Contents

Genesis of Concept of Adolescence
An Interdisciplinary Approach

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Puberty is a physiological process, which is seen in all the societies. Adolescence is not a universal concept. Adolescence is not a monolithic universal experience. It differs in different societies. Adolescence, as a transition between childhood and adulthood, is an invention of industrial revolution. Adolescence in traditional societies was different than in a post-industrial society. An interdisciplinary approach is required to draw the insights of the various disciplines together to study the genesis of this process common to all human beings: that of growing up. The resources of many disciplines are required to disentangle the interacting historical, biological, psychological, and sociological forces. What does growing up, or 'coming of age', mean today? What did it mean in earlier times? By looking at individuals as social agents in the particular cultural setting to what extent ties to norms and values of past times have been severed and how has this affected the process of growing up.

Introduction

In modern times there are opposing views about the concept of adolescence. There is no general agreement about the universality of this stage of life — nor is it clear whether elongated period of puberty is a physiological necessity or a social invention. Whether adolescence existed in the traditional society or an invention of consumer society. What was the role of industrial revolution in constructing the concept of adolescence ? There are many ramifications of social concept of adolescence. Adolescence was viewed as a period of "storm and stress".

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As now, when we enter the twenty-first century, adolescence is viewed as part of life span development, with continuities from childhood, unique developmental challenges and tasks, and implications for adulthood. "Puberty is universal experience but adolescence is not" is the main underlying idea of this paper. In this paper my focus will be to understand how this concept has evolved in the due course of time and what its implications are. This paper will help in developing a better insight of the concept of adolescence, their behaviour, needs, developmental tasks, societal expectations, shift in roles of parents and community and others who want to assist youth. This paper is divided into six sections namely, historical, sociological, psychological, physiological, ethological and economic dimensions.

What is Adolescence?

Adolescence is the period between childhood and adulthood. But, finding a precise definition of adolescence is difficult. Biologically, it is the time of sexual maturation and the completion of growth. More than mere biology, adolescence is psychosocially the period between childhood dependency and being a functionally independent autonomous adult. Theorists have viewed adolescence in different ways; Freud saw adolescence as the period of recapitulation of the childhood Oedipal complex, while Erickson claimed that the struggle between Identity and Role Confusion typified the adolescent stage of development. Chronological definitions abound and are more pragmatic in allowing us to identify who is or is not an 'adolescent'. Let us interrogate the concept of adolescence itself, which contrasts and connects—etymologically as well as socially—with adulthood. *Adultum* is the past participle of the Latin verb *adolescere* 'to grow (up).' The senses of growth, transition, and incompleteness are therefore historically embedded in *adolescent*, while *adult* indicates both completion and completeness (cf. Herdt & Leavitt 1998). The World Health Organisation (WHO) considers 'adolescence' as the period between 10-19 years of age, which generally encompasses the time from the onset of puberty to legal age of majority.

Historical Roots

We need to examine the historical foundations of adolescence, and to study adolescence in relation to cultural patterns, forms of life, cultural institutions, and norms and values. A historical approach is often understood as retrospective explanation based on the

problems of today. History makes us conscious of what is before our eyes as a matter of course, it makes us aware of the aspects of change, and makes us critical to why it was not different or why it actually became the way it is.

Throughout most of history, adolescence was unknown as a stage of life. Native societies have observed Rites of Passage signifying the emergence of young people from childhood into adulthood, but no concept of adolescence intervened between stages. In the classical world, Aristotle recorded what now is known as adolescent development, that is, the appearance of secondary sexual characteristics in both males and females, but he and other ancients recognised only three distinct periods of life: childhood, youth, and old age. The notion of youth as a time of sexual awakening and rebellion received particular expression in Jean-Jacques Rousseau's philosophical narrative, (Emile 1762), which described the evolution of a noble boy into a civilised man. At age fifteen or sixteen, according to Rousseau, a boy experiences crisis, and his mind is in such 'constant agitation' that he is 'almost unmanageable'. With proper care and education, however, he learns to enjoy beauty and wisdom so that at the end of adolescence he is ready to marry and raise children. Rousseau addressed the condition of childhood but Goethe had a greater influence with respect to adolescence. In 1774, he wrote *The Sufferings of Young Werther*, which described a sensitive youth experiencing suicidal despair in facing the adult world. The book was an instant success and legend has it that there was a series of similar suicides across Europe.

Among Romans, the term child (*puer*) could be applied almost without regard to age, and through the Middle Ages it served as a demeaning label for any person of low social status. By the Renaissance, the establishment of schools for a somewhat larger proportion of the population helped to extend the period of childhood but still did not define a separate stage of adolescence because neither school attendance nor grade in school was based on age. Other factors inhibiting the evolution of distinct life stages included the brevity of total life span, the necessity for almost all people except elites to work, and the rigid social hierarchies that made most people, regardless of age, dependent on nobility.

