence. And we know that from our earliest recorded history (such as that in Indian and Chinese writings) our ancestors have tried to reach answers in all three of these realms of questioning but often they arrived at belief statements only but meaning/belief is not knowledge! But with the development of science, some of these belief statements have been questioned by new scientific knowledge

and the new answers are about knowledge while the meaning remains unanswered. This is the religious answer and sometimes religious thinkers have talked about revealed knowledge which presumes that there is a source of the revelation other than the human questioners, but this claim to divine legitimation has now created major problems for religions – especially in the West. Consequently, I prefer to think about beliefs as inspired knowledge.

In investigating these three domains scientifically, however - we know that both the cosmos and humanity exist – knowledge that - empiricism; we know something about how they have evolved into their present states – knowledge how - pragmatism; we know little or nothing about the knowledge why - meaning. Only in the social domain can we answer 'why' questions because they are about human motivation - now we are not dealing with the ultimates of time and space. We can know why things happen in the social because the social is bound in time and space – it is finite - in this domain human sciences come in and so we can explain why in social terms but only of social phenomena. But the sciences do not provide answers in the other domains – and we are still left in our ignorance. This quest to overcome our ignorance has given rise to the sciences and pseudo-sciences and to the humanities as we have sought to understand the cosmos and humanity – in forms of knowledge that and knowledge how – in this sense we are giving a 'meaning' to the world – we are meaning makers. But as meaning seekers we draw a blank.

Empiricism and pragmatism are two ways of ascertaining truth propositions – there is a third: the rational-logical. This is based upon posing a premise and arguing to a conclusion – provided that the stages of logic are correct and the premise is acceptable, then the conclusion must be valid. In our case our premise is that existence is not absurd – but this is a premise that we cannot prove - and so we can argue our case and reach many different religious conclusions. This is precisely what the different religions have done and they have provided us with meanings but not meaning - but none have provided us with a universally accepted answer to our question – and while we can draw some personal satisfaction from our answers we have to admit that we are ultimately left in our ignorance. But religious philosophies provide our only 'answer' and, significantly these permeate all counties and all cultures and these statements require faith since there is no scientific evidence available. And so the human quest continues.

As we grow older and learn more, we talk of wisdom: one of the features of wisdom is that the more that we know, the more that we know that we do not know – for knowledge of our ignorance still lies at the heart of our humanity. We still need to ask the questions and seek answers – even answers to the unanswerable – this then is our lifelong quest – and quest is the right word – for it is a lifelong questioning, and the really interesting thing is that as we age, the questions tend to remain the same but the answers – the meanings – that we give change. We are engaged in lifelong learning and the meanings change because:*cultural knowledge changes; *our perceptions change;*our priorities and feelings alter; *we have been learning throughout our lives.

**LIFELONG LEARNING**

One of the crucial features of human learning is the distinction between presumption and disjuncture: presumption that I can act as if the world is unchanged and that I do not need to think about it and disjuncture when I realise that I do not know, cannot understand and have not the ability to do what I desire to do. But in my own early research (Jarvis, 1987) it became clear that to a very great extent society and its norms is based upon the assumption that a great deal of non-learning occurs in everyday living since we repeat our patterns of behaviour – in this sense we learn to conform and we are at home in the world. This is part of the social fact of humanity – we would probably not have survived as a species had it not been for the fact that we learned to live in social groups, or tribes. It is as a result of social interaction that human beings evolved a social brain. However, it is also the basis of much social study – we recognise norms of behaviour, and so on and also one of our first ideas about learning is that we learn to do as others do, we copy and imitate them and that learning is, in a sense, learning conformity.

But we also know that very frequently we are confronted with disjunctural situations where we recognise that all our previous learning has not equipped us to take this new situation for granted – and we ask: Why? How? What? Who? And so on. We all know how young children go through this stage and pester their parents or teachers for answers – and we have all seen the bad parent or the poor teacher who actively seeks to shut the child up. But recognition of our ignorance is fundamental to our humanity and the bad parent and the poor teachers deny that humanity – often without realising it – by inhibiting the questioning process. Disjuncture is the situation where our perception of a situation finds no immediate answer in what we already know and so there is a gap between our expectation (the situation of presumption) and our actual perception of it.

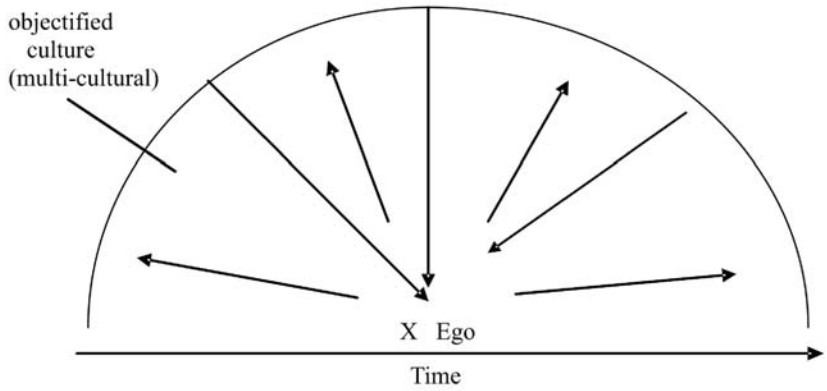
It is the point of disjuncture that our learning really begins - when we know that we do not know, cannot do, etc - it is knowledge of our ignorance that begins the learning process and we seek to understand or to give meaning to the meaningless. Confidence either leads to having the confidence to admit that we do not know – or the lack of confidence that will not confess that we do not know. And so what is learning? At its simplest, it is the process of human becoming but we perhaps need more of a description than this and so my own definition (Jarvis 2009, p.25) is:

The combination of processes throughout a lifetime whereby the whole person – body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, meaning, beliefs and senses) – experiences social situations, the content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the individual person's biography resulting in a continually changing (or more experienced) person.

This definition points to the fact that learning is an individual process but one of the traps of individualism is to assume that when the individual has learned and changed the remainder of the world has stood still. This is the fallacy of individualism which emerged with the Western Enlightenment which had given rise to very many errors in human living, especially since the Western philosophy has dominated the world. But the world has not stood still and it is not made up of individuals. It comprises networks of people learning and living together and each is affected by the others – it is much closer to the Asian understanding of the world! We live in inter-relationship. Postulate, for instance, two people in one of those networks – one learns and is changed in certain situations – but does this always assume that the other has not learned as well? Change leads to a new disjunctural situation and we still have to negotiate how we behave and learn. Hence, we are in very fluid situations where all the actors are learning and changing all the time – individual learning is a social phenomenon and lifelong.

Over the ages, individuals have evolved meaning systems about humanity and the cosmos, and knowledge about all three domains of our existence, so each society builds up its own culture – which is the sum total of all that is learned and shared by people who are members of the same social group. We have a British culture and a Western culture; there is a Hindu culture, a Buddhist culture and an Indian culture – and so on. Culture can take many forms – ideological, social, material and so on. At the heart of the ideological culture is a meaning system that has evolved by the social group within which an individual is a member and learning its system of meaning is part of the process of human belonging. At the same time, there are knowledge systems and these are based on pragmatism or scientific evidence. For each person there are dominant cultures in our life-world and as we grow up, so we learn those that affect us, or as sociologists say – we are socialised. We can depict this very simply:

***Figure 1 The Socialisation Process***



In this simple diagram X is any person in interaction and the bottom arrow depicts the passing of time when these cultures, being fluid, are always changing: the arc (objectified culture) symbolises the culture (the sum of knowledge, practices and meanings) of our life-world at any moment in time, which is carried by people who are member X's life-world and the other arrows depict the processes of interaction between X and all the other people and technologies within the life-world. The interaction takes place within the cultural framework of the life-world so that in every interaction in everyday life there is a cultural transaction in which we either transmit our understanding of the culture of our life-world (presumption) and/or we learn and have reinforced the culture of our life-world. In other words, in every interaction throughout the whole of our lives we either can presume upon the situation or regard it as disjunctural or both. It is this distinction which is crucial to our understanding our humanity and our human quest – one which we can see in terms of learning and knowing (and not learning), and as we have already said – the beginning of wisdom is when we recognise that we do not know and are willing to learn from every situation in which we find ourselves.

However, as society evolved we created ways of passing on the answers (both knowledge and belief) that we have reached to succeeding generations through families and local communities, through religious institutions and in more formal ways such as schools, colleges and universities - institutions of learning and education. These latter institutions are rather strange places because they have been established mainly to prepare young people for adult life and work and yet they are more like part-time prisons which shut children and young people out from the world while they learn about it! And we have teachers who know and whose job it is to transmit the culturally accepted knowledge (and sometimes meanings) to those who do not know. We are laboured under a conceptual confusion between learning and education now for man years and what we see in the world of work is adult learning and lifelong education but it is often called lifelong learning. Some teachers – but not all by any means (see Parker, 1998 *inter alia*) - tend to presume upon the situation in which they interact with their students rather than create a genuine two-way system of interaction – this is part of the nature of the formal system. However, education – especially higher education – has another function and that is research. It exists not just to transmit knowledge and meaning, it also exists to seek for new knowledge and deeper meaning – it is not just a teaching institution but a learning one as well. As an organisation it must be free and open so that its members can pursue the human quest, although in contemporary society we are beginning to see restrictions placed on universities by governments and other funding bodies – and in this sense this is a betrayal of our humanity.

## LEARNING AND THE DANGER OF KNOWING

We are continually confronted with the situation – presumption, disjuncture or both – and as we have already pointed out society is premised on the assumption that we will always repeat our patterns of behaviour – so are all bureaucracies! Once we have learned the rules and procedures we will just follow them and presume upon the situation. Naturally, for any social group to live

together this is a normal process and necessary for the group's survival: it is the paradox of social living. We all prefer that which we know – but knowledge of our ignorance is one of the features of our humanity. But, learning how to live together is necessary for our survival as well – and so in interaction we both acknowledge that we know and that we do not know! What is not a feature of our humanity is unrestrained knowing. But this is the confidence, in many ways, of the scientism of the contemporary Western world, or at least of many who live within it. When we are certain that we know – we become confident in our knowledge, even arrogant about it. This in dogmatic fundamentalism: of religious and political ideologies; of the espousal of scientific rules and regulations; of claims to know the truth – and so on. We see it in the arrogant person who does not learn from interaction, or from success or failure. This is the truth of the old maxim, 'A little knowledge is a dangerous thing'. The danger of knowing is in not recognising that we do not know – in not acknowledging our humanity. We might want to view the situation when we have learned and achieved the necessary knowledge as a superior position – when we have reached the apex of our quest to understand but it may be a denial of our humanity: in this sense, it is an inhuman condition – see Janicaud (2005). For the human condition is in recognising that we do not know and that we have to keep on learning. There can be no humanity without disjuncture!

As we go through our lives, the more that we recognise that we do not know, the more that every experience is a learning experience – but when we arrive at a more senior age – we still recognise that we have not arrived. We know that however much knowledge we have accumulated over the years, there is still much more to discover even in those areas in which we might be considered to be experts! But, however much knowledge we have accumulated during our lifetime, we still cannot answer the meaning question with which we started this paper – what's it all about? We have no answer to the ultimate 'Why?' even though we have gained more knowledge, adjusted our practice and ways of living and faced the questions of the global world. But as we age and gain a great deal of knowledge and experience, is it time to stop learning? We still face the unknown in the everyday. We still have to realise the truth that the recognition of ignorance is the beginning of wisdom and as the novelist Evelyn Waugh once commented: 'Only when one has lost all curiosity about the future has one reached the age to write an autobiography' (in Pasternak's 2007, p.13). In this sense, perhaps we should never consider writing one! But as more of us are living longer we are still human and our ignorance is still manifest and so we are faced with the human quest - lifelong learning does not cease since it is rooted in our ignorance.

## CONCLUSION: PRACTICAL WISDOM

Aristotle writing of practical wisdom wrote:

> What has been said is confirmed by the fact that while young men become geometricians and mathematicians and wise in matters like these, it is thought that a young man of practical wisdom cannot be found. The cause is that such wisdom is concerned not

> only with universals but with particulars, which become familiar from experience, but a young man has no experience, for it is length of time that gives experience... (Aristotle 1925 VI.8 ,148)

While, in today's world, we would probably dispute Aristotle's rather clear-cut distinction between the old and the young and their forms of knowledge, we would probably want to maintain that the greater our experience – and while this may be correlated with age, it need not always be - the more likely we are to gain wisdom. The more we learn the more that we know that we do not know. The very old might want to disengage from this rapidly changing world and create small niches for themselves in a world that they no longer wish to understand – but many older people do not disengage – they travel, join educational organisations, such as Universities of the Third Age, and continue with their human quest – still seeking to answer the questions Why? How? What for? We are always seeking more knowledge but underlying it all is the question – what's it all about? It matters not how much knowledge we gain, the meaning question remains unanswered and as we pursue this human questioning, we grow and develop – for learning is like food. Learning is becoming but never arriving – and we keep on becoming, always learning to be (Faure, 1972), for as long as we live because existence is always becoming and at its heart is lifelong learning.

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# INTERNAL AND EXTERNAL EVALUATION OF SCHOOLS: TWO SIDES OF THE COIN CALLED 'QUALITY ASSURANCE OF EDUCATION'?

**Peter Van Petegem**

*Contributions on quality assurance in education often argue that a complementary and integrated relation between internal and external evaluation of schools would be advisable. This contribution sets out to investigate what role internal evaluation should - or could - fulfil in relation to external evaluation. It concludes that the arguments for an integration of both are overly positive. The question as to whether accountability and school improvement can be reconciled is indeed a complex one and requires a carefully qualified answer. We will propose a scenario meant to provoke discussion.*

## INTRODUCTION

The relationship between the internal and external evaluation of educational institutions has long been a subject of much discussion with regard to thinking on the subject of quality assurance in education. In many countries, External evaluations in the form of school audits, organized by e.g. the Inspectorate, appear always to have enjoyed a somewhat bizarre existence. While everyone accepts the need for them, the way in which these have been carried out has always been heavily criticised (Norton Grubb, 1999; Nevo, 2001). For this reason - and also in response to recent trends with regard to decentralization and increasing autonomy for schools across the globe- evaluation methods have been developed in many countries which permit more participatory and self-directed forms of evaluation (Robinson & Cousins, 2004; McNamara & O'Hara, 2005; McNamara & O'Hara, 2008). The development of mechanism for external and internal evaluation have been systematically encouraged by governments, the media and perhaps most influentially by trans-national agencies such as the OECD and the World Bank (Martin, 2005). Universities, educational support organisations and other entities have developed tools and methodologies to enable schools to evaluate educational quality autonomously. However, although the existence of self-evaluations is welcomed, the quality of these self-evaluations is nonetheless open to question (Forss, Cracknell & Samset, 1994; Cousins & Earl, 1995; Van Petegem, Verhoeven, Buvens & Vanhoof, 2005b). As long as schools are financed by governments, monitoring systems will always have to be devised and schools will have to render account. The precise form which this ought to take is currently subject to considerable change, however (Van Petegem, Vanhoof, Daems & Mahieu, 2005a). A trend in many countries is that the primary responsibility for educational quality lies with the school. The withdrawal of government is making schools increasingly autonomous in terms of their freedom to formulate and conduct their own policy. In return for this autonomy, schools are being required to evaluate their own educational quality and to come up with their own plans for improvement. The responsibilities for quality assurance in education are spread across various partners. The parallel existence of these responsibilities has led the government, the educational inspectorate and schools to look for a way in which

internal and external evaluations can be matched with each other. This is the subject of this contribution: how to find a balance between external and internal evaluation. The search for an appropriate balance between internal and external evaluation is underway in multiple locations and in many countries. We would like to propose a scenario though we realize that specific interpretations are at present somewhat thin on the ground (Christie, Ross & Klein, 2004).

## QUALITY ASSURANCE: DIFFERENT RESPONSES TO DIFFERING EXPECTATIONS

Quality assurance implies having an idea of what quality involves. It would therefore be inappropriate to approach this topic without first exploring what we mean by 'educational quality'. In the following section we will attempt to arrive at an operational definition of "quality".

### Educational Quality: a Variety of Expectations

We will arrive at our interpretation of the concept of "quality" step by step. Although the following reflection might seem somewhat redundant at first sight, it will be apparent later on in this contribution that the definition of this concept is crucial to sketching out scenarios for the role of self-evaluation and school audits in a quality assurance system. Our point of departure is that: "quality means complying with expectations" (Harrington & Harrington, 1994). A school can be said to be functioning optimally (in other words, to be providing good quality education) when it meets expectations. These expectations may be dictated by the government, the school board, parents, pupils and, of course, also by the school management and the teaching staff of the school itself. Examples of expectations are: raising pupil enrolment; the achievement of mathematical literacy; excellence and the guaranteeing of equal opportunities. These expectations come from both internal as well as external stakeholders. Although these are often parallel or complementary, these can also be contradictory, however. In the first instance, these expectations refer to the attainment of pre-set objectives. Quality is thus, first and foremost, meeting expectations in terms of results (i.e. effectiveness). However, effectiveness on its own does not amount to quality. How these results are reached is also of importance. It is, therefore, not possible to make a judgement about the quality of a school without taking into account the process which leads to the attainment of objectives in its entirety. Efficiency, for example, is an integral part of the expectations drawn up by the various stakeholders (i.e. value for money), but it is to be clearly distinguished from expectations in terms of results. The various stakeholders may also have clear expectations with regard to manners in the school or the didactic approach used. Expectations are often not explicitly stated. The expectations of all stakeholders must, therefore, be ascertained and discussed. Quality is thus not a characteristic of - or a task for - school management and teaching staff alone. Quality of education is something on which the government, the school board, school management, teaching staff, pupils, parents, the business world and higher education must agree by means of dialogue. Quality is related to all levels within the school and to all stakeholders (Hendriks, Doolaard & Bosker, 2002). It is not a sum total of all expectations, but rather the integration and assessment of a school-specific whole.

This means that a useful definition of educational quality must, of necessity, be separated from specific content and requires an abstract description. This brings us to the following definition of quality: (Educational) quality is meeting the expectations shared by the stakeholders in an appropriate manner. The (shared) expectations are, however, of a diverse nature and with an eye on the interpretation of quality assurance it is important to make a clear distinction with regard to where these come from. We distinguish between school-internal and school-external expectations. Within the group of school-external expectations we make a further distinction between expectations which are anchored in the law and expectations which are not legally anchored. Expectations which are anchored in the law are those expectations which the government (acting on behalf of society) imposes on schools and which can be forcibly imposed. If schools fail to meet these expectations the government can- and must - take steps to sanction them. School-external expectations which are not legally anchored derive from stakeholders whose expectations are not laid down in a legal framework. This group of stakeholders is extremely broad and growing (e.g. recipients of pupils who have successfully obtained their graduation diplomas; parents (and parents associations); pastoral services and a very wide variety of trans-national agencies such as the OECD and the World Bank. These stakeholders may well make demands of schools and/or participate in decision-making with regard to how educational quality is to be implemented, but they cannot act in a sanctioning manner as a government can. Finally there are school-internal expectations. These are those aspects which the school concerned places emphasis upon above and beyond the minimum requirements which are expected by society (Van Petegem, 1999). These expectations may, for example, be of a philosophical nature (reflecting a particular life vision) or may relate to the didactic methods used. Each type of expectation requires its own interpretation of quality assurance and of the role of self-evaluation and school audits in the quality assurance system as a whole. We can conclude that these expectations are highly diverse (Alkin, 2004).

**Quality Assurance as Response**

Quality assurance is an umbrella concept which covers all activities undertaken to investigate, monitor, improve - and perhaps also even to make public - the quality of schools. The difference between internal and external quality assurance essentially comes down to the question of who bears responsibility (Scriven, 1991; Nevo, 2001). If these activities are undertaken by the school itself, we are dealing with internal quality assurance. Internal quality assurance means that the monitoring, development and improvement of educational quality takes place within the school, whereas, in the case of external quality assurance the initiative for undertaking quality assurance activities lies with persons or institutions which are outside the school (e.g. the educational inspectorate or an accreditation institution) (Nevo, 2001). External evaluations by the inspectorate usually focus on policy, legislation and regulations and educational performance (i.e. the statutory expectations with respect to student outcomes). Internal evaluation can in principle concern itself with whatever topic the school believes to be important (three groups of expectations). Many of the activities which schools undertake in the context of internal quality assurance are

of a self-evaluatory nature. Van Petegem (2005, p. 104) describes self-evaluation as 'the process, largely initiated by the school itself, whereby carefully chosen participants describe and evaluate the functioning of the school in a systematic manner for the purposes of taking decisions or undertaking initiatives in the context of (aspects of) overall school (policy) development'. Self-evaluation is therefore not an end in itself, but - as described here - is explicitly related to school development and pupil learning. The contribution sets out to investigate how internal evaluation should - or could – be in balance with external evaluation. We will apply experiences as they exist in many European countries (McNamara & O'Hara, 2008) and in other parts of the world.

**PERSPECTIVES ON QUALITY ASSURANCE**

There are a variety of possible arguments for integrating internal and external evaluation. Recent trends towards the emphasis of the combination of internal and external evaluation stem in origin from the emphasis laid on the accountability of schools and the achievement of school-internal quality development. Two perspectives can be distinguished in the area of quality assurance: the "accountability perspective" (focused on accountability) and the "school improvement perspective" (focused on improvement) (Nisbet, 1988; Cheng, 1996). The distinction between the two perspectives is based on different answers to the questions of (1) whether quality assurance is primarily concerned with monitoring and accountability or rather with development and improvement and (2) to the question of who determines "quality of education", in other words: the government or the school itself. In the accountability perspective the central focus is on the exercise of control. Schools are expected to achieve pre-determined objectives. These objectives are imposed by the society and have been established within a legislative framework. Furthermore, the government may also lay down expectations regarding educational processes (e.g. attention for student voice, Van Petegem, Deneire & De Maeyer, 2008). In this perspective, quality assurance is externally directed and focused on uniformity, the attainment of minimum objectives and an efficient functioning. This takes place at the initiative of school-external actors. In the case of the school improvement perspective, on the other hand, the starting point is a shared vision of a desired educational quality. The prime concern here are aims with regard to output and processes which are to be defined by the school itself. In this case, quality assurance is focused on the differences between schools, teaching staff and pupils and the intention is to initiate a dialogue. Quality assurance takes place on the initiative of school-internal actors and factors.Until recently the accountability perspective was the exclusive terrain of external evaluation and the school improvement perspective of internal evaluation. This distinction is, however, gradually being blurred, which means that the traditional relationship between internal and external evaluation needs to be rethought.

**SELF-EVALUATION: ACCOUNTABILITY AND/OR SCHOOL IMPROVEMENT?**

The question as to whether accountability and school improvement can be reconciled is a complex one and requires a carefully qualified answer. We will begin by examining the strong arguments

in favour of integrating internal and external evaluations; and we will then go on to examine a number of observations in relation to integration which indicate the need for close critical examination.

**Self-evaluation: Accountability *and* School Improvement**

As we will demonstrate below, the perspectives of accountability and school improvement each require a different interpretation of the relationship between internal and external evaluation. In the accountability perspective, internal evaluation is subordinate to the external evaluation, whereas in the school development perspective the reverse is true. In other words, we are offering here an interpretation of the advantages on both sides suggested by Nevo (2001).

*Accountability*

*Internal Evaluation in the Service of External Evaluation*

In the general conclusions of an international comparative self-evaluation project (Van Hoyweghen, 2002, p. 16) we read that 'school self-evaluation activities appear to be capable of forming a good basis for external school audits. In monitoring quality, internal and external evaluation can be complementary, but external evaluation remains necessary by reason of its legitimizing function". We distinguish three roles which suggest that external evaluation can benefit from internal evaluation: a scope-broadening role, an interpretation-fostering role and an implementing role.

*A scope-broadening role*

External evaluations are sometimes criticized because in aiming at comparability and generalizability they end up by narrowly focusing on aspects which all schools have in common. Consequently, there is a danger that aspects revealed will only be the most obvious ones and there is an additional danger that local needs and priorities will be ignored (Nevo, 2001). This is a problem for a government which allows its policy to be inspired by the results of audits. Internal evaluations can play a scope-broadening role here (Christie et al., 2004). It appears that an external evaluation can be conducted in greater depth and to a higher quality when school self-evaluation is involved in the audit (Van Hoyweghen, 2002). The participants in the school self-evaluations are usually more familiar with the specific nature of the local school context and communicate better with the (local) school community. By focusing attention on additional data which reveal the unique character of particular schools, they can broaden the focus of external evaluations.

*An interpretation-promoting role*

An accountability perspective usually operates from a criterion-orientated and norm-focused frame or reference when evaluating the quality of schools. These are important and legitimate angles of approach in themselves, but have the disadvantage that the local perspective is lost sight of. In order to correctly interpret the findings of an external evaluation, it is recommended that a school-focused frame of reference also be used. Specifically, the results of a self-evaluation

can play a productive role in the interpretation of data collected during an audit. They add a local perspective to the interpretation (Nevo, 2001).

*An implementing role*

A great deal is also expected from the integration of self-evaluation and external evaluation with regard to the relationship between schools and the inspectorate. "With the preservation of everyone's responsibility and independent judgement formation on the part of the inspectorate, both inspectors and schools – by the more active involvement of the schools – can interact on a more equal basis during the audit process" (Van Hoyweghen, 2002). Schools with experience in self-evaluation have a greater chance of adopting a constructive attitude with regard to school audits and to make more productive use of the results of an external evaluation (Nevo, 2002). Dealing with data from external evaluation after all requires skills from schools which they cannot simply be assumed to possess (such as the interpretation of data; looking for explanations of findings; and the application of the results in policy discussions) (Van Petegem et al., 2005b). The impact of the inspection reports, for example, appears to be enhanced if the audit is combined with some form of internal evaluation. Moreover, an internal evaluator provokes less opposition and remains in place after the evaluation in order to implement the proposed action points (Love, 1991; Christie et al., 2004).

*School Development: External Evaluation in function of Internal Evaluation*

As we have seen above, internal evaluation can be of service to external evaluation. However, self-evaluation is first and foremost an activity which is aimed at helping create a foundation - on a school-internal basis - for a particular dynamic of development, modification and renewal. That said, however, external evaluation can also play a variety of roles in the internal evaluations of schools.

*A scope-broadening role*

It is increasingly expected from schools that they draw up their own policy and self-evaluation plays an important role in this. School development can only take place, however, if other and broader ranges of vision which go beyond the individual and the subjective are present. In the event of a lack of distance and a lack of objectivity, a school can suffer from organizational blindness (McBeath & Myers, 2002). Apart from the control perspective it is also clear that there is an additional task assigned to external evaluation: namely, providing feedback on the functioning of the school and providing fresh, challenging and stimulating ideas. The bodies responsible for conducting the external evaluation can thus bring greater depth and breadth to school self-evaluation.

*A stimulating role*

Schools only undergo external evaluation sporadically. The existing interpretation of external evaluation in Flanders appears at present insufficient, both in terms of content and organization, to offer sufficient guarantees with respect to school development. That does not mean, however,

that an external evaluation cannot serve as a motivation for the initiation of an internal quality assurance campaign within the school (Nevo, 2002). It cannot be assumed that all schools will automatically conduct self-evaluations and the role of external evaluation can therefore also be that of providing stimulation towards doing so.

*A legitimizing role*

Internal evaluation can also serve - in itself - as a point of departure to hold schools accountable towards parents, the local community and members of the school team. The data gathered during the self-evaluation appear at first sight to be of clear value in this respect. That said, however, serious reservations can be made with regard to the credibility of these data in the absence of a link to some external form of evaluation (Nevo, 2001). Although validated tools do exist in order to guarantee systematic data collection in the conduct of a self-evaluation, there is always an accusation or suspicion – whether intentional or not – of subjectivity (Scriven, 1991). As a consequence, the results of self-evaluation tend to be greeted with a degree of scepticism and the results dismissed as invalid and unreliable. In this way, the self-evaluation misses its objectives of contributing to school development. External evaluation can play a role in counter-acting this in the sense that external evaluation can legitimize the results of self-evaluation by confirming their validity and reliability (Christie et al., 2004).

*Conclusion: Not Adding up, but Multiplying*

From the above we can conclude that internal and external forms of evaluation ought to fulfil an integrated role in quality assurance. Each form of evaluation can be of service to the other. According to this logic the presence of its antithesis thus appears to enhance the value of both forms of evaluation. The most suitable relationship between internal and external evaluation is thus not a mere adding-up of two separate aspects. Instead, thinking in terms of multiplication seems more appropriate. This means not only that these aspects can strengthen each other when combined, but also that if one is absent, the other loses value.

**Self-evaluation: Accountability or School Improvement**

There are indications, however, that the arguments for an integration of accountability and school improvement described above may be overly and naïvely positive. Working towards accountability and school development is not as self-evident as it might appear at first sight. This has to do the different functions of evaluation (Sriven, 1967).

*The Formative and Summative Functions of Evaluation*

The argument above was based in large measure on an assumption that there is a desire on the part of the government and of schools to understand what goes on in schools and what needs to be improved. The objective here would thus be to a large extent formative: suitable information and feedback is sought with a view to policy development. On the basis of formative evaluation

data it is possible to remedy when necessary and provide additional supervision (McBeath & Myers, 2002). This is apparent, for example, from the proposition that internal evaluation can be a scope-broadening and interpretation-fostering complementary element within the accountability perspective in external evaluation. Thanks to the self-evaluations, the government can obtain a greater quantity of valid data and interpretations on which to base its policy. Evaluation also has a summative function (Scriven, 1967). This summative function includes the evaluation of schools with an eye on the question as to whether they are eligible to be financed or subsidized by the government. The objective here is not giving feedback, but rather determining results. The most important task of the inspection team responsible for an audit is that of submitting an opinion with regard to the recognition and subsidizing of the school. At the end of the day these external evaluations are therefore clearly summative and it is here that the somewhat roseate picture painted above and supported by the advocates of integration comes up against a less than pastel-shaded reality. When the function of external evaluation is in large measure summative, using self-evaluation for both accountability purposes as well as school improvement becomes more complicated. When schools are aware of the summative nature of an evaluation or self-evaluation, side-effects arise which immediately reduce the chances of the successful achievement of formative functions. Summative functions and obligation always involve the danger that the justification and account rendering aspect may predominate at the expense of desire for improvement. It is, for example, quite possible in schools which fear a negative evaluation that there may be instances of putting on a show, window-dressing and spin. There is also a very real risk of self-serving results (Watling & Arlow, 2002). Van Petegem (1999, p. 30) refers to a 'strategic' use of self-evaluation. The prime aim of schools in a summative evaluation is, after all, to show themselves as positive as possible. As a consequence, any readiness to reflect critically on their own functioning – a pre-condition where school development is concerned – is to a large extent eradicated. School development leans heavily on the concept of "organizational learning". Two findings in the field of human learning and reflection behaviour shed an interesting light on the problematics of the incompatibility of formative and summative functions indicated above. Motivational psychology, for example, strongly emphasizes the importance of intrinsic motivation as a facilitator of thorough learning. According to numerous motivation theories, humans are keen to learn by nature and motivated to develop themselves by challenges. The prospect and perception of having to learn due to the presence of an external obligation arising from an impending inspection and with a possibility that sanctions will be imposed (i.e. extrinsic motivation) would have a pernicious influence on this intrinsic motivation (Deci & Ryan, 1985). Those involved are no longer learning because they want but because they have to. A similar situation is described in the literature with regard to the evaluation of pupils. Here too, a distinction is always made between formative and summative evaluatory functions (Aschbacher, Koency & Schacter, 1995). Moreover, it also has been demonstrated that the critical and reflective attitude and the desire to improve which is so important for learning and which is the object of formative evaluation methods, disappears with the prospect of summative evaluation. In essence school development is a process of human learning with

respect to the participants in the school and - mutatis mutandis - also a learning process at organizational level (i.e. that the organization itself learns). It ought to come as no surprise therefore that similar problems can present themselves in learning at school level.

*Implications for the Relationship Between Internal and External Evaluation*

The way of working of many educational inspectorates in many countries (as an approach of external evaluation) is currently both of a formative and summative in nature. Although the audit report is in the first instance a summative rapport, it nonetheless contains valuable feedback for schools. If the audit report now had to be (partly) based on the self-evaluation of schools, this self-evaluation would, in effect, be mortgaged in advance. Successfully implementing a self-evaluation aimed simultaneously at school development and accountability is therefore not as simple as the advocates of integration would have us believe. Furthermore, if the function of an external evaluation is summative, one has to ask whether a self-evaluation can play any role in this in any case. There is a real risk that schools will see self-evaluation as an obligation and as a task which is not connected to school development (Hopkins, 1987). In matching external and internal evaluation therefore, careful thought must be given as to what the function of the evaluation is. Depending on this, different answers must be formulated to the question as to what the relationship between the two ought to be. This leads therefore to an argument for a strict separation between accountability and school development.

## CONDITIONS FOR A SUCCESSFUL COMBINATION OF SELF-EVALUATIONS AND SCHOOL AUDITS

Self-evaluations and school audits are two components of a single entity which is called quality assurance. There may very well be valid arguments for integrating these, but it also appears that these arguments may be based on overly positive assumptions regarding the possible marriage of the formative and summative functions of evaluation. In the following section we will set out a number of guidelines and attention points for combining these two forms of evaluation in a sound quality assurance system based on the considerations described above.

### Make a Strict Distinction Between Accountability and School Development

A school audit can, in principle, be set up with either a summative or a formative focus. Although the prime concern in the first instance is a determination of results, the data gathered for this purpose can yield valuable feedback for schools. This is not the case in a self-evaluation. Self-evaluation must primarily concern itself with school development. Intrinsic motivation is a necessary pre-condition to getting a sound self-evaluation process off the ground (McBeath, 1999). In this perspective, self-evaluation is not an appropriate method for the gathering of data intended for a summative evaluation. A self-evaluation cannot take place under heavy pressure from outside the school. The self-evaluation results might be very far removed from the actual functioning of the school and also prove unusable both for accountability as well as school

improvement purposes (Davies & Rudd, 2001). It is, therefore, advisable to start with a strict distinction between the determination of results and development.

**Regard Evaluation as a Process and not as a One-off Activity**

In the context of quality assurance in education, evaluation must yield insights into extremely complex processes and it is overly ambitious to imagine that these can be captured by means of a single snapshot. Effective evaluation is a process of analysis, presentation and discussion of findings and of confrontation with supplementary data (Nevo, 2001). This process cannot be adequately conducted in a single, 'one-off' evaluation moment. A self-evaluation as a preparation to a one-off school audit ignores the process-related character of self-evaluations. In self-evaluation the emphasis has to be on the process (Watling & Arlow, 2002). Certainly, this can yield a product, (e.g. a report) as an interim result, but the report in itself is of little real significance (Van Petegem, 1999). The preparation for the self-evaluation and the follow-up based on the report are much more important.

**Select Themes for Self-evaluation Carefully**

Given that the government obliges/encourages schools to carry out self-evaluations, it is very important that the themes chosen for self-evaluation are seen as relevant by schools. The dialogue that self-evaluation requires can only be initiated if those participating in the self-evaluation have the feeling that the themes examined are genuinely important (Scheerens, 2004). This means that they must, at least, be either personally involved or possess relevant expertise (Hoy & Miskel, 2001). The choice of themes to be evaluated must be left up to the school. If the government imposes external aspects, there is a risk that schools will only conduct self-evaluation in order to comply with regulations and not because they are intrinsically motivated to do so or from a school-internal need for quality assurance (Van Petegem et al., 2005b). We would also like to emphasize that the reasons for conducting school audits are different from those which underlie self-evaluations and consequently audits have a different focus. Frames of reference suitable for external evaluation are thus not necessarily good frames of reference for internal evaluations.

**Recognize and Encourage the Professionalism of Others**

Schools and the Inspectorate, each have complementary roles to fulfil in the existing system of quality assurance and this can only work well if the different parties involved recognize each other's professionalism and conduct themselves in an atmosphere of sufficient trust (O'Sullivan, 2004). Trust can, however, only be won by placing trust in others (Fullan, 1993). There is a world of difference between a formal obligation and a strong encouragement. If the desire is to encourage teaching staff and school managers to adopt a critical attitude which will facilitate school development, they must be approached as professionals and as equal partners (Earley,

1998; McBeath, 1999; Mace, 2002). In other words, the attitude of external evaluators may well be of determining importance in encouraging internal quality assurance.

**Guarantee the Quality of Self-evaluations**

Professionalism may not simply be assumed, however. Conducting self-evaluations requires schools to possess not only a number of technical self-evaluation skills, but also a sufficient level of policy effectiveness (Cheng, 1990; Van Petegem et al., 2005b). There are two important tasks in order to guarantee the quality of self-evaluations: supporting schools in the conduct of self-evaluation; and monitoring the quality of those self-evaluations.

**Support Schools in Conducting Self-evaluations**

A government which expects high quality self-evaluations from schools may not ignore the professional development and support which are necessary to accomplish this. In many countries most schools are familiar with the concept of self-evaluation, but that they define this concept in their own - and usually limited – way. Schools often award themselves a positive evaluation whereas in reality they are still at the beginning of a long process of improvement (Van Petegem et al., 2005b). Not all schools have the development level and the willingness to operate autonomously and independently. Moreover, they may not have the resources required - in terms of methodology and contents - to arrive at good self-evaluations. The type of support which schools require can vary from financial support and the supply of materials and ready-to-use tools; to training and support in situ. Neither content-related nor methodological support must be underestimated, therefore.

**Monitor the Quality of Self-evaluations**

At present it is unclear as to what extent schools possess sufficient organizational effectiveness and capacity for self-evaluation to draw up strategies, methodologies and criteria for high-quality self-evaluation for themselves. Moreover, the question as to the differences which currently exist between schools has so far remained unanswered or rests on assumptions (Rogers & Hough, 1995; Robinson & Cousins, 2004). This makes it difficult to estimate what can be expected from schools on this point.

There is currently unanimity with regard to the importance of self-evaluation as an element in quality assurance in schools, but things become more complicated when it comes to determining which criteria can be used to evaluate the quality of a self-evaluation. A combination of self-evaluation and school audits, however, presupposes a minimum acceptable quality of self-evaluation and the tools to record that quality. In other words, an array of tools needs to be developed for meta-evaluation. Once these are operational it should be possible to identify the strengths and weaknesses of schools with regard to self-evaluation. The step towards more focused support can also be implemented in a manner which is tailored to the needs of individual schools.

## IMPLICATIONS FOR POSSIBLE SCENARIOS FOR A SUCCESSFUL COMBINATION OF EXTERNAL AND INTERNAL EVALUATION

We have demonstrated that both external and internal evaluations are necessary components of quality assurance systems. However, these cannot be combined willy-nilly. We would now like to move on – with the attention points set out above in the back of our minds – to arrive at possible scenarios for the achievement of a successful combination of auditing and self-evaluations by schools. By rigorously applying the attention points formulated above, we would like to set out a scenario which may serve to provoke reflection. Our point of departure is a distinction between two groups of school-external expectations (which may or may not be anchored in legislation) and school-internal expectations. We also make an additional distinction between accountability and school development. In total, therefore, there are six conditions to be met when elaborating a system of quality assurance.

**Table 1.**

**Domains of Quality Assurance**

| | **Legally-anchored expectations** | **Non-legally anchored expectations** | **School-internal expectations** |
|---|---|---|---|
| **Accountability** | Domain 1 | Domain 3 | Domain 5 |
| **School development** | Domain 2 | Domain 4 | Domain 6 |

The full implementation of this framework is an extremely complex task and it is very difficult to arrive at a consensus on this given the importance of ideological assumptions. In the following section we will focus on the role which self-evaluations, school audits and support services must play in the various domains. For each domain we will examine whether internal and external evaluations should run in parallel, sequentially or cooperatively (Kyriakides & Campbell, 2004). The domains with regard to non-legally anchored and school-internal expectations are handled together throughout, however. Our intention here is, after all, to focus primarily on the distinction between expectations - whether or not these are legally anchored. Nor are we going to explore more specific forms of self-evaluation such as formative visits by colleagues and the input of "critical friends" in self-evaluations or the specific ways in which data should assembled in conducting self-evaluations (Swaffield & MacBeath, 2005). This does not mean, however, that we do not subscribe to the potential of these forms of quality assurance.

### Domain 1: Accountability for Legally-Anchored Expectations

In this first aspect of quality assurance we must adopt – on the basis of the arguments described above – two clear standpoints: (1) it is only in this case that an obligatory school audit must play a role and (2) there is no room here for self-evaluation.

In essence, the inspectorate is authorized to check whether schools comply with the expectations which the government imposes upon them. From a strictly legal point of view their responsibilities are more restricted than is the case in the present situation. There should, therefore, be a 'pared down' form of school audit which is restricted to those aspects which are actually stipulated by law and which could be termed a "core audit". Core audits take place at the initiative of the government and are obligatory. The report of a core audit is first and foremost summative and limited, as standard, to those aspects which are imposed on schools by the government. This does not mean, of course, that the audit may not look at other processes in the school, but this is done as a means to an end and not as an objective per se. After all, it is not possible to talk about the quality of a product without acquiring an understanding of how that product is created.

We have already argued above that the validity and reliability of self-evaluations is insufficiently guaranteed in the event of an obligatory summative evaluation. This means, therefore, that self-evaluation as such does not have a role to play in this first aspect of quality assurance. In this domain conducting self-evaluations as a preparation to (core) school audits is thus not an appropriate method. The reverse may be possible, however: the results of a core audit may provide useful information which could then be included in a self-evaluation. In this case, we find ourselves in the second domain of quality assurance.

**Domain 2: School Development with Regard to Legally-Anchored Expectations**

The legally-anchored expectations which schools are obliged to meet can also be the subject of school development. This is because in many cases the objectives imposed by the government are also shared by schools and also because schools are themselves aware of the importance of complying with these expectations. In these school development processes a role may be assigned to the core audit report, for the educational support services and for self-evaluation.

A central element in this domain of quality assurance is self-evaluations by school focused on the extent to which the school concerned complies with the expectations of the government. The initiative for undertaking such a self-evaluation ought preferably to be taken by the school or a superting body and not by the government as monitoring party. The aim of this self-evaluation is thus also formative and focused on development. Schools want to describe and evaluate their own functioning with respect to legal expectations with an eye to taking decisions or undertaking initiatives which make it possible to respond (even) better to these expectations. In principle, self-evaluations in this domain can be independent of the core audit, but they can also be combined. Possible objectives of self-evaluations with legal expectations as their focus are anticipating, analysing and discussing the findings of a core audit and establishing suitable implementation methods. In this sense, the core audit report also has an important informative value in this domain of quality assurance. This report must not only contain findings with regard to the expectations investigated, but must also indicate how obstacles observed can best be tackled in the opinion of the educational inspectorate. There must, therefore, be a proper follow-up to the core audit, although ideally this ought not to be carried out by the inspectorate itself. The inspectorate writes its report and explains its content and this is where its role ends. Once the

audit has been completed, the educational support services must be closely involved in what follows in order to guarantee the formative role of the evaluation.
Another important element here is the creation of formative (external) evaluation moments which are independent of the core audit. The time interval between (core) audits is at present too great to permit them to play a systematic role in the process of school development. Yet school development is a continuing process. Initiatives need to be taken, therefore, to make contact with schools in a formative manner with an eye to establishing their strengths and weaknesses in relation to compliance with legal expectations. In the first instance, the supervision services have an important role to play in this.

**Domains 3 and 5: Accountability of Non-Legally Anchored and School-internal Expectations**

In principle, schools do not have to render account to the government with regard to external expectations which are not legally-anchored, but they may do this directly or indirectly to those bodies and (groups) of people who originally formulated these expectations. The same applies to school-internal expectations. In both these domains of quality assurance it is essentially a matter of opening communication between schools and the persons and groups concerned. According to own research, schools are currently somewhat closed. How and to whom account ought to be rendered are questions which have yet to be clarified, however. This is a social discussion which has yet to get under way in Flanders. This makes it particularly difficult to determine at present what roles could be allotted to self-evaluation and school audits in quality assurance as a whole. Both are means to an end which can only be employed once a clear aim has been identified. A determining factor is, for example, the role to be given to the government (or its inspectorate) in guaranteeing this form of accountability.

**Domains 4 and 6: School Development with Regard to Non-Legally Anchored and School-internal Expectations**

School development is concerned with much more than merely the "minimum" which the inspectors come to audit. The non-legally anchored and school-internal expectations ought also to be part of this. It is in the first instance up to the school itself to describe and evaluate its own functioning through cycles of self-evaluation. The context-related nature of the non-legally anchored and school-internal expectations makes it difficult to establish general frameworks, of course. Yet this does not mean that external evaluations cannot have a scope-broadening, encouraging and legitimizing impact on self-evaluation activities. In these domains of quality assurance there can thus also be a role for external evaluations by the educational inspectorate and supervisory services.

At present, schools do not have to render account to the inspectorate with regard to expectations in these domains. That said, however, the audits of the inspectorate can play a valuable role. In the course of the core audit, the inspectorate does, after all, collect data with regard to aspects which go beyond the merely legal. We have commented above that the report of the core audit

in this scenario restricts itself to those aspects which the government stipulates for schools. At the request of the school other aspects of the functioning of the school could also be included in a supplement to the core audit report. This section of the audit report would have a purely formative function and the inspectorate would then give its opinion on aspects which form part of the audit, at the request of schools. It must be possible for the inspectorate - at the request of and in consultation with the school - to shine its expert light on part of the route travelled in the direction which the school wishes to go. A further step might also be taken here. At the request of the school under inspection, the inspectorate could expand the summative core audit by including formative theme audits. These (non-obligatory) theme audits focus on aspects which go beyond the legal expectations per se, such as the pedagogical/didactic policy of the school, or its policy implementation capacity. On the initiative of the school the contents of the core audit could be supplemented with some form of external formative evaluation.

Educational support services also have a role to play here. It is in the first instance up to them to provide schools with formative evaluation moments regarding expectations which exceed the purely legal. Schools must be able to turn to the supervisory service for support both in terms of content and with regard to methodology. This might take a wide variety of useful forms: providing additional training; the supervision of self-evaluations; making tools and methods available; setting up partnerships between schools which participate in self-evaluation and arranging exchanges of formative visits around a joint framework; establishing forms of audits, etc.

## CONCLUSIONS

The specific implementation of the role of self-evaluation and school audits as part of an overall quality assurance system is no easy matter. Educational policy-makers in various countries across the globe are currently struggling with this problem. Questioning existing practices and looking for possible alternatives often seems only to leave us with yet more questions. This is a necessary process, however, if we are to create a comprehensive and better-functioning quality assurance system. In this connection it is important to arrive at a shared vision with regard to what the objectives of such a system ought to be. Only when these objectives are clear, will we be in a position to clarify the respective roles which self-evaluations and school audits can play in quality assurance as a whole (Kyriakides & Campbell, 2004). Fundamental reflections are thus crucially important in relation to the quality assurance system. In attempting to arrive at a possible scenario, we have very strongly emphasized the difference between formative and summative forms of evaluation. The initiative for school development always lies with the school itself. Unless schools specifically request this, the inspectorate should, in this scenario, limit itself to its core tasks. The inspectors must conduct a two track policy - strictly and transparently: an accountability-orientated policy track; and a development-orientated policy track. In addition to this, possibilities must be created - or further expanded - so that schools can call on external actors in order to ensure the quality of internal evaluation. This contribution contains material for reflection. We have set out arguments both for and against an integration of self-evaluations

and school audits in the rendering of account and the development of schools. In order to make the implications of these arguments more specific we have developed a possible scenario. Although we are favourably inclined towards the logic behind this scenario it is not our intention to provide definite answers. Our purpose in setting out this scenario is to formulate critical reflections in connection with existing quality assurance systems and to offer suggestions for possible alternatives. First and foremost our intention was to question a number of assumptions as these assumptions stand in the way of the critical examination of the present quality assurance system which is so desperately needed.

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# LEADERSHIP IN THE TWENTY FIRST CENTURY

**Motilal Sharma**

***"O learned leader, you are shower of happiness. Great are your deeds. You are the mighty one, on account of your knowledge and power of actions. As soon as you manifest your glory, you become the messenger and leader of people."***

***(Rig Veda 3/6/5)***

## LEADERSHIP DEFINED

A leader does not perform the task himself. He gives direction and accepts the responsibility of performing the task. Leadership is a process of developing and coordinating a group's activities towards certain goal accomplishment in a given situation. From this definition, it is clear that the leadership process is dependent on the leader, the followers and the situation. A leader must consider the forces within himself, his followers and in the situation, in order to be effective. Organizations today require leaders whose personal experience is supplemented by an understanding of forces that affect him and the situation in which he is operating.

The practice of leadership will cut across all kinds of organizations, whether formal or non formal, government or non government and all kinds of concerns, be it economic, political, technological, socio-cultural, environmental, and behavioral. The leader is a catalyst to inspire and motivate the rank and file in the organization. He sets the tone and culture of the organization. The leadership process is universal. What will vary are the environments in which such leadership will operate. Systems therefore will have to be designed and developed appropriately to ensure compatibility with the environment, especially its socio-cultural dimensions. Leadership can spring from anywhere; it is not a quality that comes with an office or person. Rather, it derives from the context and ideas of individuals who influence each other. Leadership is an act that enables others and allows them, in turn, to become enablers. The leader helps others recognize the complexities of social organizations set in myriad contexts.

## LEADERSHIP ROLE

What sets a leader apart from his team members is the all encompassing vision and his ability to communicate the vision to all levels in the organization. Leader should be the person who culturally binds the organization. He should bring about more elements and strengthen the culture to ensure that the team members cohesively move in the desired direction for the realization of the organizational objectives. He has a multiple role, and therefore, he is looked upon more as one who objectively looks at issues. He cannot and should not lose temper. His armory should not be filled with weapons but with patience, empathy and advice. The performance and behavior of any organization can be greatly affected by the leader. His doors should be open for anyone coming to seek advice. He should know what attitudes, behaviors and actions are necessary for effective leadership. The leader is judged not by his words alone, but by his behavior and

conduct. He drives the strength as a leader strictly by being independent and preserving the right to disagree, if issues demand holding to his own opinion. The responsibilities of a leader fall into three inter-related needs concerning task, team and individuals. The leader must aim to satisfy the three areas of needs, of achieving the task, building the team, developing and motivating individuals. A chain is only as strong as its weakest link. So too with organizational effectiveness. It is only as strong as the participation of its lowest actor or member. The leader must consider the beneficiary or the client as the real change agent and they themselves as facilitators. Resources must be optimally used to generate desirable outputs in ways that are cost-effective, socially acceptable to the target clientele, timely and technically viable. Even a dictator, Machiavelli argues in his 'Prince', must note the scarcity of resources and seek to legitimatize his rule in order to release resources for other spheres and not spend them merely on law and order.

**LEADERSHIP AND COMMUNICATION**

Ability to articulate is basically the communication factor. It includes all forms of communication – whether they are verbal, visual, written or multi-media mode. A leader will need to communicate regularly with those for whom he is responsible. The ability to articulate provides an excellent training ground not only for structuring the thoughts and ideas of a person but also for him to learn several other skills that involve organizing, analyzing, evaluating, judging, differentiating and prioritizing. Such skills are needed to put across ideas clearly and convincingly to bosses, colleagues and followers. An effective communicator is also an intense listener. He would listen carefully as he knows that listening is a way to respecting others. Moreover, God gave us one mouth and two ears, implying that we should listen twice as much as we talk. The problem is that many of us tend to provide an answer without even hearing the views of others. A good leader should be sensitive to the feeling of team he is leading. The day your followers stop bringing you their problems is the day you have stopped leading them.

**LEADER AS A FOLLOWER**

A good leader learns to follow as to lead. Leaders are perceived as consummate learners who attend to the learning of both the team and the people they lead—including themselves, of course. No particular style of leadership is effective in all situations and or with all followers. The approach to facilitative-democratic leadership in any organization must be tailored to that particular organization. An effective leader would use a style of leadership that is relevant to the situation as well as meets the needs of his followers. To be effective in a given situation, the leader must be able to adapt his behavior to the requirements of the situation and his followers. A good leader is also a good follower. An effective leader should seek to reach out to his followers. He knows that there will always be people who are more intelligent than him. He takes a macro and long-term perspective and is not afraid of criticism. There is a saying about a true leader "when you are able to know other people, you are wise, when you are able to know yourself, you are enlightened." In addition, a successful leader keeps himself abreast with

the latest information in areas of his responsibility. Information is a tool of updating the knowledge. This results in reinforcing his confidence and develops a comprehensive and deep understanding of the objectives.

**HUMAN DEVELOPMENT**

Leadership's prime concern and responsibility should be the development of human resources. It is man who imagines, designs, processes, markets and serves the needs of society. The "management of man" therefore is leader's most critical challenge. It will be appropriate that leadership should concern itself with the organizational and participatory aspects of people-participation in problem-solving and decision making. The need of the times is for leaders who can manage man! The "People First" and not the "Things First" should be the right approach. Human rather than capital is the key to development.Development is a human enterprise and its success will depend ultimately on the skill, quality and motivation of the persons associated with it. If we intend making the organization a cohesive unit, it is most advisable and prudent to look at its issues holistically. The central truth is that striking a balance between both formal and non-formal grouping of an organization is one of the most difficult challenges the leader has to face in the discharging of his leadership. The leader has a responsibility to help people work cooperatively as a cohesive group. He will also need to set up systems so that he can understand the feelings and reactions of all those for whom he is ultimately responsible. This is a matter of building personal relationships based on understanding empathy for human beings in commonly shared goals, group relationships based on trust and confidence as well as inter-group relationships based on cooperation and commitment to organizational goals. Real leaders make themselves accessible and available. Leadership does not emerge from blind obedience to anyone. Xerox's Barry Rand was right on target when he warned his people that if you have a yes-man working for you, one of you is redundant. Good leadership encourages everyone's evolution.

**TEAM BUILDING**

Organization doesn't really accomplish anything. Plans don't accomplish anything, either. A successful leader has to set new standards, new benchmarks, new ways of doing things and new thinking modes. He should look for intelligence and judgment, and most critically, a capacity to anticipate, to see around corners. Also, he should look for loyalty, integrity, a high energy drive, a balanced ego, and the drive to get things done. How often do our recruitment and hiring processes tap into these attributes? More often than not, we ignore them in favor of length of resume, degrees and prior titles. You can train a bright, willing novice in the fundamentals of your business fairly readily. But it's a lot harder to train someone to have integrity, judgment, energy, balance, and the drive to get things done. Endeavors succeed or fail because of the people involved. Only by attracting the best people will you accomplish great deeds. Your best assets are people. Good leaders stack the deck in their favor right in the formation phase. In this sort of environment, you won't find people who pro-actively take steps to solve problems as they emerge. Too often, people are assumed to be empty chess pieces to be moved around by

grand viziers. How many immerse themselves in the goal of creating an environment where the best, the brightest, the most creative are attracted, retained and, most importantly, unleashed? Effective leaders create a climate where people's worth is determined by their willingness to learn new skills and grab new responsibilities, thus perpetually reinventing their jobs. The most important question in performance evaluation become not, "How well did you perform your job since last time we met?" but, "how much did you change it?" Keep looking below surface appearances. A team has a common purpose and this is applicable to all kinds of groups, political, social, religious and business. To achieve their objectives, the group needs to be held tighter. Asians tend to hold their leaders as role models and are heavily influenced by their behavior. High morale and team spirit are measures of the effectiveness of the group's cohesion. The ripple effect of a leader's enthusiasm and optimism is awesome. People need to work in a coordinated fashion directed towards for a unified goal. Striking a balance between achievement of objectives and team building is an important element of effective leadership.

**EMPOWERING TEAM**

Empowerment means more than simply "allowing" team members access to decision making. In fact leaders must delegate or share power as well as responsibilities, thus "transforming followers into leaders". Leaders enable others to become leaders. Empowered team members should be social and political activists who will not "allow their work to be co-opted and domesticated by whatever political forces dominate the organizational hierarchy. They recognize their distinctive place in the culture and embrace an emancipatory vision and begin to function as transformative leaders. The best leaders are not heroes, they are hero makers. They understand that team members need to be empowered to act – to be given the necessary responsibility that releases their potential and makes their actions and decisions count. Policies that emanate from ivory towers often have an adverse impact on the people out in the filed who are fighting the problems or bringing in the revenues. The leader in the field is most of the time right and one in the rear is wrong, unless proved otherwise. Real leaders are vigilant, and combative in the face of these trends.

**LEADERSHIP FOR SHARED GOVERNANCE**

Highly successful, shared governance leaders know it is not power over people and events that counts, rather, power over accomplishment and over the achievements of organization purposes. Successful shared governance leaders know that optimal participation in decision making yields greater productivity, job satisfaction, and organizational commitment. Furthermore, it appears that shared governance leaders create a community of leaders that offers independence, interdependence and resourcefulness. A community of leaders is a vision of what might become a condition of organizational culture in the 21st Century. Proper environment must be nurtured for effective use of information and communication technology (ICT) for the increased participation of people in problem solving and decision making. Successful leadership in democratic situation minimizes constraining forces to people participation to ensure that shared governance

practices are strengthened. Empowerment is thus naturally achieved in shared governance leadership. Sharing authority as well as responsibility more fully with team members across roles and hierarchical levels will create organizations and systems that look very different from those of 19$^{Th}$ century. The leader will need to see that the necessary decisions are taken with optimal utilization of team's potential. These, will be the best possible decisions taken at the right time and with the greatest commitment to task after the decision is taken.

**SUCCESSFUL LEADERSHIP**

A successful leader has to be more socially conscious, has to give adequate weightage to the political decisions, in the government and equally to be well updated in the current economic changes. Effective leaders are almost always great simplifiers, who can cut through argument, debate and doubt, to offer a solution everybody can understand. Their visions and priorities are lean and compelling, not cluttered and buzzword-laden. Their decisions are crisp and clear, not tentative and ambiguous. They convey an unwavering firmness and consistency in their actions, aligned with the picture of the future they paint. The result is clarity of purpose, credibility of leadership, and integrity in organization. The organizational role clarity will help in deciding the information inputs to be given at various levels of hierarchy. This relates to the social, political and economic changes which are taking place in the society in which the organization is functioning. Good leaders delegate and empower others liberally, but they pay attention to details, everyday. That is why even as they pay attention to details, they continually encourage people to challenge the process. He anticipates certain happenings and accordingly acts pro-actively. Vision is a valuable component of conceptual skill. This relates to the personal character of a leader in terms of ethical and attitudinal values. This is quite a sensitive area where leadership skill is subjected to certain 'moral test' from time to time and affects the organization development process by way of image building. In well-run organizations real power is the capacity to influence and inspire people. Have you ever noticed that people will personally commit to certain individuals who on paper (or on the organization chart) possess little authority, but instead possess drive, expertise, and genuine caring for teammates and products? You can encourage participative leadership and bottom-up employee involvement, but ultimately the essence of leadership is the willingness to make the tough, unambiguous choices that will have an impact on the fate of the people/organization. Trying to get everyone to like you is a sign of mediocrity. By treating everyone equally "nicely" regardless of their contributions, you'll simply ensure that the only people who you will upset angering are the most creative and productive people in the organization.

**MAINTAINING LEADERSHIP SKILLS**

Leadership skill is a product of knowledge and experience. It has to be acquired, maintained with vigorous practical training and experience. Functional skill relates to the area of his work, whereas, interpersonal skill is the ability to deal with the people. To be an effective leader, one must have at least some managerial skills because every leader must manage resources. The difference between a manager and a leader can be illustrated by the roles played by a sheep

dog and a lead wolf. The job of the sheep dog is structured and he is rewarded for maintaining conformity to the plan of the shepherd. A lead wolf has to be visionary to inspire its pack in order that they will work with him as an efficient team. It requires extra-ordinary flexibility in taking actions. Continuous learning and application of new knowledge becomes an important task of a leader. One can learn from almost anybody if the attitude is right. Learning can also come from exposing oneself to some experience. One of the important attributes of a successful leader is his ability to learn from past mistakes and the willingness to learn from failures. One must never wait for the right time to learn for it is never too early to start. A successful leader conceptualizes the future. All the great ideas and visions in the world are worthless if they can't be implemented rapidly and efficiently. People's motives, tasks, ambitions and values keep changing. Therefore, a particular style of leadership will not work for all the occasions. Adaptability with the environment is one of the very critical characteristics of a good leader. The situation dictates which approach best accomplishes the team's mission. Leaders honor their core values, but they are flexible in how they execute them. They understand that leadership techniques are not magic mantras but simply tools to be reached for at the right times. To do all this, leaders will need new energy, a clear sense of direction, to offer effective leadership in this new environment. No stones be left unturned and no "sacred cows" be spared as your organization prepares to "re-invent" itself to face the challenges of new environment.

## LIVING YOUR VISION OF SUCCESS

Fully living your vision before it actually happens is a very important component of achieving success. Success is a state of mind where you are satisfied of having expressed your potential and achieved something while asking for more. Most important is that a leader has to tangiblise success and develop a vision. Unless the leader has some picture in his mind it can not be a vision and will remain a set of words. So when you say you want to be happy, imagine what you will look like being happy once you have a vision of success. It is created in such fine details as if you are already there. Then, it is an irreversible process. After tangiblising success the leader must start living it before it actually happens. In this way, the leader will be reinforcing his motivation and planning towards realization of his vision in a focused manner. Finally, he creates a success for himself, which does not have anybody's harm hidden inside it.

## CONCLUSION

In sum, whether it is in business, politics or any other situation, the leader plays a very important role in affecting the fate and welfare of the organization and the people whom he leads. He has to be a person of high moral character and integrity. The leader must be an affective communicator, organizer, monitor and inspirer of men. He must be able to cultivate and develop talents as well as personal relationships. He must be able to make clear, timely and tough (if needed) decisions. Distress come through mouth, when this happens, the smartest thing to do is to admit them. Admitting mistakes and shortfalls do not reflect that the person is weak. It portrays him as a receptive person and his willingness to learn from the wisdom of others.

# PERSPECTIVES OF QUALITY DISTANCE EDUCATION

**Sohanvir Chaudhary**

## INTRODUCTION

Effectiveness of any system, including education, depends upon both its quantity and quality aspects. Because of globalization and competition among education providers quality has become an important issue these days. Due to quantitative expansion of education at primary, secondary and tertiary levels, the concern for quality is being expressed by all the stakeholders. Quality in education at all the levels is being encouraged in all the countries because of the academic, social, political and economic advantages. If we want to succeed in or get recognition nationally and internationally, we have to improve and sustain the quality of our education system. With quantitative development / expansion, quality parameters have to be strictly adhered to. This, of course, would require improvement in infrastructure, change in curricula, and launch of new academic programmes, use of innovative teaching learning methods, utilisation of ICTs potential and development of favourable attitude towards quality education.

## QUALITY DISTANCE EDUCATION: THE CONCEPT

Assurance and sustenance of quality in education is a complex phenomenon. Different educationists have perceived quality education in different ways. Judgment about quality differs according to whose views are sought (Robinson, 1992). Indian complex socio-economic system as much as access impacts quality and access, so does quality impacts access (Premji 2003). Thus, quality of education means quality of teachers, quality of learners, quality of courses, quality of planning and management, quality of infrastructure / resources and quality of teaching and evaluation methods. In terms of the system approach the quality of input and process will shape the quality of outputs that the graduates of the education system. Therefore, the quality of distance education is not a one-time affair. It is a continuous process involving sustained efforts. Open Distance Learning (ODL) in the present form is an emerging mode of imparting knowledge, skills and attitudes to learners in a non-contiguous situation. Over the past few years, there has been increasing interest in quality in ODL. The goal of ODL is to empower the learners by facilitating their learning in a high quality and learner-centered environment. Openness in education is a feature that has attracted wider support from and interest among people in many countries in recent times. Openness, a broad and relative term, is counted in terms of flexibility in the educational system: relaxed admission requirements (most obviously liberal entry qualifications), age, pace of learning, course combinations, selection of objectives, mode of instruction, evaluation techniques and so on. Education at one's home or work place is an important feature of open distance learning (ODL). Advancements in pedagogy / instructional design and communication technologies have added to the effectiveness and efficiency of the openness in the ODL system. Information and communication technologies (ICTs) have provided

various options of imparting education which is an essential component of any system to succeed. As a result, distance educators today are equipped with a variety of means and methods of education and training to make the education resources accessible to all those who want to have it as per their needs and convenience. Distance education institutions in any country are established with the main objective to democratize education as a resource and provide every citizen, irrespective of sex, caste and creed, easy and affordable access to quality education. It is desirable for the distance education institute to proceed by maintaining high quality standard. Quality dimension of ODL system is more complex as it requires the integration of a large number of activities, processes and operations. Various academic and administrative units are involved in the teaching, learning and evaluation. ODL system, therefore, has to commit itself in maintaining high quality in pedagogy, content as well as learner support services.

**FEATURES OF QUALITY ODL SYSTEM**

There are three important features of any successful education system. They are access, quality and costs. All these features are interlinked and they influence each other. For instance, if education as a resource is costly i.e. beyond the capacity of the majority learners, the educational system would be inaccessible to them. Thus lesser the cost, greater the accessibility to education. Quality and access are two sides of the same coin which go together. Providing affordable access to the education resource to all should not dilute the quality of operations and services rendered by the educational system. In spite of the fact that we do not follow a particular model of quality distance education, which can be evaluated systematically, following are some important considerations to assure and sustain the quality of distance education. These considerations are based on the experience of distance educators and learners around the world.

**Knowledge of Level of Excellence**

The learners may not be aware of the level of their performance or the standards set by the course designers. They lack the spirit of competition. Because of no or poor peer interaction they do not know the comparative level of their progress. Once they know this they feel more confidence and satisfied. Thus besides knowledge of the standards set by the course designers, they aspire to know the level of their performance vis-à-vis other learners. This information will help them strive for excellence in their performance. This highlights the role of distance teachers who, for example, through their constructive feedback on the assignment responses submitted by the learners, can make them aware of the standards they have attained and the standards they were or are expected to acquire. This is a reason why continuous and comprehensive assessment of the learners' progress is important in the ODL system. Besides assessing their progress, evaluation of their assignments can assist them to improve and maintain the quality of teaching-learning. Formative evaluation at each stage of the ODL system functions as a quality control measure in producing learning materials and evaluating the change in knowledge, attitudes and skills of the learners as per the pre-fixed objectives. Continuous evaluation judges whether and to what extent the objectives of social transformation have been achieved.

**Social Development**

The ODL system emerged as an off shoot of the socio-educational pressure of the people. The educators, who believe in ODL as a potential tool for social transformation, claim that ODL will create a new society, i.e. a well-informed and productive society. If learning is stretched over a lifetime, there is no justification for forcing people to attend a full time conventional school. ODL can be an answer, which demands necessary changes in the instructional methods, curriculum and assessment techniques. In other words, ODL implies innovations in teaching-learning strategies to produce socially desired citizenry. And if it succeeds in producing socially desired citizenry, it can claim as a quality system of education. The ODL should be linked with specific objectives of society to be achieved. To see whether ODL really is able to change the structure of society, whether it is based on the educational and training needs of society, there should be provision for continuous evaluation of its social impact. The ODL system should empower people to manage change in the social system.

**Feeling of Success**

The features of ODL, such as relaxed entry qualifications, individualized learning at one's own pace; place and flexible assessment mechanism relieve the learner from the feeling of failure. Well designed ODL thus can provide quality education with minimum or no risk of failure and achieve excellence in learning. Motivation increases by success and success, in turn, reinforces motivation. There is a need to work out appropriate teaching-learning strategies, which give the learners the feeling of success i.e. what they are going to study is useful, simple and manageable. To sustain motivation, the goal should be real, achievable within the capacity of the learners. Quality distance education is expected to fulfill this requirement of lifelong learning.

**Need-based Curriculum**

Need-based curriculum has a strong implication for quality learning. The adults learn best when they learn through activity at their own pace with materials that are need-based and seem relevant to their life and also use their own experience. To ensure quality learning, the learners should be provided an encouraging environment where they construct new knowledge based on their experience and the context. They should be trained to transfer, learning from one situation to another and solve problems in such a case, the learners learn to utilise their self-motivational strategies. They identify their own way of motivation for learning. Self-motivational strategies depend on various factors, such as experience, maturity, need-achievement, usefulness of education, through specially designed self-learning materials; the learners are bound to acquire the desired level / standards of performance. And it will ensure that the knowledge gained or the skill acquired is practised in actual life situations. Curriculum is designed in such a way that it increases learners' control over the time, place and pace of learning. The learning material should provide learners with opportunities to access content for acquiring knowledge and skills.

**Learning: A Personal / Individual Phenomenon**

The ODL system advocates for individualised learning which is based more on psychological theories. In this system, learning occurs through interaction between the individual learners and the text / content to be learnt, rather than through social phenomenon in which interpersonal human dialogues transform understanding (however the social experience held by the learner helps construct meaning). Knowledge, skills or attitudes are acquired by reading, listening or watching relevant information and by working on self-assessment questions / activities, presented in the learning materials – printed text, audio / video component, teleconferences, etc. The learner's ability to acquire knowledge and skills depends on certain psychological factors, such as pre-requisites the learners already possesses, motivation to attend to the learning tasks, individualised pace of learning, study or learning styles / habits, etc. Thus learning at a distance is more of an individual phenomenon, a private activity. What can be inferred from this explanation is that the quality of education depends on the quality of learning material and instructional design/ approach employed by the course designers and writers to arouse and sustain motivation in learners. If the teaching strategies are geared to suit their needs and interest, they often learn better. This feature of the open learning materials makes learning more attractive by exploiting psychological characteristics of the learners i.e. individualising instruction, providing clear explanation, comprehensive and continuous testing mechanism, diagnosing learning difficulties, providing constructive feedback etc. But the question is whether the explanations, assessment techniques, diagnosis and feedback strategies used for learning at a distance are superior to those provided by the teachers or peer group in a face-to-face situation? We do not have any ready-made answer to this question. The answer would reflect on the overall quality of distance education materials and hence the system.

**Quality Management**

Another important aspect of ODL system is to utilise quality system management which ensures continuous improvement of the process, product / productivity and learner satisfaction. Quality control system suggests appropriate tools and models for effective distance teaching and helps effectively design and implement the learning materials. Quality management helps identify system flaws through systematic evaluation, both formative and summative. Formative evaluation which encompasses a series of activities such as learners' educational needs, better instructional design, increased use of supportive technologies, developmental testing and feedback, can ensure the quality of ODL system. Summative evaluation in turn will determine the overall effectiveness of the system. Thus both the formative and summative evaluation will supplement and / or complement each other to improve both the process and the outcomes of teaching and learning. Quality management is an area which needs serious thinking to make ODL a success. It has become more important because of the inherent diversities in learners in terms of their experience, social and family commitments, self-concept, pre-requisites, motivation, needs, interest, etc.

**PRINCIPLES OF QUALITY ODL**

Chickering and Gamson (1987) discussed seven principles for good practice in open distance learning. They are:

*Encouraging and maximizing contact between learners and teachers: Communication between the learners and the teachers is important for enhancing motivation and involvement and hence facilitate learning;

*Developing relationship and promotes collaboration among learners: Peers can be invaluable in the learning process. Sharing ideas, resources, problems, etc. promotes higher level learning among them. Quality distance education should promote collaborative learning;

*Incorporating active learning: Active learning involves application and problem solving, research and simulation;

*Giving rich and rapid feedback to learners: The learners therefore should be able to assess their own learning as well as get feedback from others about their strengths and weaknesses;

*Giving stress on time-on-task: Distance learning environment should be rich with reading, activity and interaction. The learning points should be easily accessible to the learners;

*Setting high standards for learners' performance: Distance learning materials should be challenging in providing opportunities for interaction, collaboration and activity. Objectives should be clearly set for the learners to achieve;

*Paying respect individual differences and allowing opportunities for learning that acknowledge those differences: Learner characteristics, learning styles and learner challenges in ODL are considered while designing learning materials so that the learners feel self-motivated, focused and assertive, willing to assume responsibility for their own learning. Distance learning should be organized in such a way that based on their experience and learning context / environment learners find their own ways for approaching problems, completing tasks and using learning materials.

**BROAD CRITERIA OF QUALITY ODL**

McAnanay (1975) developed five broad criteria of quality education which provides us useful insight for improvement of the ODL system. These are: Efforts, Performance, Adequacy, Efficiency and Process. Efforts refer to the initiatives taken by the institution. These initiatives are associated with growth in terms of courses offered, learners enrolled, pass out rates, learner support services provided, evaluation mechanism adopted etc. The growth in these criterions would reflect on the performance of the institution. In other words the initiatives show the efforts made by the institution to initiate more activities to cater to the needs of learners. Performance refers to learning gains of the learners in terms of knowledge, skills and value system, success completion, employability of the graduates, learner-centric course materials, etc. Higher the performance would mean higher the quality of the system. Adequacy refers to the capacity of the institution to meet the educational and social needs of the learners, and to support their upward mobility. The institution should collect feedback through various means and on all the aspects of ODL system to make the processes and operations more adequate /

relevant to the society in general and to the learners in particular. The learning materials should help learners learn in the way they find most natural and effective. Efficiency refers to the costs of the open distance learning. The efficiency of the ODL system is assessed in terms of cost per learner and cost per successful learner. It also includes the efforts made by the institution to increase the efficiency of the system. Efficiency implies the optimum use of physical and human resources to achieve course objectives. Process refers to the various processes and operations involved in ODL system to achieve learning objectives. It also refers to the institution's commitment (which can be observed) to excel in the teaching learning process through quality assurance mechanism. As stated earlier, the quality of the ODL system depends on the united efficiency of all its sub-systems, such as course development, learner support, management (decision making) of learning process, delivery mechanism, evaluation and ICT sub-systems. The effectiveness of every element of the process / operation is assessed during its formative stages so that we are able to impart quality education to the learners. In other words, an effective feedback mechanism to systematically collect, analyse and feed information back to the system can ensure quality education. The process should reflect the expertise and commitment of the faculty and other functionaries in achieving excellence. The efficient process will result desired learning outputs. The goal of quality control should be to identify and retain effective processes and replace ineffective ones. It would focus on correcting the instructional processes that are not successful for the learners to succeed at each stage of distance education system.

There are five main parameters of quality education: effectiveness, efficiency, equality, relevance and sustainability. Effective education helps learners achieve goals related to their personal / professional, national and humankind growth. It depends on various indicators such as, curricular materials as inputs, characteristics of learners, socio-cultural context, system management, attainment of objectives as outputs, etc. All the indicators are analysed and planned keeping the educational needs of the learners in mind. Efficient education means making the most of inputs (such as costs, time, physical and human resources etc.) to accomplish course objectives. The learners should be able to achieve their learning objectives with efficient use of resources. Therefore the objective of quality education are set in the most resource efficient way. Quality education brings equality among learners, protects their rights, liberates / empowers them with needed competencies and skills and supports their development. Equality in education promotes social cohesion, social diversity, peace, human security, etc. Equality is identified with disadvantages / disparities in terms of gender, access to education resources, poverty, academic achievement, etc. Quality education, therefore, meets educational needs of the learners of disadvantaged group / section of society. To be relevant for the present and / or for the future of the country, quality education considers national priorities, cultural values and philosophies of society. It is based on educational and training needs of the learners / society. Relevant education transforms learners into productive and empowered citizens of the country. The last parameter is sustainability. Quality education has lasting effects and continues into the future. Quality education is aimed at empowering learners of all ages and levels to assume responsibility for

creating and enjoying a sustainable future. Quality education is not confined to a particular age. It promotes lifelong education. It 'builds human capacity not only for employability, but also for broader lifelong learning as well as for adaptive and copying livelihood strategies in the fast moving and complicated world' (Lawrence & Tate 1997). The discussion reveals that the outcomes of any education process are not only criteria of quality of education; quality education is harmonious interplay of all the parameters, discussed above, within classroom, institution and / or society as a whole. As far as classical approach to quality assurance in ODL system is concerned there are three main criteria for quality assurance (Koul 2005). They are: the process of course preparation together with the quality of course materials; teaching-learning transaction which incorporates feedback and interactivity in the form of counseling, tutorials, assignments etc., and usability of ODL for particular subjects / objectives. These criteria form the backbone of quality assurance in ODL system.

While deliberating on the factors that contribute to quality assurance practices, Koul (2005) opined that quality assurance concerns, protocols and practices appear to be context specific. The quality factors, however, are applicable across countries and they are accepted by ODL systems universally. He suggested three broad dimensions that can provide basis for analysis of quality assurance in ODL systems. These dimensions are: Core dimension, Systemic dimension, Resource dimension. Core dimension pertains to learner-centricity (pointing to the importance of learning, not teaching, as a quality measure) and capacity building (training academic and administrators to manage shift. For both these factors research is a pre-requisite. These factors are instructional design, learning materials, transaction of content, evaluation, learner support services.' There should be adequate quality provisions in the development and delivery of ODL materials. The instructional design and learning materials should be of high standard from all respects. The learning materials are designed and structured to facilitate learners' achievement of clearly stated learning outcomes. Complex, open-ended and realistic problems provide framework for ODL materials. In other words the learning materials are structured around activities which are designed to develop knowledge, skills and attitudes. Systemic dimension pertains to those factors which constitute the ODL system at the institutional as well as national levels. This dimension pertains to the initiation and introduction of quality assurance mechanisms, internal as well as external, and symbiotic relationship between the two and the management of both the mechanisms and their relationship. Factors such as institutional leadership and management, institutional vision and mission, objectives, quality assurance policies and procedures, selection and training of faculty / staff, delegation of powers and responsibilities, monitoring system, innovations, etc. All these factors promote quality culture in the ODL system. The management should ensure day-to-day work activities as per the quality standard / norms set nationally as well as institutional policy. There should be a culture that encourages quality improvement / maintenance. This dimension demands to set up a quality assurance cell / unit in every institution so that all the elements / sub-systems of the ODL are adequately monitored and maintained as per the norms. Resource dimension pertains to availability of and accessibility

to both human and physical resources which include ICTs, technical and academic expertise, learning resources and physical infrastructure. ICTs have opened immense possibility for quality enhancement / improvement. They enhance both the quality of learning and access to learning resources all over the country. However the success of ICTs depends on exploiting the potentials of various media. Hence, it is necessary to develop ICT-enabled pedagogic models and networking locally, nationally and internationally. The faculty and other functionaries should undergo recurrent training in optimum utilisation of all available resources and in keeping abreast the developments of ODL system.To reassure quality the effectiveness of the ODL system should be assessed at each stage on a continuous basis. Besides assessing the performance (through continuous evaluation and term-end exams) of learners, the effectiveness of learning materials, learning support services, learners' satisfaction, etc. should be assessed. Evaluating learning depends on defining specific and observable learning objectives and then assessing learners by reference to the learning outcomes which should be appropriate to the level of the course and the level of the learners. The delivery system may also influence assessment and should be carefully considered. Evaluation of the course content and delivery involves getting reliable and direct feedback from the learners on what worked well for them and what needs improvement. Such feedback, when considered, can be invaluable for improving the quality of ODL system. Further, the educational effectiveness of ODL system (including assessment of learning outcomes, retention and satisfaction of learners) is evaluated to ensure comparability to conventional education system. Thus, high quality ODL systems ensure the integrity of learners' work and the credibility of certificate they get after successful completion of their courses / programme of study.

**TOWARDS MAINTAINING QUALITY: PUTTING ALL TOGETHER**

The discussion in this paper has unambiguously shown that quality in education is not one time affair. It demands sustained / consistent efforts and firm commitment by all the stakeholders. The institutions are required to identify their goal and mission, and define the quality and standard of performance against their objectives. They need to provide requisite evidence to assess their success and to satisfy their target groups. There are some factors which can help ODL institutions in creating a culture for quality education and sustaining it for long. According to Kirkpatrick (2005) a framework for managing ODL quality should address: (a) General philosophy: Policy and mission statement, resources, culture of the institute, attitudes and commitment of staff; (b) Products: Learning materials, courses, media, outputs, progression and retention rate of learners, assessment outcomes (pass out rates, standard of performance etc.); (c) Services: Registration and advisory services, counseling, tutoring, feedback and guidance on learning, support for learner progress, management of regional / study centers and resources, responsiveness to queries / doubts / issues; and (d) Support process: Delivery systems, record keeping and electronic back up, warehousing and stock control, quality assurance procedures. The following are some important factors for ensuring the quality of ODL system:

**Policy**

The Central / State Governments and the institutions have to frame distance education policies which explicitly display their commitment for quality. The enabling policies should set the philosophy, vision and systematic procedure for designing, developing and implementing ODL materials. These policies should encourage academic fraternity to practice quality parameters in designing and developing learning materials, delivery of the courses, assessing performance of the learners and the effectiveness of various processes of the ODL systems. Thereby the institution should review its policies based on empirical evidence / feedback collected periodically through formative and summative evaluation. The policies should be pro-learners so that they are empowered with needed knowledge, skills and attitudes. The institution policy should reflect the culture of quality of ODL in its calendar of activities. The institutional climate should motivate to own the responsibility quality assurance. Policy and strategic plans derived from the mission statement are appropriate for national and institutional context and responsive to changing contexts. Policy statements should be drafted on all the processes of ODL, such as programme / course design and development, learner support services, assessment, information and communication technology, management, quality assurance, programme revision, etc. Policy statements should include the methods to implement or achieve them. Monitoring procedures should ensure that the policies are implemented, evaluated and amended should be in place.

**Leadership**

At the institutional level, leadership is the most significant engine for change, development and quality assurance (Koul, 2005). Under the dynamic leadership the distance educators would perform optimally. Institutional commitment to quality education should be reflected in all the actions / decisions by the leadership so that an encouraging quality culture is developed. The leadership should be innovative and pro-change so that the ODL system can grow to meet the emerging needs of 21$^{st}$ century. There should not be any compromise on quality at the cost of quantity. The leadership has to create a culture of quality in ODL. Thus the institution has to make provision for wide-ranging internal quality system focusing on students' learning. The internal quality mechanism should induce everybody to own responsibility of quality education.

**Innovation**

The ODL system is an emerging mode of education and training. All the stakeholders of the ODL should be innovative in framing policies, managing the system, designing and developing courses, assessing learners' performance and institution's effectiveness, applying a variety of methods and media etc. Innovations in all the processes of designing, implementing and evaluating can ensure quality education. Innovations should be based on research: systematic and discipline-based. Innovative practices may not succeed unless they are owned by the faculty and other functionaries who, as stated earlier, should be oriented and re-oriented in paradigm changes in the ODL system. The faculty should be encouraged to undertake experimentations to assess the feasibility of changes. Best practices should be replicated by the institution.

**ICT Application**

Use of ICT can empower both the teacher to effectively transact content and the learner to learn efficiently. Besides, the application of ICT can increase access of learners to quality education resources. If properly designed, developed and implemented, ICT can bring a qualitative change in teaching and learning at a distance. It has been observed that utilisation of ICT either by the learner or the teacher / institution for delivery or for learning is not satisfactory. However, a number of communication devices are available to the learners and the teachers / institutions these days. An exclusive and dedicated satellite: EduSat, launched in 2004 has tremendous potential to impart quality education and training. The potential of EduSat is available to all the educational institutions in the country. The expertise of the best experts can be made available to all the learners across the country. ICT can create facilitative learning environment to arise and sustain motivation of the learners.

**Learner Support Services**

Besides high quality of learning materials, the ODL institution has to facilitate learners' study by providing needed supports in terms of counseling (pre- and during course), resolving queries related to their study (personal, administrative, and academic) extending library facility, making ICTs, input accessible, providing timely feedback etc. There should be provision to take care of their queries / doubts. The experience all over the world reveals that many of the learners may drop out due to inadequate learning support and indifferent behaviour of functionaries at ODL institutions. The learners should have confidence that there is somebody in the institution to attend to their queries promptly who is aware of and cater to their difficulties faced by them during the course of their study. The support to be provided to the learner should be clearly documented so that all those associated with ODL can implement those measures / services. The effectiveness of learner support services should be monitored and assessed on a continuous basis. The schedule of each activity, such as student registration, delivery of materials, movement of assignment questions and responses, notification of examinations along with their integrity, performance of learners, learner progression and retention, etc. should be clearly spelt out / documented. All the learning support services should be regularly monitored and reviewed against specified performance indicators. The institution should ensure that feedbacks collected through various monitoring mechanisms are fed back into the ODL system. The counselors should be selected depending on the need of the course / programme and trained in their role of facilitating learning of learners. They should be accessible to learners for individual guidance at mutually agreed upon time. Counselors' performance should be monitored regularly. At the same time, feedback should be collected from counselors about the various aspects of the ODL system, including the quality of courses and their implementation.

**Human Resource Preparation**

ODL system is multitasked mode of education and training. A team of experts are involved in various activities, such as course design, course development, editing, ICT production, learner

support services, evaluation, monitoring, management of learning system, etc. The institution engages various academic, technical and administrative staff to handle specialized tasks of the ODL system. All the staff should be trained in these tasks. Staff development is fundamental to quality education. The staff joining ODL from the conventional education system may not appreciate the needs of ODL system. They should be trained to work in a team mode. They should be assigned specific tasks they have been trained in. Training workshops can be organised at various levels: orientation, skill development and advanced training. Continuing professional development of teachers and other functionaries is a key element in ensuring quality in the ODL system. Selection, training retention and continuing professional development are pre-requisite of quality teachers and hence quality education.

**Management**

More participatory and transparent management approach could be formulated in which all the stakeholders can play an active part in the decision making process. The role and functions of all the bodies within the institute should be clearly documented and made accessible to all. And there should be a provision in the management for effective communication (forward and backward as well) with all the staff. The management system should be so devised / framed that it caters to the needs of the learners. In other words, the bottom-up model, with learners in the focus, could be used to ensure learners' satisfaction. The management should make certain that the day-to-day work of the institute meet the quality standards. Use of ICTs can make the management process more effective in managing all the processes of ODL.

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# DEVELOPING COMPETENCE IN SOCIAL DIALOGUE THROUGH JURISPRUDENTIAL INQUIRY MODEL

**Veer Pal Singh**

*The present article is the report of an experiment conducted to find out the effectiveness of Jurisprudential Inquiry model (JIM) of teaching on competence in social dialogue of school students. The experiment was conducted on 40 students of class IX. They were divided into four parallel groups on the basis intelligence and socio-economics status (SES) namely - high intelligence and high SES, high intelligence and low SES, low intelligence and high SES and low intelligence and low SES. During the experimentation, the students were tested and assessed three times for social dialogue skill. Hence, three-way factorial design (2x2x3) of trend analysis was followed to analyse the data. The findings indicate that socio-economics status effect the improvement in competence in social dialogue as low SES students possessed higher scores than high SES students. Moreover, the trend of improvement with different levels of intelligence and occasions was linear and the direction of trend was upward. Overall, the trend of improvement on different testing occasions was linear and direction of it was upward. It means that the competence in social dialogue went on increasing with the treatment of JIM.*

## INTRODUCTION

Education is a process that develops the personality and inherent capabilities of a child. It socialises her or him to play adult roles in society and provides the necessary knowledge and skills required for a responsible citizen and member of the society. It has been stated that education is the consciously controlled process whereby changes in behaviour are produced in the person and through the person within the group. It has an implication that through educational process the changes in the behaviour of the person are brought about not by the internal forces but by those external forces which are latent in the environment. When a child learns any new activity like putting on dress, eating food, putting his/her viewpoint, solving problem or any behaviourial act, the environment and the child's close relations are key-figure in the learning process. Thus, school or classroom environment play an important role in learning of a particular behaviour or an act by an individual. If we want to bring any desirable change in the behaviour of a child then specific environment is needed because behaviour of a child is the by-product of his social perceptions, understanding and reasoning on the one hand and conceptions of other pupils, self, relationship between pupils and social rules (moral and traditional) on the other hand. According to Baron & Byrne (1977), 'the behaviour, feelings or thoughts of an individual are influenced or determined by the behaviour or characteristics of others in the group." Moreover, various individual characteristics like ability to analyse social issues, competence in social dialogue, verbal ability etc. effect the behaviour of others in a group. Hence, for developing individuality and commitment among children specific environment is needed. Highlighting the need of commitment, National Curriculum Framework - 2005 categorically mentions:

> "Education should aim to build a commitment to certain values like democracy and the values of equality, justice, freedom, concern for others well-being, secularism, respect for human dignity and rights, which are based on reason and understanding. The curriculum, therefore, should provide adequate experience and space for dialogue and discourse in the school to build such commitment in children." (NCERT2005, pp.10-11)

Further, this document pinpointed the importance of nurturing an enabling environment and said that

> "As public spaces, schools must be marked by the values of equality, social justice and respect for diversity, as well as of the dignity and rights of children. These values must be consciously made part of the perspective of the school and form the foundation of school practice. An enabling learning environment is one where children clarify their doubts and ask questions, they will not engage with learning. If, instead of ignoring children's comments or sealing their tongues with strict rules of silence and restrictions on the language to be used, teachers encourage children to talk, they would find that the classroom is a more lively place and that teaching is not predictable and boring, but rather an adventure of interacting minds. Such an environment will facilitate the self-confidence and self-esteem of learners of all ages; it will also go a long way in improving the quality of learning itself."(NCERT 2005 pp.81-82)

It means that teacher should adopt such a method of teaching where specific climate in the classroom is generated through which the desirable characteristics or qualities could be developed among children. In other words, to develop the desirable characteristic behaviours in a child, specific climate is needed. Certain characteristics like ability to analyse social issues, competence in dialogue, verbal fluency etc. are desirable among the children to cope with the situation of the competitive society and global adjustment. Hence, such a method of teaching is required through which the social characteristics could be developed among the children. There may be various methods like lecture, silent sitting, role-playing, simulation, story telling etc. But these methods have their own limitations and proved unable to develop the desirable behaviourial characteristics among the children. In this connection, Jurisprudential Inquiry Model (JIM) of teaching is tested keeping in view its own advantages. One notable advantage of this method is that open climate for discussion is there, which is a major feature of child-centered approach in the classroom. Another advantage is that the teacher is very powerful person who initiates the questions or inquiry during the process. This is the reason that the method can easily be linked with the climate of school as the teacher plays a dominant role. Hence, because of its simplicity and application in the Indian classroom settings, Jurisprudential Inquire Model of teaching was used to develop the ability of social dialogue among children which is most desirable to solve day to day problems in life. The specific features of this model are given in proceeding paragraphs.

## JURISPRUDENTIAL INQUIRY MODEL OF TEACHING

The dictionary meaning of Jurisprudence is science or philosophy of law, or the knowledge or skill to deal with issues in legal fashion. Oliver & Shaver (1974) created this method-meant

Jury process of resolving complex controversial issues within the context of productive social order. In other words, it is a process of inquiry for solving controversial issues as is held by a Supreme Court judge. The judge first of all listens the case which is followed by evidences, then analyses the legal position taken by both the sides, weighs these positions and evidences, assesses the meaning and position of law and finally makes the best possible decision. When a similar role is played by the teacher along with the students in the classroom to analyse the social problem or public policy issues, then it becomes Jurisprudential way of teaching. This model helps the students in understanding the complexity of the problems so that they can be able to make their position reflect that complexity. The main purpose of this method is to help students learn how to formulate defensible stances on public policy issues. Following this model, the students get opportunities to develop public policy stances and dialogue skill by using three types of competence that is (i) an understanding of the value's framework of Indian creed; (ii) mastery of the intellectual skills of legal reasoning; and (iii) knowledge of contemporary public issues. This method involves conception of values and productive dialogue as well as curriculum and pedagogical consideration. During the process of dialogue, student takes a position and the teacher challenges the position with questions. The teacher's questions are designed to push students' thinking about their stance and to help them learn. The teacher orients the class to the case and students usually become emotionally involved in the analysis, making the discussion intense and personal. With more practice, it is hoped that their positions will become more complex and well formulated. In a nutshell, the specific features of this model help the students to develop competency in social dialogue and comprehend the values involved in a particular social situation.

## OBJECTIVE OF THE STUDY

To find out the effect of Jurisprudential Inquiry Model of teaching on social dialogue of students belonging to different intelligence and socio-economic status (SES) groups.

## HYPOTHESIS

There is no significant effect of Jurisprudential Inquiry model of teaching on competency in social dialogues of students belonging to different intelligence and socio-economic status (SES) groups.

## RESEARCH DESIGN

In order to see the effect of Jurisprudential Inquiry model of teaching on dependent variable of competency in social dialogues, three-way (2x2x3) factorial design of trend analysis was followed. (Edward 1950, p.70) Here, the treatment group was having two levels of intelligence viz. high and low. Each level of intelligence was having two groups of students that is high and low socio-economic status. Further, each student was tested on three occasions. In this ways, there were 2x2x3=12 combinations. The schematic presentation of the design is given in Figure 1.

**Figure 1**

**Schematic Presentation of factorial Design of Trend Analysis (2X2X3)**

**JIM**

**Sample**

The students of class IX were administered Raven's Progressive Matrices and Kulsherstha's socio-economic status scale (Urban A). On the basis of mean and S.D., the students were divided into four parallel groups-high intelligence and high SES, high intelligence and low SES, low intelligence and high SES and low intelligence and low SES. Each of the group was having 10 students. Thus, the sample was comprised of 40 (10x4) students.

**Tools used**

*The Raven's Progressive Matrices to measure the intelligence of the students.
*The Kulshreshtha's Socio-economic status scale (SES) to measure the socio-economic status of the students.
*The Dialogue Observation Scale developed by the investigator to observe the bahaviour of the students during discussion or dialogue in the classroom.

**Variables**

Two types of variables were worked out. The independent variables were: (a) Jurisprudential Inquiry model of teaching; (b) Levels of intelligence – high and low; (c) Levels of SES – high and low; and (d) Occasions of testing. The dependent variable was Competence in Social dialogue

**Data Collection**

The Data were collected in between the experimentation. The students were observed by their peers in tetrad group on dialogue observation scale. In others words, each student in the tetrad group was observed by three peers at a time. The average score of these peers was considered as the score for first occasion. In total, there were three different occasions for each student to be observed by their peers in tetrad group in between the experimentation. Thus, there were three occasions for each student to be assessed.

**Statistical techniques used**

In order to see the effect of Jurisprudential Inquiry Model of teaching on competency in social dialogue, the data were analysed with the help of three-way (2x2x3) factorial design of 'Trend Analysis'. Further, the results were supplemented with the help of linear coefficients for each testing occasion so as to find out the trend of linearity. These linear coefficients obtained by multiplying the trial sums for each levels of intelligence by orthogonal coefficients for linear comparison ($D_1$). These linear coefficients were further supplemented for linear interaction in order to test the significance of linear components on trend. The graphs were plotted wherever F-ratio was found significant for overall trend and linear interaction among variables.

**RESULTS AND INTERPRETATION**

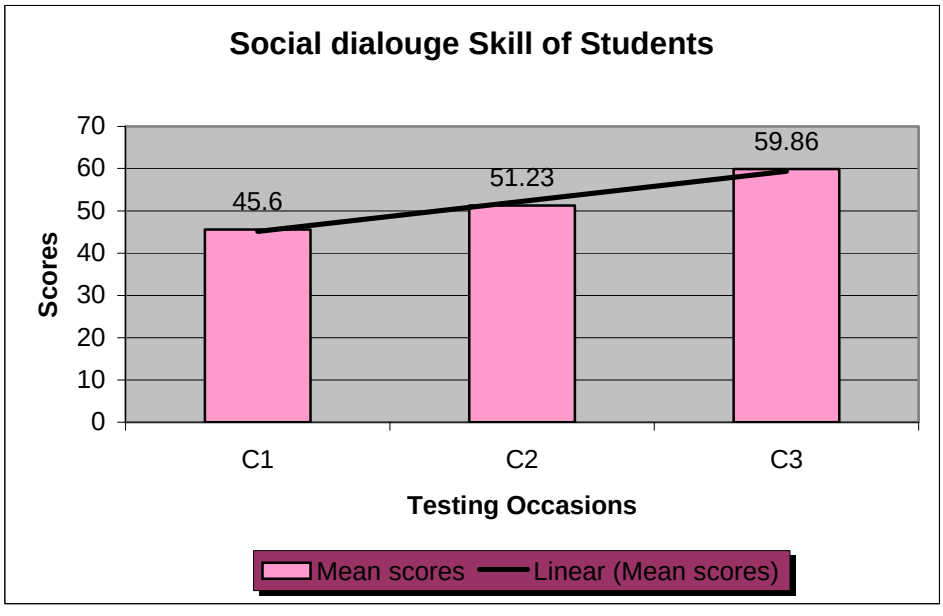
The results for summary of three ways ANOVA (2x2x3) for the competency in social dialogue

indicated that F-ratio (6.49) was significant for df 1/36 for the effect of socio-economic status in case of competency in social dialogue at 0.05 level of significance. In this connection, it was observed that high SES students possessed low scores (M=50.36) than low SES students (M=54.09). It means that low SES students achieved higher scores than high SES students. It reflects that low SES students could effectively communicate, argue and think logically than their counterparts when exposed to Jurisprudential Inquiry Model of teaching.

The results for summary of three ways ANOVA (2x2x3) for the competency in social dialogue revealed that the F-ratio (88.76) was significant for df 2/72 for testing occasions. In order to interpret this result, the significant F-ratio was supplemented with linear coefficients for each occasion so as to find the trend of linearity. In this connection, it was found that F-ratio (174.94) is significant for df 1/72 at 0.01 level of confidence. This connotes that overall mean scores have a significant linear trend. The direction of the trend was upward as linear coefficient ($D_1$= 570.68) is positive. It means that there was continuous improvement in competency in social dialogue of the students. The continuity of improvement in social dialogue may be attributed to the process of social analysis that such a model follows. Figure 2 depicts the trend.

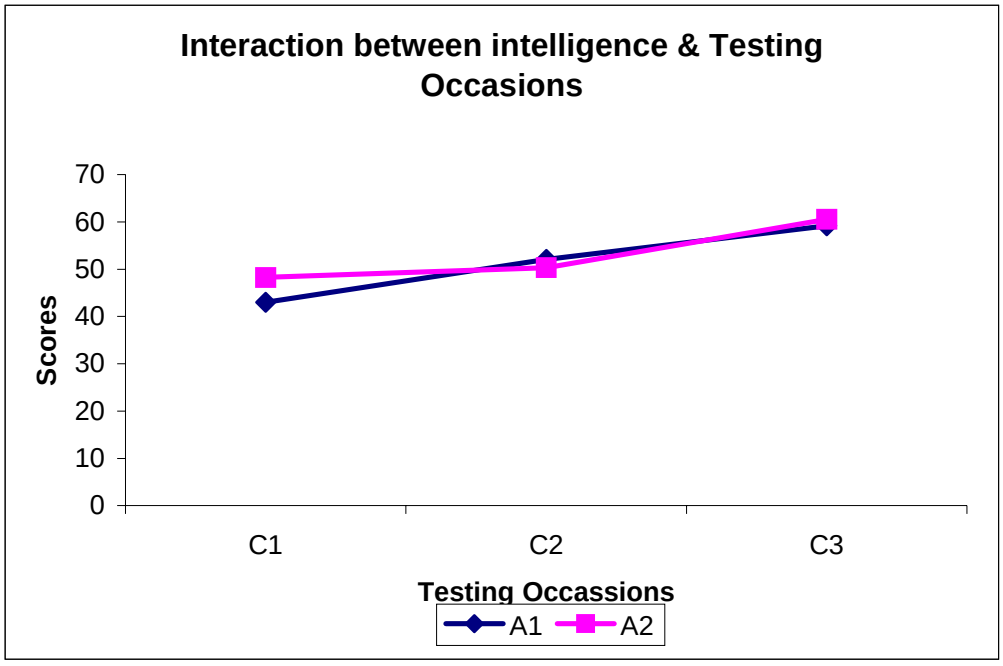
**Figure 2**

**Plotting of Mean Scores of Different Testing Occasions showing the Trend of Linearity for Competence in Social Dialogue**



It was also evident from the results summary of three ways ANOVA (2x2x3) for the competency in social dialogue that interactional effect of levels of intelligence and testing occasions (AxC) was significant (F= 5.33) for df 2/72 in case of competency in social dialogue at 0.01 level of significance. This has a connotation that the trend of scores on different occasions is effected due to level of intelligence when taught through JIM. In order to interpret this result, the F-ratio was supplemented with linear coefficients for each occasion so as to find the trend of linearity. In this connection, it is observed that F-ratio=3.21 for df 1/72 is approaching to words significance. This connotes that overall occasion mean scores have a linear trend with respect to different levels of intelligence. The direction of the trend was upward as linear coefficients are positive ($D_1$= 323.99, 246.69) in case of high and low intelligent students respectively. This, in other words, indicates that scores of the students belonging to different levels of intelligence for competency in social dialogue go on increasing with the treatment of JIM. The linear component in case of high intelligent students was more (2624.24) than the linear component (1521.39) of low intelligent students . It means, level of intelligence has its contribution towards the scores in case of competency in social dialogue. Figure 3 clarifies this trend.

**Figure 3**
**Plotting of Mean Scores for Competence in Social Dialogue for Two-way Interaction (2x3) between levels of Intelligence and Testing Occasions (AxC)**



## FINDINGS

Socio-Economic Status effects the improvement in mean scores of the students for competence in Social dialogue significantly when taught through JIM. Low SES students possessed higher scores than high SES students. The trend of improvement on different testing occasions was linear and the direction of the trend was upward. In other words, mean scores for competence in social dialogue went on increasing with the treatment of JIM. The trend of improvement with different levels of intelligence and occasions was linear and the direction of the trend was upward. It connotes that mean scores with different levels of intelligence at different occasions for the competence in social dialogue went on increasing with the treatment.

## EDUCATIONAL IMPLICATIONS

The findings of the study reveal that Jurisprudential Inquiry Model of teaching was having direct bearing on the improvement in competency in Social dialogue of the students belonging to different levels of intelligence and socio-economic status. It has an implication that this method of teaching may be adopted by the teachers if they wish to improve the Competence in Social dialogue of the students which is most desirable in this competitive world for the adjustment in the society throughout life.

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# DEVELOPMENT AND STANDARDIZATION OF AN ATTITUDE SCALE TO MEASURE JOB SATISFACTION OF HIGHER SECONDARY SCHOOL TEACHERS

**Rosmin Thomas N.**
**Padmanabhan T.**

*This paper explains the procedure of developing and standardising an attitude scale constructed by the investigators to measure the job satisfaction of Higher secondary school teachers in Kerala state. The scale has been constructed by making use of Likert's method of summation to get a five point judgement on each item. After reviewing many related studies done in the field of job satisfaction both in India and in other countries, dimensions which were reported as positively or negatively correlated to job satisfaction were selected for constructing the tool. 120 statements were selected for the pilot study which were related to situations causing job satisfaction or dissatisfaction among teachers. A pilot study was conducted on a random sample of 100 Higher secondary school teachers of Malappuram district in Kerala. After item analysis 68 statements with 't' value more than 1.75 were selected for the final study. The newly constructed scale has face validity, content validity and construct validity. Split-half method was used to find out reliability which is 0.88.*

## INTRODUCTION

A variety of individuals perform the task of teaching and an individual encounter different types of teachers at different stages during the course of his life. Indeed it is an ideal teacher at the climax of his performance that brings about a positive change in the overall behavior of his students. Obviously, one cannot expect an educational arrangement to deliver the goods unless it has a cadre of competent teachers. The quality of the teaching depends upon the job satisfaction of teachers. A highly satisfied teacher alone can fulfil various roles of a friend, guide and counsellor, to his / her pupils as a member of the group of professional workers and a citizen participating in various community activities. Job satisfaction is a primary requisite for any successful teaching learning process. It is a complex phenomenon involving various personal, institutional and social aspects. If the teachers attain adequate job satisfaction, they will be in a position to fulfil the educational objectives and national goals. It expresses the amount of congruence between one's expectations of the job and the rewards that the job provides.Education systems that expect their teachers to achieve complex goals must themselves assume the responsibility for teachers and their needs. This is not only an ethical matter, but also a practical one. The fulfilment of expectations places heavy demands on teachers. Some knowledge of teacher's professional inner-world may guide educational policy and decision makers in nurturing teacher's professional well being and consequently, improve teaching. Today, there is generally a widespread feeling

that teachers, especially at the higher secondary level are in a state of unrest and do not have satisfaction in their job. Higher secondary section being a recent evolution in the 80's, it still remains in the evolving stage in the state of Kerala and grievances of teachers are one and many. The investigators decided to construct and standardise an attitude scale to study job satisfaction, so that the newly constructed scale may contain all the factors pertaining to the job satisfaction of higher secondary school teachers.

## METHODOLOGY

Normative survey method was employed for the study. The objective was not only to analyse, interpret and report the status of an institution, group, or area in order to guide practice in the immediate future, but also to determine the adequacy of status by comparing it with established standards.

### Sample

For the present study, the data were collected from a sample of as many as 100 Higher secondary school teachers of Malappuram district, Kerala, using random sampling technique for conducting pilot study.

### Tool Description

The first part of the scale is captioned general information, which includes the variables: gender, locality of school, type of school, age, marital status, experience, educational qualification, caste and mode of appointment. After reviewing many related studies done in the field of job satisfaction both in India and in other countries, the following dimensions which were reported as positively or negatively correlated to job satisfaction were selected.

#### *Interest and Attitude towards teaching*

Attitude is a personal disposition common to individuals, but varying in degrees, which impels individuals to react to object, situations or prepositions in ways that can be called favourable or unfavourable. It is the degree of positive or negative disposition associated with some psychological object. Interest is a feeling which accompanies special attention to some content or objects. Interest and attitude towards teaching denotes the positive or negative feeling or disposition associated towards teaching. Hence the statements to measure this dimension were constructed in terms of the interest and attitude the teacher is likely to have, whether it is positive or negative.

#### *Salary and Benefits*

A key factor associated with the satisfaction of teachers in their job was reported to be their pay and other fringe benefits, such as the number of leaves, incentives, pension and gratuity schemes, timely payment of salary, remuneration for extra work, provision for relief in the case of

emergencies etc. Hence, positive and negative statements belonging to this dimension of job satisfaction were constructed through careful procedure.

***Academic Freedom***

Teaching being highly creative, the taechers may need freedom to try out innovative methods of teaching and adequate opportunity for expressing their ideas and talents so that there is variety and novelty in the teaching learning process. Lack of flexibility may make teaching monotonous. Hence, statements measuring this dimension were included in the tool to find out whether academic freedom is a key condition of job satisfaction of teachers.

***Job Security***

The fear of losing job may create unnecessary stress and fear in the mind of a teacher and by dint of this a teacher may be unable to concentrate on his / her work in the full sense. Job security may affect the feeling of satisfaction , hence statements related to job security were included.

***Feedback from different sections***

Adequate feedback that a teacher receives from the different sections such as administrators and supervisors, principal, colleagues, parents and the students work as a motivating factor. The recognition and appreciation a teacher receives for his / her good work may be correlated to teachers' job satisfaction.

***Inter-Personal relationships***

The teacher shares with his / her colleagues, students, principal as well as the supervisors. If the teacher feels his / her colleagues are not helpful to one another or if he / she does not have a good relationship with his / her superiors and the principal, it may adversely affect his / her job satisfaction.

***Opportunities for Professional Development***

Teaching is a process of life long learning and teaching process provides adequate opportunities for professional achievement and advancement. If the desire for professional upliftment is withheld, the teacher may cultivate a negative outlook towards his / her job. Hence, statements regarding this dimension were added in the tool.

***Adequacy and relevance of curriculum***

The investigators intended to find out whether a teacher's satisfaction with the curriculum with which he / she is involved interferes with his / her job satisfaction. Lack of clear understanding of some of the new techniques of evaluation procedure, an overloaded or an outdated curriculum may make the teacher dissatisfied with his work.

***Working Environment***

The environment of the school may make a teacher satisfied or dissatisfied with his / her work. Working environment denotes the working conditions in the school, working hours, infrastructural facilities provided, rules and regulations of work, physical surroundings of the school, or size of the class and adequate materials and equipments for work.A large number of statements pertaining to the above dimensions were collected from experts and were supplemented with statements taken from relevant literature. After a careful scrutiny of the statements by experts, 120 statements were selected for the pilot study which are related to situations causing job satisfaction or dissatisfaction among teachers. The scale consisted of 60 favourable statements and 60 unfavourable statements.

**Scoring**

The scale was constructed by making use of Likert's methods of summation to get a five point judgement on each item. Against each statement, five alternative responses, namely, "Strongly Agree" (SA), "Agree" (A), "Undecided" (U), "Disagree" (D) and "Strongly Disagree" (SD) were given. Weights of 4,3,2,1 and 0 were given for favourable statements in the order of their favourableness and for unfavourable statements, scoring system is reversed. Thus, if one chooses 'Strongly Agree' response for a favourable statement, he/she gets a score of '4' and for the same response, if the statement is unfavourable one gets a score of '0.' Only for the 'Undecided' response, one gets always a score of '2' whether a statement is favourable or unfavourable. An individual's score in this scale is the sum total of the scores for all the statement by the subject (Summated Ratings). While selecting and editing statements, the statements of the following types were excluded:- statements which refer to the past rather than to the present, statements that are factual or capable of being interpreted as factual, statements that may be interpreted in more than one way, statements that are irrelevant to the psychological object under consideration, statements that are likely to be endorsed by almost everyone or by almost none, statements which lack clarity, directness and simplicity, statements which include words that may not be understood by those who are to be given the completed scale, statements which are double negatives and statements which contain universals such as all, always, none and never and thus resulting in ambiguity. Most of the attitude scales were constructed, based on either the Thurstone's method of equally – appearing intervals or Likert's method of summated ratings. Likert type scale has been constructed in the present study and has been preferred for the following reasons. It is less labourious and less time consuming than the Thurstone technique. It does not require the opinions of a group of judges as to the degree of favourableness or unfavourableness each statement expresses. It is more reliable. Likert approach gets a five point judgment on each item rather than the mere rejection or acceptance in the Thurstone scale. The Likert-type scale is easy to score

**Pilot Study**

After constructing the job satisfaction scale, on the Likert's method, a pilot test was conducted on a random sample of 100 Higher Secondary School teachers in Malappuram district. The pilot study was conducted with a view to find out the reliability and validity of the tools and also to eliminate any ambiguity so that teachers do not feel any difficulty in responding to the items in the job satisfaction scale. Scoring was done on the five point scale as suggested by Edwards.Total score for each subject was calculated. The sum of the item credits represented the individual total score.

***Item Analysis***

In the method of summated ratings, rejection or selection of statements is done on the basis of item analysis. For this, the frequency distribution of scores based upon the responses to all statements was considered. Then the't' value of each item was found out by analyzing the responses of the 25 per cent of the subjects with the highest total scores and also the 25 percent of the subjects with the lowest total scores. It was assumed that these two groups provide criterion groups in terms of which individuals statements were evaluated (Edwards, A.L. 1975). The 't' value for evaluating the responses of the high and low groups to the individual statements was found out.

Items with't' values less than 1.75 were rejected. The items were then arranged in the rank order according to their't' values. As many as 68 statements having the 't' value equal to or greater than 1.75 were chosen in order to form the final scale. The scores in the final scale of job satisfaction ranged from 0 to 272 in the direction of increasing levels of job satisfaction. An individual's score in this scale is the sum total of the scores for all the statements by the subject. (Summated ratings). The higher the score in this scale, the greater will be the job satisfaction.

**Reliability and Validity**

The scale has the 'Universe of content'as it includes statements from all the selected dimensions of job satisfaction namely, interest and attitude towards teaching, salary and benefits, academic freedom, job security, feedback from different sections, inter-personal relationships, opportunities for professional development, adequacy and relevance of curriculum and working environment. Due weightage was given to all the dimensions while selecting items. The scale contains 68 statements which represent the universe of content. Hence, it has content validity. It has also construct validity as items were selected having the 't' values equal to or more than 1.75. (Edwards, 1975). The scale was given to experts in the field of education and they agreed that the items in the scale were relevant to the objectives of the study. Hence it has face validity also. The present study employed split-half method to determine the co-efficient of internal consistency. The reliability of the split half test is found to be 0.78 by the use of Spearman – Brown prophecy formula. The reliability of the whole test was found to be 0.88.

## CONCLUSION

The attitude scale to measure job satisfaction developed and standardised by the investigators

can be used to study the job satisfation of higher secondary school teachers to find out and analyse various factors associated with satisfaction or disatisfaction, so that necessary steps can be taken to create an environment in which the human, as well as the professional needs of the teachers can be fulfilled.

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**Invitation for Manuscripts for a Special Issue of the**
**JOURNAL OF ALL INDIA ASSOCIATION FOR EDUCATIONAL RESEARCH**
**focusing on Research Issues in Education**

With the advent of changes in the world scenario like Globalisation, Liberalisation and WTO etc. many changes have taken place in the education system in the country. To name a few, the aspects like knowledge economy have been added in to the system. The teachers have no more remained teachers alone they have become knowledge workers. Economy has been attached to the gains of educational system. Knowledge generation is attached to economy outputs. Even in the school education many new vistas have been added. For example, mothers have started taking interest in the education of their children. The poverty can no more be taken as refuge to avoid getting each child in the school. There are good governmental systems that are providing good quality education to the children. Private enterprise in school and higher education has changed the entire policy planning structure of education in the country. All these issues and aspects have made the researchers to rethink over the methodology of research as well as issues to be investigated. Simple positivism may not find answer to various questions of education. The so called Qualitative research is also not able to get theorising of various issues concerned with education in the country and the world over.

It is in this light that I am going to request all the members of Association, especially the senior academicians, to write an article for the guidance of the young researchers. I tell you, a little effort on your part will provide a guidance schedule for the researchers to delve upon and who knows, the research scenario in the country may change with your write up on research. I shall wait for your contributions. The manuscripts may be on Perspectives on Educational Research, Research issues or on Status study on Educational Research in a State or Union Territory. Authors interested to write for this issue of the journal may go through the guidelines for authors given at page 24 of December 2007 issue of the journal. To avoid duplication of work, please intimate soon your intention to write mentioning the title and a short description of your plan of action.

**Prof. S. P. Malhotra**
**President, AIAER**

# AWARENESS AND ATTITUDE OF THE COLLEGE STUDENTS TOWARDS OPEN AND DISTANCE LEARNING

**Manashee Gogoi**
**Mukut Hazarika**

*The University Grants Commission has set the target of enhancing the enrolment ratio by 5% during the 11th Five Year Plan. In order to achieve this target, tremendous amount of expansion of higher education would be necessary. Open and Distance Learning (ODL) may be a supplementary approach to fulfill the target through its more flexible and liberal yet quality programmes. The enrolment in the distance education programmes in Assam offered by the three state universities and the IGNOU cannot be considered as satisfactory. The enrolment of students in a particular programme depends on the awareness of the students about the programmes as well as their attitude towards them. This study was aimed at finding out the level of awareness of the college students about the programmes offered by different institutions through distance mode and their attitude towards these programmes. The study has revealed that the level of awareness and attitude of the college students towards ODL system is not very high. Besides, there exists significant differences between male and female; and rural and urban students as far as their awareness and attitude towards ODL system is concerned. It is expected that the findings of this study would help the policy makers of distance education to come up with awareness programmes so that the attitude of the learners towards the programmes offered through distance mode becomes highly positive.*

## INTRODUCTION

The Planning Commission of India has set the target of 15% GER by the end of the 11th Five Year Plan. In order to achieve this target, tremendous amount of expansion of higher education would be necessary. Open and Distance Learning (ODL) is a supplementary approach to fulfill the target through its more flexible and liberal yet quality programmes. The enrolment in the distance education programmes in Assam offered by the three state universities and the IGNOU cannot be considered as satisfactory. The enrolment of students in a particular programme depends on the awareness of the students about the programmes as well as their attitude towards them. This study aims at finding out the level of awareness of the college students about the programmes offered by different institutions through distance mode and their attitude towards these programmes. It is expected that the findings of this study would help the policy makers of distance education to come up with awareness programmes so that the attitude of the learners towards the programmes offered through distance mode becomes highly positive.

## OBJECTIVES

1 To find out the level of awareness of the college students (male and female and rural and urban) towards ODL.

2. To find out the level of attitude of college students (male and female and rural and urban) towards ODL.

## HYPOTHESES

There is no significant difference between male and female college students as far as their awareness towards ODL is concerned.

There is no significant difference between rural and urban college students as far as their awareness towards ODL is concerned.

There is no significant difference between male and female college students as far as their attitude towards ODL is concerned.

There is no significant difference between rural and urban college students as far as their attitude towards ODL is concerned.

## METHODS AND PROCEDURES

### Method of Research

Considering the objectives, hypotheses and the nature of data to be collected, the descriptive method was adopted in the present study.

### Population and Sample

The population of the present study comprises of all the college students studying at first degree level in the colleges under Dibrugarh University. There are a total of 143 Degree colleges affiliated to Dibrugarh University. The purposive incidental sampling technique had been used in selecting the sample of the present study. The sample comprises of 144 male and 116 female college students drawn from six colleges under Dibrugarh University.

### Tools

Awareness scale to assess the awareness of the college **students** towards ODL was constructed by the researchers. The scale consists of 25 items covering the areas: General concept of ODL; ODL Universities/ Institutions of the Nation and the State; Regulatory bodies of the ODL system; Contents covered and skills developed through ODL; Instructional Methodology adopted in ODL system; and Job opportunity for the graduates from ODL institutions. Two-choice, multiple-choice and open ended items were included in the scale. For each correct response, the respondents were awarded one mark. The scale had been verified by a number of experts for obtaining content validity of the scale. The Odd-Even Reliability of the scale was calculated with a sample of 60 students and found to be .72. A Likert-type Attitude scale consisting of 22 items developed by the researchers was used in the present study. Out of the 22 statements, 12

were of favourable attitude and the rest 10 statements were of unfavourable attitude. The items covered the areas ; Instructional Methodology; Student support services; Self learning materials; Quality of the programmes offered by existing ODL institutions; Preference in getting jobs; Examination procedures; and Equivalence with the degrees awarded by the institutions through conventional mode. The draft scale was scrutinized and modified by a number of experts for ensuring its validity. The Test-Retest Reliability of the scale was found to be .76.

**Data Collection** : The researchers themselves administered the scales among the students and collected the data.

## ANALYSIS OF DATA AND FINDINGS

### Awareness of the College Students towards ODL System

Level of Awareness of Students: The mean, median and standard deviation of the distribution of scores were found to be 12.48, 12.32 and 2.88 respectively. The distribution was slightly positively skewed ( $S_k$ =0.167) and Leptokurtic ( $K_u$ = .251) in nature. It was observed from the table that 43% of the students scored between 11 and 13, whereas only two students could score in the range of 20 to 22.

Awareness of Male and Female College Students : The following null hypothesis was formulated for testing if there was any significant difference between male and female college students regarding their awareness towards ODL system : *" There is no significant difference between male and female college students as far as their awareness towards ODL system is concerned."*

The't' value was found to be 5.92 which is very significant at .01 level and hence the null hypothesis could be rejected. *Thus, it can be concluded that there exists a significant difference between the male and the female college students as far as their awareness is concerned.*

Awareness of Rural and Urban College Students: The following null hypothesis was formulated for testing if there was any significant difference between urban and rural college students regarding their awareness towards ODL system: *"There is no significant difference between* urban and rural *college students as far as their awareness towards ODL system is concerned."* The 't' value was found to be 8.85 which is very significant at .01 level and hence the null hypothesis could be rejected. *Thus, it can be concluded that there exists a significant difference between the urban and rural college students as far as their awareness is concerned.*

Some interesting findings on awareness of the college students on different aspects of ODL were deduced from the data. Only 34 % of the respondents could name the State Open University of Assam, out of which 8% were respondents from rural colleges and 71% were

from urban colleges. None of the rural students could name the Directorate of Distance Education, Dibrugarh University and IDOL, Gauhati University while, 6% and 3% of the respondents from the urban colleges could name these institutions respectively. 70% of the respondents had acquaintance with the term 'IGNOU' and more than 50% of the respondents knew that IGNOU is the largest (in terms of numbers of students) University in India. About 52% of the students were not aware that education in science subject could also be pursued through ODL mode. Only 20% of the respondents were aware about the existence of Distance Education Council.

**Attitude of the College Students towards ODL System**

Level of Attitude of College Students: The mean, median and standard deviation of the distribution of scores were found to be 68.63, 70.19 and 14.47 respectively. The distribution was slightly negatively skewed ( $S_k$ = - 0.323) and Leptokurtic ( $K_u$ = .204) in nature. The overall attitude could not be considered as highly favourable. It was observed that most (43%) of the students scored between 65 and 75, whereas only 9 students could score in the range of 90 to 99.

Attitude of Male and Female College Students: The following null hypothesis was formulated for testing if there was any significant difference between male and female college students regarding their attitude towards ODL system: "There *is no significant difference between male and female college students as far as their attitude towards ODL system is concerned."* The't' value was found to be 0.76 which is not significant at .05 level and hence the null hypothesis could be accepted. *Thus, it can be concluded that there is no significant difference between the male and the female college students as far as their* attitude *is concerned.*

Attitude of Rural and Urban College Students: The following null hypothesis was formulated for testing if there was any significant difference between urban and rural college students regarding their attitude towards ODL system: "There *is no significant difference between* urban and rural *college students as far as their attitude towards ODL system is concerned."* The't' value was found to be 2.49 which is not significant at .01 level but significant at .05 level and hence the null hypothesis could be rejected at .05 level. *Thus, it can be concluded that there exists a significant difference between the urban and rural college students as far as their attitude is concerned.*

Some interesting findings on awareness of the college students on different aspects of ODL were deduced from the data. Only 12% of the respondents agreed that the degrees awarded by ODL institutions and that by the Conventional institutions are equivalent. Majority of the respondents (about 70%) opined that the students who pass through conventional mode get priority in the job market. About 57% of the respondents did not agree that only non-meritorious students go for distance education. About 60% of the respondents were of the opinion that most of the institutions providing education through at present are not of very high quality.

## IMPLICATIONS OF THE STUDY

It is found from the above study that the present scenario of the level of awareness and attitude of the college students towards ODL system is not very encouraging. Unless the students are aware about the merits and accessibility of the ODL system and form a healthy attitude towards it, it will not be possible to attain equity and access of the higher education, which is the need of the hour. In order to make the students aware and inculcate a healthy attitude in them, the ODL institutions and the policy makers should come forward with open mind. Different awareness programmes may be organized at micro level especially in the rural areas. Advertisements through the News Papers, TV and other media are though good means of keeping the people aware, they may not be able to convince all the readers and spectators, rather they may make them more confused. Good articles and programmes through these media may perhaps be more useful in this regard. The funding authorities may allot a sizeable amount of fund for promoting ODL among people. The ODL institutions should also spend a portion of their earning for making the people aware and developing a healthy attitude in them. Highlights of the achievements of the students of ODL system needs to be made.

## CONCLUSION

In order to achieve the target set by the Planning Commission of India to achieve the target of 15% GER by the end of the 11$^{th}$ fifth year plan, the proper implementation of the ODL in India is very much essential as the target could not be achieved through conventional mode alone. Awareness of people and a healthy attitude can ensure the equity, access and quality in and through ODL system.

# PERCEPTIONS OF EDUCATED ADULTS OF DIFFERENT AGE GROUPS REGARDING SOCIAL PROBLEMS

**S. K. Bawa**
**Aneet Kumar**

*The objective of the present study was to know the perceptions of social problems of educated adults of Punjab in relation to their age. It was hypothesized that age of the respondents changes the perceptions of social problems among educated adults. The findings of the study revealed that there was no significant difference in the perceptions of educated adults of different age groups regarding social problems of Punjab. 21% educated adults of lower age group, 24% of middle age group and 25% of higher age group have perceived less social problems. Similarly 28% educated adults lower age group, 24% of middle age group and 24% of higher age group have perceived more social problems. Social problems relating to drugs and alcoholism, crime and criminals and health related problems are strongly perceived problems by educated adults of different age groups of Punjab.*

## INTRODUCTION

Social problems are described as perplexing questions about human societies proposed for solution. The distinctiveness of such questions as separate object of sociological study rests upon their topicality, currency and pragmatic derivation. Social problems are part of the opinion in society, which centers on expressed needs for public policies and anticipated requirements for social control. It is being observed that at present our society has a lot of problems. A child dies because of lack of medical care in a city hospital, communal tensions arise due to conflict between two communities on one or the other issue, robbery and murder occur with frightening frequency, a middle-class youth dies of a drug overdose, death due to starvation is quite common in some parts of the world and that physical suffering because of inadequate diet is even more common. Beside these, corruption, child abuse, violence against women, terrorism, poverty, unemployment, crime and many more are the issues, which result in toll of individual misery and misfortune and the din of group conflict some time seems end less.

## OBJECTIVE

To reveal the perceptions of social problems of educated adults of Punjab in relation to their age.

## HYPOTHESIS

Age of the educated adults changes their perceptions regarding social problems of Punjab.

## METHODOLOGY

The study was conducted on educated adults of Punjab belonging to three age group i.e. 25-35 years, 36-45 years and 46 years and above. A scale to measure the social problems as perceived

by educated adults was prepared and standardized by the investigators. To make the data representative to the different regions of Punjab, stratified random sampling technique was applied. The data were collected from each stratum on random basis. To test the significance of the variables under study, various statistical techniques i.e. Mean, SD, $Q_1$ and $Q_{3,}$ Percentage and ANOVA were applied.

**RESULTS**

The objective of the study was to find out the difference in the perceptions of social problems of educated adults in relation to their age. The sample was divided into three groups on the basis of their age i.e. educated adults having age from 25-35 years were considered as lower age group (LAG), educated adults having age from 36-45 years were considered as middle age group (MAG) whereas educated adults having age from 46 years or above were considered as higher age group (HAG).

**Level of Social Problems as Perceived by Educated Adults of Different Age Groups**

The social problems scores of educated adults of Punjab belonging to different age groups were compared on social problems scale; it has been found that mean values of social problems score of the lower age group (LAG), middle age group (MAG) and higher age group (HAG) were 342, 340 and 338 respectively. The mean values indicated that educated adults of different age groups perceived more or less same level of social problems. The scores of social problems scale of the sample of different age groups were calculated and grouped into three groups according to $Q_1$ and $Q_3$ values i.e. less perceived social problems group (LSP) those who scores less than 324, average perceived social problems group (ASP) having scores between 324-356 and more perceived social problems group (MSP) with scores higher than 356. The results explored that 21% educated adults of lower age group perceived less social problems, whereas 28% sample of the lower age group perceived more social problems. Similarly 24% educated adults of middle age group perceived less social problems and 24% sample of the middle age group perceived more social problems. Again, 25% educated adults of higher age group perceived less social problems while 24% sample of the higher age group perceived more social problems.

**Social Problems as Perceived by Educated Adults of different Age Groups**

The percentage scores of the social problems scale of the educated adults of Punjab belonging to different age groups were calculated with respect to the different dimensions of social problems i.e. socio-economic, child abuse & child labour, socio-political, educational problems, crimes and criminals, drugs and alcoholism, health related problems, family problems, adulteration and violence against women. The results indicated that 82.23% educated adults of lower age group of Punjab perceived crimes and criminals and also same percentage of respondents perceived that alcohol and drugs were rising alarmingly. Similarly, 81.01% educated adults of Punjab perceived health related problems, while 80.23% advocated socio-economic problems as social

problems. Again, 79.33% educated adults of Punjab perceived adulteration and 77.69% perceived educational problems as social problems and 76.04% educated adults of Punjab perceived child abuse & child labour related problems as the main social problems. However, 75.12% educated adults of Punjab perceived family problems and 63.42% perceived that violence against women were on rise. The results indicated that 81.66% educated adults of middle age group of Punjab perceived crimes and criminals and 81.35% perceived that alcohol and drugs were rising alarmingly. Similarly, 80.50% educated adults of Punjab perceived health related problems, while 78.91% advocated socio-economic problems as social problems. Again, 77.91% educated adults of Punjab perceived adulteration and 77.17% perceived that socio-political problems were on the edge. Further, 76.17% educated adults of Punjab perceived child abuse & child labour related problems as social problems and 76.09% perceived that educational problems are the main social problems. However, 75.45% educated adults of Punjab perceived family problems and 64.01% perceived that violence against women were on rise. The results indicated that 81.59% educated adults of higher age group of Punjab perceived alcohol and drugs and 81.13% perceived that crimes and criminals were rising alarmingly. Similarly, 79.90% educated adults of Punjab perceived health related problems, while 78.76% advocated socio-economic problems as social problems. Again, 78.06% educated adults of Punjab perceived adulteration and 76.82% perceived that socio-political problems were on the edge. Further, 75.94% educated adults of Punjab perceived child abuse & child labour related problems are the main problems and 75.37% perceived that educational problems as social problems. While, 75.15% educated adults of Punjab perceived family problems and 62.69% perceived that violence against women were on rise.

**Variance in Social Problems as Perceived by Educated Adults of different Age Groups of Punjab**

The results explored that values of sum of squares and mean squares between groups have been found to be 3157.38 and 1578.69 and the values of sum of squares and mean squares within groups have been found to be 710632.1 and 593.18 respectively. The F-value being 2.66 has been found to be insignificant at 0.05 level of significance. It reveals that there is no significant difference in the perceptions of educated adults of different age groups regarding social problems. The hypothesis of the study states that the age of the respondents changes the perceptions of educated adults regarding social problems. The findings of the study have not been found in favour of this hypothesis. According to results of the present study, no significant difference exists in the perceptions of educated adults regarding social problems of Punjab. Thus the hypothesis stands rejected. Usually it has been observed that the people with higher age perceived different problems than people with lower age group, but media has a strong influence and it has reduced even the age gap in perceiving the social problems.

## CONCLUSION

There is no significant difference in the perceptions of educated adults of different age groups regarding social problems of Punjab. Drugs and alcoholism, crime and criminals and health related problems are strongly perceived social problems by educated adults of different age groups of Punjab. The curriculum should be so equipped that young generation can be sensitized about ill effects of drugs, alcohol and other narcotic substances. Government and other agencies responsible for maintaining law and order should ensure safety of common man and do the needful to curb the graph of crime. Steps should be taken by the government to provide best health care services to the citizens at affordable cost. Awareness of every sphere should be within the reach of each and every person. Children should be made aware about their rights and strategies to escape themselves from being victimized. Education system should be such that it can meet the challenges of fast developing world. People should be made aware about their responsibilities towards their family so that congenial environment within the family should be created. Strict action should be taken against those responsible for adulteration and at the same time people should be educated about their consumer right.

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## AIAER RESEARCH TRAINING WORKSHOPS

Recently many changes have taken place in the research process for finding answer to the questions so raised in the field of education. Also numbers of committees at various levels expressed concern for the researchers not following prescribed research process. There is need to train the researchers in this direction. In pursuance of this objective the Association is planning to organise orientation programme for the neo-researchers to give them practical training in identifying research issues and developing research proposals as well as collecting data and analyzing the same. The plan will be as follows:

**First Day:** Scientific Process of research, Quantitative and Qualitative Process of research
**Second day:** Methodologies of research, Research Design, Survey, Historical and Philosophical Methods of Research
**Third day:** Experimental Designs: Simple, Quasi and True Experimental designs, Validity of Experimental Designs
**Fourth Day:** Different Methods of Qualitative research- Phenomenological research, Naturalistic Inquiry, Ethno methodology
**Fifth day:** Analysis of quantitative data: measures of central Tendency and dispersion, Correlation, Non-parametric analysis, Inferential Statistics
**Sixth day:** Analysis of Case Study, Content analysis, Policy analysis, Document analysis

It is proposed to have small exercises to develop competence among the new researchers (we do not intend to provide written theoretical material for this purpose). Interested colleagues ready to help the community of researchers may kindly send their willingness by e-mail to generalsecretary@aiaer.net with a copy to aiaer@rediffmail.com mentioning the topic on which they would like to develop exercises. The Association on its part will provide some token honorarium for the work done in this direction out of its very limited funds.

# GOAL ORIENTATION AND LEARNING STRATEGIES IN RELATION TO ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL STUDENTS

**Shelly**

*The paper is a study conducted to explore gender difference in goal orientation and learning strategies among elementary school students in relation to academic achievement. Elliot and Church's (1997) Achievement Goal Questionnaire (AGQ) and Biggs' (2001) revised two-factor study process Questionnaire were used to measure achievement goal orientation and learning strategies among elementary school students. A representative sample of two hundred students (102 boys and 98 girls) was drawn on random basis while giving due weightage to gender. Data were analysed with the help of t-ratios. Results revealed that high achiever elementary school students are better than low achiever in their performance approach, mastery goal, deep strategy and deep motive, whereas low achiever elementary school students were better in performance avoidance, surface strategy and surface motive dimension of goal orientation and learning strategies. High achiever elementary school boys are better than high achiever elementary school girls in case of mastery goal, deep strategy but high achiever elementary school girls are better than their low achiever counterparts in case of surface strategy. Low achiever elementary school girls are better than low achiever elementary school boys in case of performance approach and surface motive dimension of goal orientation and learning strategies.*

## INTRODUCTION

Goal orientation has emerged as an important motivational construct in organisational research providing an explanation for the approaches, responses, and reasons that individuals use to engage in achievement activities (Ames, 1992). The definition of goal orientation is drawn from Dweck and Leggett's (1998) classification of two types of goals (learning goal and performance goal) that individuals pursue in task/learning contexts. Learning goals characterise individuals who seek to increase their competence, to understand or master something new, while performance goals characterize individuals who seek to gain favourable judgments of their competence or avoid negative evaluations of their competence. Thus, individuals with a learning goal orientation focus on the "development" of competence, while individuals with a performance goal orientation focus on the "judgment/evaluation" of their competence.The performance goal orientation has been split into two subtypes i.e. performance approach orientation and performance avoidance orientation (Middleton and Midgley, 1997). Individuals with a performance approach orientation want to be the best, to appear to be the most competent. As a result, they work hard and put in a lot of effort in order to surpass their peers. Whereas individuals with a performance avoidance orientation try to avoid making mistakes and appear incompetent. They take the known path, the unchallenging tasks, and are frequently reluctant to show their work to others until it is perfect. Orientation toward a goal is presumed to be a function of individual differences or to be included by situational constraints, as it influences the approach students take to learn and the strategies they use in learning. 'Approaches to learning' refers to the learners' different

ways of relating to the learning task- 'how' and 'why' a learner learns'. The 'how' are the strategies devised by the learner to solve the problems defined by their motives (the why of learning). This combination of motive and strategy is called "an approach to learning". A deep motive by contrast is intrinsic, and meaning oriented. The deep strategy involves wide reading and an attempt to integrate new material into previous knowledge. The approach to learning resulting from this motive-strategy combination is the deep approach. A surface motive is an instrumental one in which the main purpose is to meet minimum requirements for assessment. Surface strategy is a reproductive one in which the focus is on recalling the essential element of content through rote learning. The superficial approach to learning resulting from this motive – strategy combination is termed as surface approach. There is a close relationship between motivation, the goal set by the students, the strategies students employ for learning. Franson (1997) reported that there is a link between deep approach to learning, and students' motivation and anxiety levels. Students who adopt a deep approach to learning tend to be intrinsically motivated; students adopting a surface approach show extrinsic forms of motivation prompted by the fear of failure and the need to satisfy assessment requirements. Ames and Archer (1988) reported that a learning goal orientation is associated with more adaptive patterns of behaviour, cognition and affect than is a performance goal orientation. Tickle (2001) concluded that students who adopt deep learning strategies are motivated by mastery - oriented goals. Those who adopt surface level learning are motivated by pass only aspirations and hence, develop minimum effort learning strategies, often dictated by rote learning, only what is necessary. Chan and Lai (2002) found that students who scored higher on learning goal orientation were more likely to cognitively engage in deep strategy. Furthermore, students who scored higher on performance goal orientation were likely to engage in both surface and deep learning strategies. Some researchers have found that performance-approach goals are associated with higher grades(Church, Elliot, and Gable, 2001; Harackiewicz, Barron, Elliot, Carter, and Lehto, 1997; Harackiewicz, Barron, Tauer, Carter, and Elliot, 2000) and are not associated with the use superficial learning strategies(Archer,1994; Pintrich and Garcia, 1991) and therefore should not be considered as maladaptive to student learning (Midgley, Kaplan, and Middleton, 2001). According to Vermunt (1996), instruction does not lead to learning automatically. The outcome of students' achievement in the course depends on the learning strategies they use. Various researches have investigated the relationship between these learning strategies and academic success. Byrne et al. (2001) revealed that the deep and strategic approaches are positively associated with high academic performance and the surface approach with poor academic performance. There was a significant positive relationship between the deep and strategic approach and the total assessment marks. Diseth (2003) reported that the deep learning approach was not a significant predictor of academic success. Several studies tried to identify goal orientation as a function of gender (Etnier et al. 2004; Brdar et al.,2006; Meece and Holt, 1993). Roeser, Midgley and Urdan (1996) reported a tendency for males to be more performance oriented than females. Wentzel (1996) reported that learning and social goals are associated to

a greater extent with the feminine gender, while achievement goals are more associated with the masculine gender. Middleton and Midgley (1997) reported that boys in the sixth grade are more likely to pursue performance-approach goals than girls. Markku (1997) also concluded that boys are more inclined to performance goals than girls. However, Ablard and Lipschultz(1998) showed a different result with males being less oriented toward learning goals than females but no differences on performance goals. Thornkildsen and Nicholls (1998) concluded that female students show more interest and affect attributions, while male students give more extrinsic explanations of performance-related events. Brdar et al. (2006) found that boys are more likely to adopt work-avoidance goals, while girls are more likely to pursue mastery goals. Roger et al. (2001) reported that boys have higher level of performance orientation than girls in English and Math. However, Meece and Holt (1993) and Niemivirta(1996) have concluded that performance orientation is equally frequent among male and female students. The research evidence is inconclusive with regard to goal orientation, learning strategies and achievement. Henceforth, it was decided to study goal orientation and learning strategies in relation to academic achievement of elementary school students of Punjab.

**OBJECTIVES**

*To study goal orientation and learning strategies among elementary school students in relation to academic achievement.

*To study gender difference in goal orientation and learning strategies among elementary school students in terms of high and low levels of academic achievement.

**HYPOTHESES**

*High achiever elementary school students will not differ significantly from their low achiever counterparts in their goal orientation and learning strategies.

*There will be no significant gender difference in goal orientation and learning strategies of elementary school students at high and low levels of academic achievement.

**METHODOLOGY**

The descriptive method of research was followed in the conduct of the present study.

**Sample**

The 8$^{th}$ grade elementary school students of Punjab were the universe of study. Since it was not feasible to cover all the elementary schools of Punjab for data collection, a representative sample of 200 students (102 boys and 98 girls) from elementary schools of Punjab was drawn on random basis while giving due weightage to gender.

**Tools**

Achievement Goal Questionnaire (AGQ) developed by Elliot and Church (1997) was used to measure three achievement goals: mastery, performance approach and performance avoidance. The AGQ consists of 18 questions, with 6 items used to compute a total score for each major

achievement goal factor. Participants indicate their relative agreement with statements by using a 7-point Likert-type scale, ranging from1 (strongly disagree) to 7 (strongly agree).Total scores for each achievement goal could theoretically range between 7 and 42. The reported reliability alphas for the measures of mastery, performance-approach and performance-avoidance achievement goals were .89, .91 and .77 respectively based on a study of a sample of 4 university undergraduates. Learning strategies were measured with the help of Revised Two-factor Study Process Questionnaire (R-SPQ-2F) developed by Biggs et al.(2001). This 20-item questionnaire consists of four components: deep motive, deep strategy, surface motive and surface strategy scales. Each scale contains five-items. Respondents used a 5-point Likert-type scale to rate each statement, ranging from 1( not true of me) to 5 (almost true of me).Total scale scores could theoretically range between 5 and 25. Biggs' reported acceptable reliabilities for deep motive, deep strategy, surface motive and surface strategy were .62, .63, .72 and .57 respectively. Personal information data sheet was used by researcher to seek information regarding the academic achievement of the students in the subjects of science and mathematics.

**RESULTS**

The 't' ratios testing significance of mean differences between high and low achiever elementary school students on different goal orientations and learning strategies indicated that there were significant differences between high achiever elementary school students and low achiever elementary school students in relation to performance approach ($t=2.74;p<.01$), mastery goal ($t=4.23;p<.01$), deep strategy ($t=6.71;p<.01$), deep motive ($t=4.76;p<.01$), surface strategy ($t=3.18;p<.01$), surface motive ($t=3.59;p<.01$) dimensions of goal orientation and learning strategies respectively. There were no significant differences between high achiever elementary school students and low achiever elementary school students in relation to performance avoidance dimensions of goal orientation ($t=0.66;p>.05$). Hence, the hypothesis 'high achiever elementary school students will not differ significantly from their low achiever counterparts in their goal orientation and learning strategies' is rejected. The 't' ratios testing significance of gender difference in high achiever elementary school students on different goal orientations and learning strategies indicated that there were no significant differences between high achiever elementary school boys and girls in relation to performance approach ($t=0.52;p>.05$), performance avoidance ($t=0.22;p>.05$), deep motive ($t=1.61;p>.05$), surface motive ($t=0.54;p>.05$) dimensions of goal orientation and learning strategies respectively. There were significant differences between high achiever elementary school boys and girls in relation to mastery goal ($t=2.39;p<.05$), deep strategy ($t=2.30;p<.05$) and surface strategy ($t=2.08;p<.05$) dimensions of goal orientation and learning strategies respectively. Hence, the hypothesis 'there will be no significant gender difference in goal orientation and learning strategies' of elementary school students at high level of academic achievement' is partially accepted. The 't' ratios testing significance of gender difference in low achiever elementary school students on different goal orientations and learning strategies indicated that there were no significant differences between low achiever elementary school boys and girls in relation to mastery goal ($t=0.64;p>.05$), performance avoidance

(t=1.31;p>.05), deep strategy (t=0.54;p>.05), deep motive (t=0.14;p>.05) and surface strategy (t=0.02;p>.05) dimensions of goal orientation and learning strategies respectively. There were significant differences between low achiever elementary school boys and girls in performance approach (t=2.15;p<.05) and surface motive(t=3.82;p<.01) dimensions of goal orientation and learning strategies. Hence, the hypothesis 'there will be no significant gender difference in goal orientation and learning strategies of elementary school students at low levels of academic achievement' is partially accepted.

## CONCLUSION

The following conclusions were drawn on the basis of the analysis of data. High achiever elementary school students are significantly better than low achiever ones on performance approach, mastery goal, deep strategy and deep motive dimensions of goal orientation and learning strategies. On the other hand low achiever elementary school students are significantly better than high achievers on performance avoidance, surface strategy and surface motive dimensions of goal orientation and learning strategies. High achiever elementary school boys are significantly better than high achiever elementary school girls in case of mastery goal dimension of goal orientation. High achiever elementary school boys are significantly better than girls in case of deep strategy. But high achiever elementary school girls are better than their low achiever counterparts in case of surface strategy. Low achiever elementary school girls are significantly better than low achiever elementary school boys in case of performance approach. Low achiever elementary school girls are significantly better than low achiever elementary school boys in surface motive dimension of learning strategies. The present study indicates that elementary school boys are more inclined towards using deep strategy and deep motive pattern of studies than girls. Girls use surface strategy and surface motive pattern of studies. However, as deep strategy and deep motive are the preferred methods for better learning, this tendency needs to be developed among girls too. For this to happen, able guidance and appropriate motivation from the teachers are necessary, especially for girls. Low achievers have an increased tendency of performance avoidance. In order to become high achiever, the low achievers will have to reduce performance avoidance and develop the tendency for mastery goals and performance approach. Teachers should help to change the low achieving students' motivational belief pattern to performance approach and preferably to mastery goal. Elementary level low achiever students use surface strategy and surface motive pattern of learning strategies. The teachers need to change the learning strategy or the learning style of each student by minimising the usage of surface strategy and surface motive and developing inclination and interest towards deep strategy and deep motive. It has also been noted that if the mastery goals of the students' are better, the learning strategy is also better. If the performance approach is better then the learning strategy is automatically better. The performance avoidance reflects negative variations in the learning strategy. The teachers need to find out ways to reduce performance avoidance inclination amongst the students and motivate them to inculcate the habit for deep strategy and deep motive learning strategies.

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**ALL INDIA ASSOCIATION FOR EDUCATIONAL RESEARCH**
**N1/55 IRC VILLAGE, BHUBANESWAR – 751 015**

## AIAER STUDY ON RESEARCH AND TEACHER EDUCATION

AIAER is planning to have a Study on Research and Teacher Education. Member interested in working as a member of this panel is requested to send his / her willingness letter to Prof. S. P. Malhotra, President, AIAER, National University of Educational Planning and Administration, 17 B Sri Aurobindo Marg, NEW DELHI – 110 016 giving his / her complete postal address, telephone numbers and E-mail IDs and indicating the thrust area in which he / she is interested to contribute.

# DEVELOPMENT AND STANDARDISATION OF RESPONSIBLE ENVIRONMENT BEHAVIOUR (REB) SCALE

**Shalu Jindal**
**Sukhwant Bajwa**

## INTRODUCTION

Ultimate aim of environmental education is to develop responsible environmental behaviour. It is believed that environmental education is linked to environmental behaviour (Palmer 1998; and Wilson 1996). It is believed that education leads to greater awareness and attitude change that ultimately improves environmental behaviour. Thus, these researchers believe that the primary goal of EE should be to encourage people to engage in environmental issues. Responsible environmental behaviour is willingness of a person to take an active part in environmental issues. To a large extent it is a reflection of a person's understanding of environmental issues and his or her views towards them. Basically, environmentally responsible behaviour involves both individual actions and group actions Individual actions include use of biodegradable, recycle glass bottles or jars or aluminum cans. Group actions include joining in community cleanup efforts and car pooling etc. According to the researchers (Disinger1982; Marcinkowski 1987; Zelezny 1999), programmes that target adolescents and are longer in duration tend to be more effective in changing environmental behaviour of the participants. Hence, the researchers felt the need to develop and standardise the scale of Responsible Environmental Behaviour.

## PURPOSE OF THE SCALE

Purpose of the scale was to measure the responsible environmental behaviour of Indian adolescents.This scale is meant for Indian adolescent ranging between the age group of 14-18 years of age and studying in the classes IX to XII

## CONSTRUCTION AND STANDARDISATION

### Type of test items

Present 'Responsible environmental behaviour' scale is a five point scale. Every item is in the statement form. Positive and negative statements are included in the scale to add variety and reduce the students' tendency to respond perfunctorily. Five response categories are provided for responding to every item. These response categories are: 'Always', 'Mostly', 'Sometimes', 'Rarely', and 'Never'. In these response categories the subject is required to select the most appropriate response category indicating his/her behaviour.

### Preliminary Draft of the scale

In the Preliminary draft, 89 items on different dimensions were written and edited. Out of 89 items, 57 were positive items and 32 were negative items.

**Pre-Try out of scale**

The first draft containing 89 items was given to ten experts for their valuable opinion. As the scale is to measure responsible environmental behaviour of adolescents, it was pertinent to choose judges from related field such as teachers from schools, and faculty members of different departments of universities. Scales along with its objectives were given to all the judges. The judges were told that they were free to add the relevant items and change or delete any item, which they considered irrelevant and vague or not measuring the dimension under which they have been put. The judges rendered their valuable suggestions very frankly. On the basis of opinion of the judges, fifteen items were dropped, six new items were added and language of four items was rectified. So, the second draft consisted of 61 items, distributed into six dimensions.

**Procedure for Scoring**

The weightage to be given to responded statements was also planned to be ranging from 4 to 0. For positive statements, 4 marks were given to response, 'Always', 3 marks to 'Mostly', 2 marks to 'Sometimes', 1 marks to 'Rarely' and 0 marks to 'Never'. In case of negative statements, the order was reversed. There were 32 positive statements and 29 negative statements.

**Try Out of the Scale**

Before undertaking the work of item analysis, the scale was administered to a sample of ten students to remove the language difficulty, if any, reported by them in understanding clearly the different items.

**Item Analysis of the Scale**

The second draft of Responsible Environmental behaviour (REB) scale containing 61 items was administered to 152 adolescents for item validity.

***Item Validity***

To find out item validity Biserial co-efficient of correlation was calculated for each item with the scores of sub scales and scores of the whole scale. Items with negative coefficient of correlation and insignificant correlation were dropped. One item had insignificant coefficient of correlation and 10 items had negative coefficient of correlation and these items were dropped.

***Discrimination Index / Power***

To ascertain whether the item differentiate between high and low group, t-ratios were worked out between high and low group item wise. High and low groups were formed by employing Kelley's method. On the basis of total scores, 27% top scores formed the high group and 27% bottom scores formed the low group. t-ratios were computed between two groups item-wise. Items with significant t-ratio are retained but items with insignificant t-ratio are rejected. Four items had insignificant t-ratio and these items were dropped.

**Reliability**

The test-retest reliability was calculated for the present scale by calculating the coefficient of correlation between two sets of scores of same individual on REB Scale at different time intervals on a sample of 100 adolescents. The test-retest reliability after one-month interval was calculated. The correlation between the two administrations of the REB Scale was found to be 0.75. This reliability coefficient was found to be significant at 0.01 level of significance. So, it can be inferred on the basis of reliability coefficient that scale is reliable. Split-half method was employed for estimating internal consistency. The scale was divided into two equal halves by adopting odd-even procedure. Items with odd numbers formed one half test and items with even numbers formed second half test. The scale was given to 100 students. The correlation was found by Product Moment Method between two halves. It came out to be 0.72. The reliability co-efficient by Spearman Brown Prophecy formula came out to be 0.78 which is significant at 0.1 level.

**Validity**

In the present scale, content validity was ensured. Pearson's Product Moment co-efficient of correlation was computed between scores of various subscales and also with the total REB scores. The test was administered to 100 adolescents. The co-efficients of correlation ranged from 0.38 to 0.67 which are significant at .01 level . For determining content validity, the test items were given to the panel consisting of 10 judges. The experts were requested to give +1 if the items were related to the trait and –1 if items are not related to the trait and 0 in case of uncertainty. On the basis of their responses, Index of suitability (IOS) was worked out. The value of IOS ranged from 0.88 to 1, which clearly shows that, content of the test measures the same objectives for which they were written. This establishes the content validity of the test. So final version of Responsible environmental behaviour scale has been prepared with the 46 valid items. The maximum possible score will be 184 and the minimum will be zero.

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# INTELLIGENCE AS RELATED TO SELF-CONFIDENCE AND ACADEMIC ACHIEVEMENT OF SCHOOL STUDENTS

**Shikha Dhall**
**Praveen Thukral**

*In the present investigation an attempt has been made to reveal the relationship of intelligence with self-confidence and academic achievement relationship of secondary school students. The sample of study consisted of 1000 students of ninth class drawn from government and government aided schools of four districts of Punjab i.e. Amritsar, Jalandhar, Ludhiana and Bathinda. The results of the study revealed that intelligence is significantly and positively related with self-confidence and academic achievement.*

## INTRODUCTION

As a society becomes increasingly complex owing to rapid scientific and technological progress, it needs high capacity manpower to sustain and maintain the pace of progress of the society. For reasons such as this, the concept of intelligence is becoming increasingly important in modern societies. No sphere of life, whether it is education or social and physical science, literature or art etc. has remained uninfluenced by the intelligence. The working force behind the success and attainments of world's greatest laureate, scientists, psychologists and politicians etc. has been one and only, and that is intelligence. Intelligence not only enables an individual to attain great heights of success in life but also develops in him the ability by which he is well adjusted in his environment and saves himself from becoming its victim. Life is full of challenges and surprises and it is intelligence and self-confidence which prepares us for facing these challenges and accepting these surprises as successfully as possible. There is no gainsaying the fact that a person's intellectual development at a particular stage is the sum of what he inherited from his parents and his experiences as a result of interaction with the environmental situations. Since we can not control or modify the hereditary factors we need to provide the most conducive environmental situations for the proper intellectual development of the children in our charge. Self-Confidence is the conviction that one is generally capable of producing desired results. Increase in self-confidence helps to develop innate qualities of self worthy and competency by the reinforcement. Self-confidence is related with success. A confident attitude, a belief and a faith in oneself and one's ideas are essential in getting ahead but it should also be remembered that self-confidence grows with success that means it is desirable to develop those qualities within oneself that makes for success. It has been found that the child who perceives himself to be able, confident, adequate and a person of worth has more energy to spend on academic achievement and will use his intelligence to be utmost on the other hand, the child who perceives himself as worthless incapable and less confident may not come up to the optimum level of attainment.

## OBJECTIVES OF THE STUDY

*To find out relationship between intelligence and self-confidence of secondary school students.
*To explore the relationship between intelligence and academic achievement among secondary school students.
*To find out sex differences among the boys and girls of secondary school with regard to intelligence, self-confidence and academic achievement.

## HYPOTHESES

There exists significant relationship between Self-Confidence and Intelligence in respect of secondary school students.
(b) Significant relationship exists between Self-Confidence and Intelligence in case of secondary school boys.
(c) There exists significant relationship between Self-Confidence and Intelligence of girls of secondary school.
(2) (a) There exists significant relationship of Academic Achievement with Intelligence of students of secondary school.
(b) Significant relationship exists in respect of Academic Achievement with Intelligence of boys of secondary school.
(c) There exists significant relationship of Academic Achievement with Intelligence of secondary school girls.
(3) There exists significant difference between boys and girls of secondary school in terms of Intelligence.
(4) Significant difference exists between secondary school boys and girls in respect to Self-Confidence.
(5) There exists significant difference between secondary school boys and girls in terms of Academic Achievement.

## DELIMITATIONS OF THE STUDY

The present study was delimited to ix class students. It was restricted to 1000 students (500 boys and 500 girls) affiliated to P.S.E.B..It was delimited to government and government aided schools of 4 districts of Punjab i.e. Amritsar, Ludhiana, Bathinda and Jalandhar.

## METHOD

### Sample

The universe of the study was Punjab which comprises of 17 districts, among which 4 districts were taken randomly i.e. Amritsar, Ludhiana, Bathinda and Jalandhar. The total sample of 1000 students (both boys and girls) of IX class was drawn randomly from secondary schools affiliated to P.S.E.B. of these four districts.

**Tools**

Group test of General Mental Ability by R.K. Tandon (1971); Self-Confidence Inventory by Rekha Agnihotri (1987) and Academic Achievement was measured from the results of eighth class annual examination of the students conducted by P.S.E.B. for the session 2004-2005.

**RESULTS**

It was revealed that the calculated 'r' between self-confidence and intelligence was 0.112, which was statistically significant. This shows that significant and positive relationship exists between self-confidence and intelligence of secondary school students. Thus, the hypothesis 1(a), "There exists significant and positive relationship between Self-Confidence and Intelligence in respect of secondary school students" is accepted. This finding is supported by the studies conducted by Stoel, Peetsma and Roeloveld (2003), in which it was consistently reported that self-confidence is positively related with intelligence. Contrary to it, no such relationship explored between self-confidence and intelligence among secondary school boys for value of 'r' being 0.046, which is statistically insignificant. Hence, it can be stated that hypothesis 1(b), which states that, "Significant relationship exists between Intelligence and Self-Confidence in case of secondary school boys" is rejected. It was also found that value of 'r' between self-confidence and intelligence among secondary school girls is 0.168, which was statistically significant. It shows that there is a significant positive relationship between self-confidence and intelligence of secondary school girls. Hence, the hypothesis 1(c),"There exists significant relationship between Self-Confidence and Intelligence of girls of secondary school" is retained.

It is evident from the present study that co-efficient of correlation between academic achievement and intelligence is 0.541, which is significant at 0.01 levels of significance. It is clear from the findings that there is a significant relationship between academic achievement and intelligence of secondary school students. Thus the hypothesis 3(a),"There exists significant relationship of Academic Achievement with Intelligence of students of secondary school" is retained. Studies conducted by Panigrahi (2005) and Chamundesweri and Vaidharani (2006) also support the results that academic achievement and intelligence are significantly correlated. As for as co-efficient of correlation between academic achievement and intelligence of secondary school boys is concerned it is investigated that there exists a significant positive relationship between academic achievement and intelligence for value of 'r' being 0.637, which is significant at 0.01 levels of significance . Thus, the hypothesis 3(b),"Significant relationship exists in respect of Academic Achievement with Intelligence of boys of secondary school" is accepted. In the same manner for secondary school girls value of 'r' between academic achievement and intelligence is 0.437, which was statistically significant. This shows that there exists a significant and positive relationship between academic achievement and intelligence of secondary school girls. Thus the hypothesis 3(c), "There exists significant relationship of Academic Achievement with Intelligence of secondary school girls" is retained.

Further differences between boys and girls of secondary school were observed in respect to intelligence, self-confidence and academic achievement. Results revealed that calculated t-ratio (2.54) for intelligence of secondary school boys and girls was significant at 0.05 level of significance. It denotes that level of intelligence is significantly differing in boys and girls of secondary school. Moreover, the high mean value (54.24) in case of girls in representing superiority on the boys. Thus, the hypothesis (4), "There exists significant difference between boys and girls of secondary school in terms of Intelligence" is retained. Contrary to this, no such significant difference between boys and girls of secondary school was found for self-confidence for t-value being 0.04 which was statistically insignificant. Thus the hypothesis (5), "Significant difference exists between secondary school boys and girls in respect to Self-Confidence" is rejected. Academic achievement significantly differs in boys and girls of secondary school for value of t-ratio being 4.00, which was statistically significant. Moreover, the high mean value (69.00) in case of girls is representing superiority on the boys. Thus, the hypothesis (6),"There exists significant difference between secondary school boys and girls in terms of Academic Achievement" is retained.

## CONCLUSION

There exists positive significant relationship between intelligence and self-confidence in respect of secondary school students and boys, whereas for girls no such relationship exists. Intelligence relates significantly with academic achievement of the students of secondary school as well as boys and girls taken separately. As for as gender differences concerned it was found that for intelligence and academic achievement gender differences exist. The findings of investigation may provide help to the school personnel, teachers, counselors and guidance workers to develop suitable methods of teaching and instruction so as to develop self-confidence among the secondary school students a contributing factor for developing intelligence which is essential for high academic achievement.

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# IDENTIFYING RESEARCH POSSIBILITIES IN TECHNICAL EDUCATION

**Sekhar Chakraborty**

*Economic liberalisation in the country has forced some important changes in the industrial and business world. Such changes, it has been found, has had its effect on technical education system as well which has been evident by large scale changes in the entire gamut of technical education system. Interestingly, it has been found since early 1990s.(the time the liberalization process started)that such changes have thrown open various research opportunities in technical education. This paper attempts to interpret some of these situations and changes and suggests a few important areas for research.*

## BACKGROUND

Economic liberalisation has forced the industries to adopt to new technologies, management techniques, retrain personal to enhance overall capability to face new challenges. Consequently, technical education has also taken important initiatives to fine-tune its activities to suit the changing needs of the world of work. Change and quality have become the watchwords in a world shaped by globalisation and information revolution. The features of the changing times in which the industries and the institutions have to function and thrive at present can be expressed in a nutshell by the following: *Globalisation; *Rapidly changing technology; *Less secured economy for domestic monopolies; *Buzz word: Quality Improvement; *Environment: Competitive; and *Under threat: Survival. To survive in such a world, technical institutions need to update themselves rapidly. In other words, the institutions now will have to operate as 'well managed organizations' and as also become 'learning organizations'. This implies throwing away obsolescence in technology, adapting new technologies; enhance competitiveness by acquiring new competencies, improved capabilities of the human resources through high quality dynamic curricula base on the emerging technologies, continuing education and retraining of available technical manpower.

## CHANGES

As the domestic industry changes in respect of technology upgradation, it becomes imperative for the technical institution to change accordingly. Sufficient emphasis must be laid on learning to learn skills so that a person has the capacity to update himself partly while in employment. Obsolescence will have to be driven out not only in equipment but also in the knowledge domain. Time also has come for these institutes to help in developing the members of the community through technically oriented vocational programmes.

### Changes in Technical Manpower Competency Requirement

There has been wide ranging change in technical manpower skill requirement characteristics. The technical institutions will now have to ensure that the students aspiring for employment

should have a combination of the following skills/competencies/aptitudes: *Problem solving skill; *Positive attitude; *Innovative and creative activity; *Concern for quality; *Good communication skill; *Willingness to keep on learning; *Ability to work in team situations; *Decision making capability; *An understanding of global perspective in engineering activities; *Concern for impact of engineering activities on environment; and *Concern for people/community/gender equity, etc.

**NEW INITIATIVES**

Over the last fifteen years or so millions of rupees have been invested and a plethora of new initiatives have been undertaken in various areas of technical educational system. The focus of such initiatives have resulted in enhanced capability of the institutions in respect of retrained manpower, modernised laboratories and workshops, new buildings and so on. The advent of information technology on the other hand, has opened up new possibilities in teaching learning system. Internet facility has enabled the teachers and the students to access global information base easily. Such access has also opened up the scope of comparing different aspects of technical educational teaching-learning process followed in our country with those in the advanced nations. For the technical education system, changing market requirements are constantly throwing up new challenges. These challenges are to be addressed promptly and effectively. Thousands of pertinent questions such as, What are the modern frameworks for competency-based curriculum? What should be the framework of the delivery system in the changing scenario?, etc. have become important and demand immediate solutions.

**RESEARCH IMPERATIVE**

It has been increasingly realised that the time has come not only to take stock of the situation as to what extent the facilities created at institutions have been utilized, impact of the technical educational projects on the society in general and employability of the pass-outs, extent of industry-institute-interface activity and the like but also to develop new ideas and break new grounds in the whole gamut of technical education system to address the emerging needs of the changing scenario. It cannot be overemphasized that to find tangible solutions to all these and similar questions, undertaking research in relevant areas is perhaps the only answer. It has also been stressed in many documents, by many experts that there is genuine need of undertaking research in technical education. Research is important to reorganize the existing knowledge base, to find out various dimensions of excellence in technical educational activities and make it more effective, explore new areas of possible intervention, develop new delivery systems, find out tangible solutions to potential problems encountered, development of a framework for structural adjustments of the technical education system and so on. At the same time it is also important to undertake field based research to make mid project adjustments (e.g. Tracer Study), to study the impact of important projects, utilisation of facilities and equipment, etc.

## SUGGESTED LIST OF BORDER AREAS OF POSSIBLE RESEARCH ACTIVITIES

*(This list, by no means, is not purported to be an exhaustive one)*

**Research in academic excellence**

Relevance and effectiveness of curricula of various degree and diploma programs;
Employment status of pass-out from degree and diploma engineering institutes;
Effectiveness of instructional processes followed in technical institutions.

**Benchmarking Educational Processes and Practices Competencies of Technical Teachers in Changing Scenario**

Utilisation of institutional resources Need for granting functional autonomy to technical institutions;
Identification of the components for excellence in technical education;
Quality enhancement in technical education.

**Research on various aspects of service to community/rural development activities**

Effectiveness of planning for community development based programs;
Tracer study on employment profile of the persons trained through rural development programmes;
Effect of transfer of technology on the quality of life of the people;
Effectiveness f continuing education programs;
Social assessment study in different tribal areas.

**Management Development**

Comparative study on the functioning of autonomous and non-autonomous institutions (degree and diploma levels);
Study on organisational structure and management style vis-à-vis efficiency of the employees;
Development of suitable Management Information System.

Some other research areas may be: *Development of appropriate delivery system; *Development of model for effective Industry-Institute-Community partnership; *Research in different areas of ICT *Development and compilation of Appropriate technologies; and *Human Resource Development for the Physically Challenged Persons, etc.

## CONCLUSION

It is indeed a fact that liberalization has thrown open huge possibilities of understanding and developing various dimensions of the entire gamut of teaching learning in technical education. A few areas of potential research have been suggested. The list above is only a glimpse of possible researchable problems concerning technical education system in the country. It is hoped that such efforts will open up new possibilities.

# MATCH BETWEEN TEACHERS' AND THEIR STUDENTS' INTEREST IN SCIENCE TOPICS

**Abdul Gafoor K.**

*Teachers' and their early adolescent students' interest in science topics is investigated in 14 upper primary schools of Kerala in the context of declining interest in science and satisfaction with the quality of science teaching reported by National Science Survey. Significant high positive correlation between the preferences for science topics of students and their science teachers is found. Study confirms the general trend that life oriented topics and those which helped in real life situations were preferred by students. The second most interested science subject, for teachers and students, is physics where students have higher preference than teachers. The least interested science subject for both teachers and students is chemistry. Students of teachers with high interest in the specific fields - biology, chemistry and physics- had significantly higher interest in biology, chemistry and physics respectively. This study corroborates suggestion that individual teachers can have a major effect on both overall science interest and on specific topic related ones.*

## CONTEXT OF THE STUDY

Students' interests towards studying science has been a substantiate feature of the works of science education research community for more than quarter of a century. Now, mounting evidences of decline in the interest of young people in pursuing science emphasize its current importance. National Science Survey (Shukla, 2005) has shown that interest in science as well as satisfaction with the quality of science teaching declined as the age increased. Studies demonstrate a shift away from science at the plus two and under-graduate levels (Patil, 2003). Gardner (1975) in his review regarding interest and attitude to science noted that science attitude and interest developed quite early in the primary school and continued into secondary school stage and adulthood. Factors that caused change in science interest from middle school to 14+ were said to be effects of teacher, perception of difficulty and preference for practical work (Bottomley and Omerod (1981). Other Factors studied included students' opinions about science classes, their out-of-school experiences, and their attitudes toward science and technology (Trumper, 2006).

Students' interest is quite malleable and individual teachers can have a major effect on both overall science interest and on specific topic related ones. A single teacher can have quite different effects while teaching different topics in different ways and also teaching the same topic to different classes. Thus a teacher can bring about changes in students' interests (Kelly, 1988). Leading by example is one of the strongest environmental influences available to a teacher. Students are exquisitely sensitive to what teachers value (Sternberg, & Grigorenko, 2007). In order to develop interest, students should have possibilities to meet role models and

participate learning activities which support the development of basic psychological needs for competence (tasks, constructive evaluation), autonomy (plan, take responsibility) and social relatedness (get benefit from learning together) (Lavonen, 2009). Teachers thus acts not only as role models for developing interest but also facilitate the development of interest through the meeting the basic psychological needs for competence, autonomy and social relatedness among their students through their interaction with students in and out of the classrooms. In this context, present study examines the influence of upper primary teacher's interest in science topics on the interest in science topics of their students.

## OBJECTIVES OF THE STUDY

The broad objective of the study is to find out whether there is relation between teachers' and their early adolescent students' interest in science topics. The study specifically intends:

To rank the select areas of primary school science in accordance with both the teachers' and the students' interest in each area and to estimate the relationship between the teachers' and students' preferences for the select areas of primary school science

To find out whether there is a match between teachers and students in upper primary schools in the orders of preference for the three fields of science namely biology, chemistry and physics

To find out whether there exist significant difference in extent of interest of students in upper primary schools in: a) biology, b) chemistry and c) physics topics as the level of their teachers' interest vary respectively in a) biology, b) chemistry and c) physics

## METHOD

### Sample

Thirty two teachers who teach science in 14 upper primary schools of Kozhikode revenue district of Kerala and their students studying in classes V to VII constituted the sample. Number of students included is 1460. Proportionate representation is given to teachers and students from rural, urban, government, aided and unaided schools.

### Tools used

Scale of Interest in Science (SIS) (Gafoor & Smitha, 2008) which lists 63 science topics appropriate for upper primary school students was used to obtain students' interest in science topics. Test-retest coefficient of correlation of SIS was 0.70. Split-half coefficients of correlation for the scale and the sub scales were SIS (r=0.70), Interest in Biology (r=0.86), Interest in Physics (r=0.84), and Interest in Chemistry (r=0.86). Cronbach's alpha coefficient of homogeneity for SIS (r=0.95), Interest in Biology (r=0.88), Interest in Physics (r=0.87) and Interest in Chemistry (r=0.87) are also very high. SIS has substantial positive correlation of 0.56 with the grades that pupils obtained in science. A parallel but abridged version (some of the topics could be merged by using age appropriate terminology) of SIS were administered to the teachers.

## DATA ANALYSIS

For both teachers and their students interest in science topics was analyzed at three levels-1) total interest in science, 2) interest in three fields of science viz., biology, physics and chemistry and 3) interest in 27 science areas (formed by combining and averaging the scores of closely related topics). Teachers were grouped into High, Average and Low groups with respect to interests in three fields of science viz., biology, physics and chemistry. This was by converting the interest scores into z scores and grouping teachers with z scores on or above 1 as High, Between +1 and -1 as Average and below -1 as Low on interest.

## FINDINGS

### Areas of science in the order of teachers' and the students' interest

The select 27 areas in science are listed in the decreasing order of interest in them for teachers at upper primary level. The values in parentheses are the rank order of the preference of the area by students at the same level. 1. Organ Systems in Human Body (1), 2. Health And Hygiene (2), 3. Adaptations Of Animals (3), 4. Food adulteration (7), 5. Components of Sunlight (16), 6. Sound (9), 7. Pollution, (5), 8. Conductors and Non Conductors (15), 9. Preservatives (19), 10. Economic Importance of Plants and Animals (21), 11. Classification Of Animals (4), 12. Photosynthesis (12), 13. Interdependence of life (24), 14. Energy (8), 15. Plant Movements (18), 16. Solar system (6), 17. Chemical Reactions (13), 18. Elements And Compounds (27), 19. Gravity (10), 20. Acids and Alkalis (14), 21. Conduction, Convection, Radiation (17), 22. Atoms and Molecules (11), 23. Magnetism (20), 24. Pesticides (23), 25. Characteristics of Matter (22), 26. Images Formed By Convex and Concave Lens (25), and, 27. Chemical Equations (26). For teachers, it is notable that of the 27 areas listed, all the biology areas except one are ranked below the middle rank of 14; while all the chemistry areas, except one, have rank above 14; indicating teachers' preference for biology topics and apathy for chemistry topics. Even though the students' preferences are not as clear as that of teachers, the preferences are almost the same.

### Relationship between the teachers' and students' interest in science topics

Spearman's correlation between teachers' and students' rank order of interest in science topics were estimated. There exists significant and high positive correlation between the preferences for science topics of students and their science teachers at upper primary level, (Spearman's rho= 0.69; $p<.01$).

### Match between teachers and students in interest in the three fields of science

The average of the rank of topics, that are conventionally grouped, under biology, chemistry and physics in secondary and above levels of education were found for both teachers and students in order to find out and make a comparison of interest in these subjects. It was found that for both teachers and students the most interested science subject is biology, even though teachers

prefer biology (average rank of biology topics=7.8) more than the students (average rank of biology topics=9.7). For both teachers and students the second most interested science subject is physics, where students have higher preference (average rank of physics topics= 14.8) than teachers (average rank of physics topics=16.3). Among the three subjects the least interested science subject for both teachers and students is chemistry with no major difference between the average ranking of the chemistry topics for teachers (19.57) and students (19).

**Difference in Interest of students in biology topics taught by teachers with High , average and low interest in biology**

Analysis of variance of interest in biology of students taught by teachers with high, average and low interest in biology showed that students' interest in biology significantly differ among the three groups ($F= 49.06$, $df (2,1457)$, $p<.01$). Post hoc comparison of means using Scheffe test revealed that students of teachers with high interest in biology had significantly higher interest in biology (mean interest=84 %) than that of students taught by teachers with average interest in biology (mean interest=73.5 %, $p<.01$), and than that of students taught by teachers with low interest in biology (mean interest=78.5 %, $p<.01$). But it was found that students taught by teachers with average interest in biology possess significantly less interest (mean interest=73.5 %) than that of students taught by teachers with low interest in biology (mean interest=78.5 %, $p<.01$).

**Difference in Interest of students in chemistry topics taught by teachers with High, Average and Low interest in chemistry**

Interest in chemistry of students taught by teachers with high, average and low interest in chemistry differ significantly ($F= 10.27$, $df (2, 1457)$, $p<.01$). Post hoc comparison of the means using Scheffe test revealed that students of teachers with high interest in chemistry had significantly higher interest in chemistry (mean interest=78.5%) than that of students taught by teachers with average interest in chemistry (mean interest=72.9 %, $p<.01$). There is no difference between interest in chemistry topics of students of teachers having low (mean score=75.5%) and average interest in chemistry (mean interest=72.9 %, $p>.05$).

**Difference in Interest of students in physics topics taught by teachers with High, Average and Low interest in physics**

Interest in physics of students taught by teachers with high, average and low interest in physics differ significantly ($F= 13.40$, $df (2, 1457)$, $p<.01$). Post hoc comparison of means using Scheffe test revealed that students of teachers with high interest in physics had significantly higher interest in physics (mean interest=81.84%) than that of students taught by teachers with average interest in physics (mean interest=76 %, $p<.01$), and, than that of students taught by teachers with low interest in physics (mean interest=74.5 %, $p<.01$). There is no difference between interest in physics topics of students of teachers having low (mean score=74.5%) and average interest in physics (mean interest=6 %, $p>.05$).

## CONCLUSIONS

The most preferred areas in science for both students and teachers at upper primary level are those related to Organ Systems in Human Body, Health and Hygiene, and, Adaptations of Animals. There exists significant and high positive correlation between the preferences for science topics of students and their science teachers. For both teachers and students the most interested field is biology though teachers prefer biology topics more than students do; the second most interested science subject is physics where students have higher preference than teachers. The least interested science subject for both teachers and students is chemistry. Students of teachers with high interest in biology had significantly higher interest in biology; students of teachers with high interest in chemistry had significantly higher interest in chemistry and students of teachers with high interest in physics had significantly higher interest in physics. It can be concluded that there is close relationship between teachers' and students' interest in science. While the study confirms the general trend that life oriented topics and those which helped in real life situations were preferred by students (Tsabari and Yarden, 2005), it is further clear that teachers too are not different in this respect. The findings of this study corroborates, in Indian context, Kelly's (1988) suggestion that individual teachers can have a major effect on both overall science interest and on specific topic related ones.

## SUGGESTIONS

It is better for students to have teachers with broader and wider interest in science, at least during school education when the students' interest in science develops. Science teachers at primary level need to broaden their interest base in science through professional development and continuing education. Pre-service and in-service preparations of teachers have in their objectives something to improve the academic improvement of teachers especially in chemistry related concepts. Teaching, especially of chemistry related topics, requires to be made more life oriented and life related as it is the weakest among teachers and students as well. In physics related topics as well teachers need to take care not to hamper students' interests, because teachers prefer physics topics less than students. Students are exquisitely sensitive to what teachers value. Teachers need to know what their preferences are in the teaching of sciences and how these preferences will influence the future interest of their students. Those who are well aware of their weaker interests in specific topics and fields of science may seek the support of their colleagues who can compensate their lack of interest by adopting team teaching strategies.

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# PROFESSIONAL GROWTH OF TEACHERS AND ACADEMIC STAFF COLLEGE-AN IMPACT STUDY

**Sucheta Kumari**

*The present study was conducted to see the impact of Academic Staff college programmes on professional growth of teachers. The sample comprised of 550 teachers (400 who attended the orientation programme and 150 who attended the refresher course). Being a qualitative data, only percentage (%) from the collected data, based on 3-point scale developed by the investigator herself, was calculated. The findings clearly indicated a high level of satisfaction towards the performance of Academic Staff College in imparting knowledge. There was a positive response by the teacher participants regarding "brushing up of their teaching skills" and "inclination towards learning". Undoubtedly The programs was found to be helpful in promoting professional growth of teachers, yet some suggestions were made to make the courses more meaningful.*

Today, in this new millennium, everyone is experiencing unprecedented changes in world economy due to new developments in science and technology, media revolution and internationalization. All these have revolutionized the education sector also. These rapid advances in technology brought about a knowledge explosion and knowledge revolution. In the present scenario, importance of the role of the teachers as catalyst agent has become more critical. In the context of rapid changes, it is imperative that teachers must update their knowledge and skills and be conversant with the latest developments in the field. It is mentioned in National Education Policy 1986 document that teachers have multiple roles to perform like teaching, research, development of learning and coordinated programmes for professional development of teachers. The Professional Development of Teachers implies his growth in knowledge of his subject, in pedagogy and training techniques, in his love for students and for his institution, in moral and ethical values and growth of his desire to give his best to the world of learning and society. No profession can grow unless its members are prepared to grow professionally and are prepared to undergo sacrifices. Accordingly, U.G.C. formulated the Academic Staff Orientation Scheme for inservice teachers and established initially 48 Academic Staff Colleges in various Universities in 1987 which have immensely helped in the professional growth of teachers all over the country. But how far these Academic Staff Colleges has been a great success? And how far the designed goals have been achieved? All such questions still need to answer. It was in this context "An impact study of the Academic Staff Colleges on Professional development of teachers" had been conducted so that deterrents in the developments of teachers could be weeded out and suggestions could be made to take remedial steps for desirable improvement in orientation and refresher programmes. Studies based on empirical work on Academic Staff Colleges are very less. Studies like Chalam (1991, 1994,1999,2003), Dutta (1993), Kapur (1993), Pal (1993), Passi and Pal (1994), Rao and Palsane (1994), Mavi (1995), Rai and Rai (1995), Gupta (1995), Yadav and Panda (1996), Sisodia (1997), Mohanty (1997), Verma (1998), Kundu (1999), Sail (1999), Dutta (2000), Joshi (2000), Dhawan (2000), Trivedi (2000), Das and Gogio

(2001), Jyoti (2001), Kem and Mishra (2002). Jayanti(2006), Sharma and Jain (2006), Pawar and Mouli (2008), Ramalingam(2009), Behera (2009), Goswami (2010) having same relevance are available and found that orientation programs conducted by Academic Staff Colleges designed to improve the skills, the methods of teaching, broadening the attitude, personality and horizon of the young teachers are found to be useful. But, still there is an immediate need to study the impact of courses conducted by Academic Staff Colleges on the professional growth of teachers. The present venture is an attempt in this direction.

**RESEARCH METHODOLOGY**

In this study 400 teachers-male and female- who had attended the orientation course organized by UGC-Academic Staff College, Kurukshetra University, Kurukshetra were taken. Besides these, 150 teachers male and female were taken who have attended the refresher course in disciplines viz. English, Physical Education, Education and Computer Science. In order to study the impact on professional growth of teachers, a three point scale (Not, to some extent, Yes) was drafted and standardized by the investigator herself based on course component of orientation programme and refresher programmes. The questionnaire was developed after carefully studying the existing model of refresher course also which is perhaps being followed uniformly throughout the country as per the guidelines of the UGC, New Delhi.

**DATA ANALYSIS AND INTERPRETATION:**

Being a qualitative data, only percentage (%) from the collected data based on 3-point scale was calculated. The findings and interpretation of the studies are as follows:

As per the duration of time, maximum participants (60%) objected to the present duration of 28 days of the course. As far as working hours was concerned 85.18% were in favor of contact hours 4-5 hours per day and number of technical sessions should be 3 to 4 per week according to 65% teachers and so far as duration of each session should be one and half an hour (45 minutes for lectures and 45 minutes for discussion) according to 70.73% teachers participants. In response to the items concerning with feelings about orientation programmes and refresher programmes, most of the participants (44.28%) felt enthusiastic to attend the orientation programme. Very few teachers (7.14%) indicated that they wanted to attend the course just for formality. The courses were taken seriously by 67.14% of teacher participants. Most of the teachers considered all the given objectives valid at certain level in their priorities. Though most of the candidates (70.15%) considered attaining knowledge as their prime objective but at the same time “attaining certificate” also was one of the main objectives for very few participants (8%). In response to the Awareness of linkages between the society and environment, the teacher participants agreed that orientation programmes helped in understanding linkages between education and socio cultural developments of India. In this regard 94.21% teacher participants showed that orientation programmes helped in understanding the significance of higher education in society and 80% agreed that these helped in understanding their roles and responsibilities as

a teacher better. 62% teacher participants were of the view that these programmes helped in developing more secular feeling in them. Besides this 34.28% teacher participants accepted that programme helped them in learning new techniques for the development of values and enabled them to hold their students to appreciate those values related to democracy (64.25%). 75% teacher participants agreed that they became aware of environmental and women issues after attending the programme. In the response of the participants regarding philosophy of education, Indian education system and pedagogy (component-B), 62.45% teachers agreed that Academic Staff College helped in increasing their knowledge about innovative techniques like Brain Storming, Synectics, Bionics, Six Thinking Hats, Provocative Operation (PO), Panel discussion, buzz session Group Discussion etc. for developing creativity and these techniques also helped in developing independent and logical thinking. 51.42% teachers opined that orientation programmes helped in improving their basic skills for class-room teaching, in updating their knowledge of subject (37.14%). Moreover, their skills to use the reference material (42%) and use of library and documents service (40.18%) also improved a lot. Teachers (68.25%) were of view that they learnt the art of maintaining discipline in the class-room. Moreover 68% teachers opined that orientation programme enabled the teachers to make more use of teaching aids while teaching nearly 75% of the teacher participants found that Micro teaching sessions helped a lot in improving these teaching skills. There is great need to pay more attention in this regard. Orientation Programmes also helped in making student teacher relationship (50.42%) and in transmitting the knowledge of subjects to the students (58.50%) in a better way. Besides this, their ability to develop self-learning materials (52.65%) also increased to some extent. Majority of the participants also agreed that these courses are helpful in improving their communication skill (68.25%) and enabled them to provide variety of situations in the class-room (62.5%).They were of the view that the course helped them in preparation of research proposals(75%). Most of the participants reported that Academic Staff College helped them in developing the personality traits (55.71%) e.g. self confidence in public speaking (40.12%) in taking initiative (38.27%) and in getting ability to work in a team (61.42%). 40% of the participants wanted paper presentation and book review mandatory and 70% wanted panel discussion mandatory during the course. The teacher participants were asked to indicate the activities organized during the course. These were : seminars, paper reading, open discussion, panel discussion, counseling session, brain storming session, micro teaching session, project work, presentation of book review, showing educational films, field visits, preparation of research proposals, tutorials, problem solving sessions, review session, case studies, writing of assignment by participants, recreational activities etc. When they were asked about the resource persons who came for delivering the lecture they told that most of the resource persons (65%) were according to their expectations and topics covered by them were relevant and able to provide further knowledge to the participants. Resource persons(80%) were able to communicate effectively and involved the participants during the lecture session and most of the resource persons were able to satisfy the queries raised by the participants. However, a vast majority of teacher participants (75%) opined that participants should be encouraged to ask more questions

during the course. Regarding the evaluation system/grading system, the participating teachers were almost equally divided in their opinion. Most of the teachers (60%) favoured the evaluation system but others expressed their reservations against it.

**CONCLUSION:**

The findings clearly indicate a high level of satisfaction towards the over all performance of the Academic Staff Colleges in imparting knowledge through the orientation and refresher programmes. Undoubtedly the efforts made by the Academic Staff Colleges were highly appreciated and found to be inspiring, yet as mentioned by great scholars. "There is always a scope of improvement in better to be turned into the best".

**SUGGESTIONS FOR QUALITATIVE IMPROVEMENTS IN THE PROGRAMME**

After a careful and scientific analysis of the data collected from the teacher participants and the conclusion drawn there from, further suggestions are presented for modifying the existing model of courses to make it participant-oriented and meaningful. The finding of the present research revealed that the modus operandi of the programmes was highly acknowledged and appreciated. However, the findings of the research suggested that there should be a need of more class-room activities as against the so called "Lectures." It was seen that most of the participants developed more interest in panel discussion, group discussion and micro-teaching. Hence efforts should be made to develop more strategies for mental participation instead of physical participation only. During the course, enough scope should be provided for interactive sessions among the participants for exchanging their experiences on curriculum construction, teaching methodology, evaluation system etc. Secondly, for effective interaction, participants should stay together in reasonably good accommodation. UGC may provide sufficient funds for the purpose. The programmes should contain field trips and frequent visits to library and provision for INTERNET browsing to search the latest relevant literature so as to break monotony and leading towards creativity and maintain interest. Academic Staff College should orient teachers in the use of computers for preparing reading materials, creating and using database on reference material and lectures. Academic Staff College should orient teachers in using new information and communication technology like ERNET AND INTERNET networking for information retrieval not only for research but also for class-room teaching. Organization of seminars on Educational Technology, Communication Technology, Innovate Techniques and Methods of organization of courses should form an integral component of the academic programmes of Academic Staff Colleges. The findings also revealed that the newly appointed lectures should be required to undergo Induction Training Programme before joining their teaching profession as per other professions. This will enable them to learn some fundamental skills and dispositions for becoming effective teachers. Assessment of the performance of teacher participants should be seriously considered by the Academic Staff Colleges taking into account their performance in seminars, discussions the assignments and project work. If the same teachers fail to display good performance, they should not be awarded certificates. The role of the resource persons should

be such that apart from information which would be disseminated to the participants he/she should be able to refresh their knowledge based on changing technologies (collecting, formatting, browsing the information and made presentation via new technologies), diagnose participant's need and prescribing individual course of study .This will help them to learn in a more individualized way. He must play the role of manager of a small education system, using hardware and course wares (Audio cassettes, pen drives, C.D., slides etc.) to meet the changing academic goals. Regarding the seminar room it is suggested to install air conditioners in the hall to take place of noisy air coolers. This would result in a comfortable stay in the hall and a better learning. Secondly, the seminar room should be equipped with the latest electrical and educational electronics gadgets like sound system overhead projector, slide projector, T.V., VCR, multimedia projector like LCD, computer, and magnetic board. In addition to the academicians, people may be called from diversified streams and professions, probably, from various NGO's and people with vast administrative experience.

As far as the refresher courses are concerned, besides above suggestions, many participants have expressed their views which are as follows: Movies on literacy works and linguistic skills should be shown during the course. More project work should be undertaken by the participants. Focus should be on development of communication skills. More focus should be on arranging workshops, group discussion, research work and book review. Thrust areas should be announced well in advance and efforts should be made to focus on the thrust area only. Some source material or reference material related to the thrust area should be provided to the participants beforehand. During the refresher course, enough scope should be provided for interactive sessions among the participants for exchanging their experiences on teaching methodology, drafting of syllabi, evaluation etc. The follow up activity of the courses from time to time is one of the suggestions of teacher participants. For this very purpose, strengthen the Academic Staff College with adequate staff and resources for effective follow up is very necessary. Well equipped research cell should be established so that impact of innovative techniques for development of creativity and values can be seen during the course. In short, as far as impact of Academic Staff Colleges is concerned, certainly there is a positive response by the teacher participants regarding "Brushing up of their teaching skills" and "Inclination towards learning". These courses enhance their personality. They also become an integral part of their memory. It goes without saying that the participants enter the college with reluctance but leave the college with the hope to come back soon to relive their thrilling experiences.

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# DEVELOPMENT OF A TOOL TO MEASURE COMPUTER SELF-EFFICACY OF STUDENT TEACHERS

**Sharad Sure**

*This article describes the process of the development of an instrument to measure computer self-efficacy of student teachers. Self-efficacy beliefs have repeatedly been reported as a major factor in understanding the frequency and success with which individuals use computers. Computer self-efficacy is also an indicator of computer competency of individuals. But it is observed that there is no tool with desired psychometric properties to measure the computer self-efficacy of student teachers. The scale has high validity and reliability indices indicating that the tool can be used to measure the self-efficacy of the student teachers.*

## SELF-EFFICACY

The construct of self-efficacy has emerged as a central facet of social cognitive theory. Social cognitive theory posits that behaviour is best understood in terms of "triadic reciprocality" where behaviour, cognition and the environment exist in a reciprocal relationship and thereby influence are determined to a great extent by each other. Bandura (1986) defines self-efficacy as: People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses. This definition highlights a key aspect of the self-efficacy construct. Specifically, it indicates the importance of distinguishing between component skills and the ability to "organize and execute courses of action." For example, in discussing driving self-efficacy, Bandura (1986) distinguishes between the component skills (steering, braking, signalling) and the behaviours one can accomplish (driving in freeway traffic, navigating twisting mountain roads). Similarly, Compeau & Higgins (1995) distinguishes between the component skills of mathematics (choice of operations and basic arithmetic skills) and mathematics behaviours (solving particular word problems). Thus, computer self-efficacy represents an individual's perceptions of his or her ability to use computers in the accomplishment of a task (i. e., using a software package for data analysis, writing a mail merge letter using a word processor), rather than reflecting simple component skills (i.e., formatting diskettes, booting up a computer, using a specific software feature such as "bolding text" or "changing margins"). The concept of self-efficacy, while representing a unique perception, is similar to a number of other motivational constructs such as effort-performance expectancy (Porter and Lawler, 1968), locus of control, and self-esteem. An important distinction needs to be drawn between self-efficacy, which deals with beliefs about the ability to perform actions, and locus of control theory (Rotter 1966) which is concerned with beliefs about the outcomes of such actions. For example, an individual may hold the belief that their environment is in principle controllable (i.e.

exhibiting an internal LOC) but that they personally do not have the skills/ability with which to exert such control (i.e. exhibiting low self-efficacy beliefs). Levels of self-efficacy are thought to be determined by such things as previous experience (success and failure), vicarious experience (observing others successes and failures), verbal persuasion (from peers, colleagues, relatives) and affective state (emotional arousal e.g. anxiety). Self- efficacy levels have been shown to be related to choice of task, motivational level and effort and perseverance with the task. Because self-efficacy is based on self perceptions regarding particular behaviours, the construct is considered to be situation specific or domain sensitive. That is, a person may exhibit high levels of self-efficacy (indicating a high level of confidence) within one domain for example sport, whilst simultaneously exhibiting low levels of self-efficacy within another domain such as academic ability. The suggestion made by Bandura is that the perception that one has the capabilities to perform a task will increase the likelihood that the task will be completed successfully.

Self-efficacy beliefs have been shown to influence behaviour in a wide variety of contexts, e.g. mental and physical health (Bandura, 1986, Schwarzer, 1992), academic achievement (Eachus, 1993, Eachus & Cassidy, 1997) and stock market investment (Eachus, 1994). This paper is primarily concerned with self-efficacy in the context of computer use. Computers are becoming more common-place and what they can offer the user more sophisticated and more complex. The human computer interface is becoming increasingly intuitive, but for the inexperienced users still poses formidable problems. The power of modern computers has the potential to impact on many facets of our everyday lives, but for many people the ability to exert that power is limited by an inability to control that potential. This inability may be real in that the individual genuinely may not have the necessary skills or abilities, or it may simply be a belief which results in incapacity and poor motivation as in the case of self-efficacy expectations.

Self-efficacy beliefs have repeatedly been reported as a major factor in understanding the frequency and success with which individuals use computers. Compeau and Higgins (1995) tested several hypotheses related to a hypothetical linear model of computer use based on social cognitive theory. In their study, individuals with high self-efficacy used computers more, enjoyed using them more and experienced less computer related anxiety. Level of enjoyment and anxiety levels were also identified as significant factors in computer use. The importance of self-efficacy in explaining computer use was also demonstrated by Hill, Smith and Mann (1987) who found that computer self-efficacy beliefs affected whether individuals chose to use computers irrespective of their beliefs about the value of doing so. Many other studies also have shown that Computer Self-efficacy is a factor influencing an individual's computer competency.

**Measurement of computer self-efficacy**

There are few tools available in the literature to measure the computer self-efficacy. But some of them are developed based on the assumption that computer self-efficacy and computer attitude are same (Eachus & Cassidy 2008), which is not correct. A review of the literature

concerning self-efficacy of computers uncovered few existing tools. One utilized a three-item scale to measure computer self-efficacy in a study of the early adoption of computing technologies (Burkhardt and Brass, 1990). This tool requested general perceptions about an individual's ability to effectively use computers in his or her job. Another tool used a four-item scale, revised from a scale used in an earlier study (Hill, Smith & Mann1987). This measure did not, however, appear to be measuring self-efficacy. Three of the items used measured general perceptions about the nature of computing, such as "only a few experts really understand how computers work." Responses to these statements may or may not reflect computer self-efficacy. In another tool by Webster & Martocchio (1992) a five-item scale was developed to measure software efficacy. This measure, while it does seem to capture elements of self- efficacy, also incorporated other concepts, in addition to self-efficacy. For example, one item, used to measure self-efficacy before training, asked the respondents the extent to which they agreed with the statement "I expect to become very proficient at using Word Perfect merging." Responses to this item would also reflect expectations of the quality or content of the training program and might reflect elements of interest (in becoming proficient at WordPerfect merging). The last two measures studied the relationship between computer self-efficacy, computer training methods, and training performance, and both were developed by Gist, Schwoerer & Rosen(1989). The first concerned the general construct, computer self-efficacy. The second focused on a measure specific to using a spreadsheet package. Neither of the measures could be considered task focused. This examination of existing measures of computer self-efficacy indicated the need for additional development work which also possesses required psychometric properties.

## STEPS FOLLOWED IN THE DEVELOPMENT OF STUDENT TEACHERS' COMPUTER SELF-EFFICACY SCALE

To develop the computer self-efficacy scale, the scale development guidelines and steps suggested by DeVellis (1991) was followed.

### Generating an Item Pool

The investigator thoroughly examined available literature concerning computer self-efficacy. A large number of statements were prepared/collected after careful study of relevant literature. But computer self-efficacy represents an individual's perceptions of his or her ability to use computers in the accomplishment of a task (i. e., using a software package for data analysis, writing a mail merge letter using a word processor), rather than reflecting simple component skills (i.e., formatting diskettes, booting up a computer, using a specific software feature such as "bolding text" or "changing margins")(Compeau & Higgins, 1995) only those items which would reflect an individuals' perceptions of his or her ability to use computers in the accomplishment of a specified task were retained.

**Determining the Format of the Scale**

At this stage, different scaling option was investigated. For measurement of computer self-efficacy Likert's scale is frequently used. The Likert scale is chosen for its simplicity, wide use in efficacy measurement, higher reliability coefficients with fewer items, and method of summated ratings. It was also found that there is no uniform scaling options being used with usage of five-point agreement /disagreement scale in some researches (Eachus and Cassidy 2008) and ten point numerical scaling with a scale value ranging from 1 to 10. As large number of scale values makes the distinction between neighboring values difficult, it was decided to have five point numerical scaling with the values ranging from 0 to 4. The understanding of each number was considered to be as follows. 4 = Very high confidence; 3 = High confidence, 2 = Low confidence; 1 = Very low confidence; and 0 = No confidence

**Content Validity and Review by Experts**

Content validity is defined as the extent to which a set of items is relevant and representative of the concerned domain content (Anastasi, 1968; Cronbach, 1984). In order to review the items, the method followed as adapted from Lawshe (1975) was followed. The list of 30 items was given to twelve experts from ICT area to rate how relevant the items were to measure computer self-efficacy of student teachers. A three-point scale (1 = not necessary, 2 = useful, but not necessary, and 3 = essential) was used by them to rate the items. These responses were analysed to calculate the Content Validity Ratio (CVR) for each item.23 items with a CVR greater than 0.5 were retained in the scale for administration.

**Administration of the Items to a Development Sample**

The scale with 23 items was administered to a sample of 224 student teachers who were about to complete their B Ed course, since for scale development a large sample would eliminate subject variance (DeVellis, 1991). Tinsley and Tinsley (1987) suggest a ratio of 5 to 10 subjects per item. Thus, distribution of the questionnaire containing 23 items to a sample size of 224 was considered satisfactory.

**Analysis of the psychometric properties**

The items were scored as indicated in Step 2. The reliability alpha coefficient for the scale with 23 items was 0.94, which indicated that the items in the scale were highly inter correlated and were all measuring the same attribute, i.e. computer self-efficacy.

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# ICT IN THE EARLY YEARS : BALANCING THE RISKS AND BENEFITS

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*The concern for introduction of ICT for education in early childhood years is centered on the relationship of ICT use in the early years to the cognitive, emotional and social development of young children and their developmental needs. The paper discusses various aspects of the ongoing debate around ICT usage in the early years and tries to answer some of the relevant issues namely, the rationale for early introduction of ICT; the perceived risks and benefits involved in its usage; and fostering developmentally appropriate application of ICT in the early childhood classroom,*

## INTRODUCTION

In today's world, ICT is a ubiquitous component of our life. Most of the things we use incorporate ICT. What is ICT? Simply put, it stands for *Information* and *Communication Technologies*. It can be defined as "anything which allows us to get information, to communicate with each other, or to have an effect on the environment using electronic or digital equipment" (Siraj-Blatchford & Siraj-Blatchford, 2003). Today ICT and "e-learning" have become important concepts in primary, secondary, and tertiary education. In the context of early childhood education (ECE), ICT could include different types of hardware and software (Bolstad, 2004). ICT includes computers (including desktop, laptop, and handheld computers); digital cameras and digital video cameras; creativity and communication software and tools; the Internet; telephones, fax machines, mobile telephones, tape recorders; interactive stories, simulated environments, and computer games; programmable toys and "control" technologies; videoconferencing technologies and closed-circuit television; data projectors, electronic whiteboards, and more.

## SIGNIFICANCE OF ICT IN EARLY CHILDHOOD EDUCATION

The early childhood education sector encompasses young children, practitioners and parents or other people connected to the early childhood setting. There are three reasons why ICT matters in early childhood education. The *first* reason pertains to the pervasive quality of ICT by virtue of which it has an effect on the people (family members, caregivers and early childhood educators) and environments (physical and social) that surround young children's learning. *Second*, ICT technologies present novel opportunities to strengthen many aspects of early childhood education practice such as children's learning and play experiences, practitioners' professional learning and development and relationships and communication between early childhood centers, parents, and other people. *Third*, there is global support and interest across the whole education sector for the development and integration of ICT into education policy, curriculum, and practice.

Children today live in a communication-rich environment. The models of communication they encounter in their everyday lives include…a whole range of electronic and digital methods of communication… (Siraj-Blatchford & Siraj-Blatchford 2003). Children's early literacy and play experiences are shaped increasingly by electronic media (Luke 1999). So, in order to empower children and assist them in becoming competent and active participants in their environments, they must be given opportunities to develop "technological literacy", a new form of literacy, which is increasingly considered to represent an essential curriculum entitlement in any broad and balanced curriculum for the 21st century. Today there is a significant amount of support and interest in the education sector for the development and integration of ICT into policy, curriculum, and practice. Some consider that just as it is every child's right to become literate, he or she should enjoy the right to become a skilful user of ICT. Others believe that children should be given opportunities to experience ICT as a tool with vast possibilities for communication and information retrieval/sharing. The UK Foundation Stage (3 to 5 years) curriculum states that as part of their early childhood education, children should find out about and identify the uses of everyday technology, and that children should have opportunities to use ICT to support their learning (BECTA 2004).

In most countries, policy and curriculum support for the development of ICT in the early childhood education sector is weak. However in some countries such as the UK, early childhood education may actually be leading the way in developing best practice in the use of ICT to support positive learning experiences for children. Similarly, Scotland has recently developed ICT strategies for the early childhood education sector (Learning and Teaching Scotland 2003). Researchers, academics, and practitioners in early childhood education have also published books, articles, and guidelines which provide information and guidance about ICT in early childhood, and aim to support early childhood education practitioners to make well-informed decisions and choices about ICT (NAEYC 1996; Siraj-Blatchford & Siraj-Blatchford 2003). In order to guide future development and policy-making, it is essential to critically examine the role and potential of ICT in early childhood education. The introduction and use of ICT in this sector should take into account the existing knowledge about early childhood learning and development. Technology on its own should never drive the process of ICT development in the early childhood education sector. Rather, all planning for the introduction and use of ICT by children and adults in early childhood education should be based on a clear understanding of the purposes, practices, and social context of early childhood education (O'Rourke & Harrison 2004).

## ICT IN THE EARLY YEARS: THE ONGOING DEBATE

The debate on making ICT an integral component of early childhood education has resulted in polarization of opinions. One group advocates the introduction of ICT in early childhood years

on the premise that it facilitates learning and development. The other group rejects it on the principle that ICT in early years impedes it.

**Perceived Risks of ICT usage in Early Years**

The increasing pervasiveness of ICT has led some parents, teachers, and children's advocates to question its relationship to the cognitive, emotional, social, and developmental needs of young children. More often than not, the argument is focused on young children's use of computers and computer games and questions are raised on two accounts. Damaging effects of ICT tools on young children are : *Harmful physical effects of prolonged computer use by children; *Negative effects on children's social development (such as promote anti-social behaviour like isolation or aggressive behaviour); and *Developmental concerns (such as computer use can interfere with children's cognitive development). Specific concerns about the potential harm ICT tools can cause are: *Exposure to unsuitable content (such as material of a sexual or violent nature, or containing inappropriate gender, cultural, or social stereotypes); and *Computer use may displace other important learning and play activities. Some researchers condemn introduction of ICT in the early years on the premise that it is damaging to the development of children in all aspects – physical, cognitive, social, and emotional. Most research on ICT and its impact on young children have focused on the use of computers by them. An argument opposing early introduction of ICT is that as children learn through their bodies, computers are not developmentally appropriate (Haugland 2000). As a screen-based medium, activities at the computer are not as effective as manipulatives in developing understanding and skills in the early years (Yelland 1999).

Hohmann (1998) stated that, except for the coordination involved in using a mouse, computers do not support the development of motor activities or motor skills development. He goes on to assert that, although touch typing is a motor skill that can be learned with the help of a computer, it is inappropriate for most children to begin this before they are about 7 or 8. Critical about computer-use in early childhood years, Elkind (1996) stated that computer proficiency does not mean cognitive development, the latter requiring evidence of the development of an underlying concept. He points to the difference between knowing how to use the internet and learning something from it. Healey (1998) cautioned that use of computers is damaging to young children's development as well as their learning. Stating that young children need human support and verbal interaction, she concluded that as computers fail to offer intersensory experiences to enhance learning, they are inappropriate as an educational resource for children below the age of about 7 years as using computers before the age of 7 'subtracts from important developmental tasks'. Fomichova & Fomichov (2000) added another dimension to this debate by suggesting that children in economically developed countries spend so many hours alone in front of the computer that a new non-nuclear family system of parents, children and computer has emerged. They refer to the computer as'intrusion' into the educational system, children's cognition and the family. Yet others believe that computer use might foster learning in a negative sense. For example, solitary game play on computers could lead to children's isolation from social interaction

in learning and play, or that violence in computer games could encourage aggressive behaviour. A common concern expressed by most critics is that ICT might displace other important learning and play activities. In fact, Cordes & Miller *(2000)* call for an immediate moratorium on the further introduction of computers in early childhood, except for special cases of students with disabilities. They take the view that children's use of computers should be sidelined in favour of other kinds of learning and play activities. They argue that computer use in early childhood education should be abandoned in favour of the essentials of a healthy childhood. Other concerns surround the health and safety issues of computer use for young children, research-based evidence about which is inadequate. For instance, there is not enough information on whether or not the radiation emitted by wireless ICT technologies could have harmful health effects for adults and children. There are also concerns about the physical effects of prolonged exposure to ICT, such as repetitive strain injuries, addiction and sedentary lifestyles. The BECT(2001) information leaflet on keyboard skills in schools states that for children with years of typing ahead of them, using the keyboard with index fingers only is highly risky, especially when there may be added strain from playing games on home computers. Moreover, little is known about the possible addictive nature of the internet and computer games on young children, as available information so far is limited to only older children.

**PERCEIVED BENEFITS OF ICT IN EARLY YEARS**

Many early childhood educationists criticise and reject the *Fool's Gold* critical approach. Some authors point out that similar concerns about harmful cognitive, emotional, physical, and social effects on children have accompanied the emergence of every new technology from the advent of alphabetic print, to the proliferation of film, television, and video games (Linderoth, Lantz-Andersson & Lindstrom 2002; Luke 1999). Computers can play a role in young children's early childhood education experiences alongside many other kinds of activities – ICT should not be seen as a way of superseding or displacing these kinds of experiences. For example, ICT use should not be at the expense of outdoor or indoor experiences which promote development of gross motor skills through running, climbing, jumping, swinging, and using wheeled toys (Siraj-Blatchford & Siraj-Blatchford 2003). Researchers caution that computer use should not be seen as a stand-alone activity, but should be integrated into other planned and spontaneous learning and play activities within the early childhood education classroom. Liang & Johnson (1999) described ways in which computers can be used in activities they label as investigative play, functional play, games with rules, pretend play and constructive play. Using ICT in the early years can foster development of communication skills among young children. Van Scoter & Boss (2002) have illustrated many ways in which ICT can make rich contributions to children's literacy development, in the four interrelated areas of speaking, listening, reading, and writing. For example they have discussed how "talking" word processors support young children's experimentation as they play with language. They highlight that these tools offer possibilities for children to compose and write without needing to have mastered the production of letters by hand. They also suggest using computers and printers to help children make signs, banners, and

other props for pretend play, all of which will add interest and basic literacy skills to children's play and decisions involved in making them will give children opportunities to use language. Moreover, this whole exercise of preparing and displaying printed products will create an atmosphere for children where print has direct relevance to their lives. Technology when used thoughtfully and innovatively can help children express themselves, verbally, visually, and emotionally. ICT provides a variety of ways for children to weave together words, pictures, and sounds, thereby providing a range of ways for children to communicate their ideas, thoughts, and feelings. ICT can support writing for young children as well as reading or pre-reading skills. ICT can hone children's storytelling skills such as even children who are not yet writing could dictate words to go with their pictures, or they could record their voices telling the story, or be videotaped as they tell the story and show the picture. Some studies have shown that ICT use in the early years do have the potential of fostering development of social skills in young children by providing a forum for collaboration, co-operation, and positive learning experiences between children, or between children and adults. This however requires that the practitioners must be conscious of the kinds of learning interactions they would like to induce in the context of ICT use and adopt suitable teaching methods to support these. Other studies suggest that ICT use facilitates social development also by encouraging communication between children, turntaking and collaborative problem solving. However there are only a few good, recent studies available to substantiate this for pre-school children in particular. Nevertheless, sitting with others using a computer, talking and sometimes enjoying an animation together are positive social experiences for the children. Regarding effects of ICT on learning, Haugland (1992) offered evidence that children who had experience of computer use made developmental gains in non-verbal skills, structural knowledge, long-term memory, manual dexterity, verbal skills, problem solving, abstraction and conceptual skills. Also, some research using case studies have shown that ICT can be used to support aspects of learning including language development and mathematical thinking. Lewin (2000) explored the effects of talking books software in UK primary classrooms (focusing on 5- and 6-year-olds) and concluded that electronic books can complement teaching in infant classrooms, having a positive effect on cognitive and affective outcomes.

## EFFECTIVE APPLICATION OF ICT IN EARLY CHILDHOOD EDUCATION

For using ICT in early childhood education effectively, it is essential to pay attention to three important elements – health and safety issues, quality of learning environment and developmental appropriateness of ICT.

### Health and Safety Issues

This can be ensured by paying attention to children's physical and ergonomic safety; prevention from exposure to inappropriate content (e.g. games or Internet-based material of a violent or sexual nature, or containing undesirable gender or cultural stereotypes) and protection of children's privacy (e.g. in online environments, or when information is published on the Internet). A cautious approach is necessary and the practitioners and children need to become well informed

about safe and appropriate ways to work with computers. These health and safety issues must be an integral component of the early childhood practice and policy and "general health awareness relating to ICT and computer use should form part of children's learning about ICT, and should certainly form part of any setting's health and safety policy" (Siraj-Blatchford and Siraj-Blatchford 2003). They recommend that children's use of computers should occur in relatively short spells, usually no more than 10 to 20 minutes for 3-year-olds, extending to no more than 40 minutes by the age of 8.

**Quality of Learning Environment**

The physical and technical arrangements such as enhancing children's access to computers and other ICT, placement of computers in the room and type of software available determine the quality of learning environment. It also means taking care of the educational and social features of the learning environment such as nature and quality of children's interactions with, and in the context of, the computer, role of adults in supporting and encouraging children's ICT use, degree to which ICT-related activities connect with other activities in the centre and also the practitioner's broader learning goals. Also important is the careful choice of software for using with children as only good software can allow children to engage in self-directed exploration, and can be tailored to children's individual needs.

**Developmentally Appropriateness of ICT**

The use of ICT in the early years has the potential to enhance educational opportunities for young children. If applied in a developmentally appropriate manner, it can encourage purposeful and exploratory play, discussion, creativity, problem solving, risk taking and flexible thinking. Appropriate use of ICT tools depends on not just the skill and knowledge of the early childhood practitioner but also the "developmental appropriateness" of the technologies for the children in question. Developmental appropriateness forms a guiding principle in much of the literature on ICT in early childhood education. Two widely-cited sets of guidelines strongly emphasise developmental appropriateness: the DATEC (developmentally appropriate technology in early childhood) project in the UK (Siraj-Blatchford & Siraj-Blatchford 2002; Siraj-Blatchford & Whitebread 2003); and the American National Association for the Education of Young Children's position statement on the use of technology with children aged 3 to 8 (NAEYC 1996). DATEC offers eight general principles for determining the appropriateness of ICT applications to be used in the early years: * Allow child to be in control; *Avoid applications that contain violence or stereotyping ;* Be Aware of health and safety issues ;* Choose applications that are transparent and intuitive ;* Ensure an educational purpose ;* Encourage collaboration ; * Encourage educational involvement of parents; * and Integrate with other aspects of the curriculum.

**CONCLUSION**

The debate regarding ICT use in early years remains unresolved as indicated by a Scottish literature review of ICT in early childhood education that suggested a "scarcity of good quality research findings on using ICT in educational settings for pre-school children" (Stephen & Plowman 2002). In the end, it cannot be stated in absolute terms that early introduction of ICT is beneficial or harmful to young children for 'there are far more questions than there are answers about what computer and video games and internet use mean to the social, intellectual and physical development of children today' (Wartella, O'Keefe & Scantlin 2000). Nevertheless it can be stated safely that, with due safeguards in place and ensuring developmental appropriateness, ICT in early childhood education can effectively support and enhance children's learning and play experiences although all of this does demand that "practitioners are well trained and skilled in the appropriate uses of ICT with young children" (Siraj-Blatchford & Whitebread 2003).

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*Reference in the text, let us say, "Hussain, 1997", whereas the reference list at the end of the manuscript, gives "Hussain, 1987", for the same source.
*Spelling of the surname mentioned in the text does not match with the spelling of the surname in the Reference list
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