The largely agrarian world of early modern Europe kept young people in a condition of semi-dependence, in which economic and personal status involved important contributions to the family economy but left the individual dependent on parents. Among lower

classes in western (though less frequently in southern) Europe, England, and colonial America, many boys and girls in their teens were sent from their homes to work as employees for other families, a practice that served both economic and upbringing functions. Though the French word adolescence existed, the term youth (or its equivalent) was more pervasively applied to people in this semi-dependent condition. Some historians have posited that a Youth Culture, manifested by organisations and activities, existed to some extent in the eighteenth century. Moreover, in Europe and America at this time, adults — particularly religious leaders — expressed concern over presumed emotional and behavioural problems of young people and began to urge their education as preparation for future roles in the family and community

The Industrial Revolution was important in constructing the concept of 'adolescence'. The Industrial Revolution, and the mass manufacturing economy that it spawned, largely destroyed the old craft ethic of thoughtfulness and personal involvement. It reduced apprenticeship by the mid twentieth century to an almost meaningless 'serving one's time'. The earlier integration of home, community and work that had characterised English society for centuries was replaced by a mass manufacturing society which took parents out of their homes, and largely left children either unsupervised, or as cheap, disposable factory labour. Parents' did not consider their skills worthwhile to share with their children and even children were also not interested in their parents' boring lines. Quite simply there was no longer much for families to talk about. William Blake in early nineteenth century wrote several poems about the effects of the Industrial Revolution. *In every cry of every man/In every infant's cry of fear/In every voice, in every ban/The mind-forged manacles I hear.* (from *London*, William Blake)

During the late eighteenth century and through the nineteenth century, biologists and physicians undertook more formal study of adolescent phenomena. European scientists researched aspects of physical growth such as the onset of Menarche in females and seminal emission in males. These works provided scientific and philosophical background when, in the 1890s, psychologists began investing the abilities, behaviours, and attitudes of young people between the onset of Puberty and marriage. Their work marked the first emergence of *adolescence as a concept.*

Exigencies of World War II disrupted the lives of European adolescents, but in the U.S. an expanding war economy brought three million youths between ages fourteen and seventeen, about one third

of people in this age category, into full or part-time employment by 1945. The income that adolescents earned helped in supporting a renewed youth culture. After World War II, the proportion of adolescents in Western countries temporarily declined. Furthermore, a marriage boom followed the war, drastically reducing the age at which people were entering the wedlock, especially in Great Britain and the United States where the median age at marriage for women declined from twenty-six to twenty-three to twenty-one respectively. Soon the marriage boom translated into the 'Baby Boom', which eventually combined with material prosperity to foster an ever-more extensive teen culture. Marketing experts utilised long-standing theories about the insecurities of adolescence, along with surveys that showed adolescents tending toward conformist attitudes, to sell goods that catered to teenagers' desires to dress, buy and act like their peers.

During the late twentieth century, adolescence has historically 'matured' to become a legitimate part of the life span. This does not mean, however, that it is an esteemed part or a well-defined part. Rather, adolescence's moratorium on clarity of expectations is seen as an unavoidable phase. In a way, society now expects to find in adolescence poorly defined expectations and corresponding behaviour. This expectation invites self-fulfilling prophecy and may well reinforce what we call adolescent behaviour. It sounds like a paradox, but post industrial conditions have evolved a structure of the life span within which we allow for a phase that expects confused expectations. Hence, adolescent behaviour has become normative and is no longer considered random or unstructured. Adolescents are expected to reflect 'storm and stress', to be rebellious, and to have a subculture of their own.

Sociological Dimensions

Adolescence in the sociological sense refers to the experience of passing through a phase that lies between childhood and adulthood. In traditional cultures of the past, initiation ceremonies, or rites of passage, were used to guide the individual through the necessary transition from one social status or life stage to another. Marriages and funerals are two common examples of this. At around the onset of menarche for girls and puberty for boys, a special puberty rite was held to initiate the youth into adulthood. Upon completion of this dramatic and often perilous ordeal, which included tests of bravery and endurance as well as separation from one's family and community, the youth would return as a new person, an adult with a

new status and new responsibilities. In this cultural context adolescence usually did not exist at all, and if it did it was clearly a liminal, or limbo, period that lasted anywhere from a few days to a few months. The important point about these community-wide ceremonies is that they made it very clear how the youth was to become an adult and exactly when this transition would take place, as well as when it was completed.

The contributions of great anthropologist Margaret Mead, gave us much insight into perspectives on adolescent development in a cultural context. A term 'cultural relativism' contributes new and important ideas to the understanding of the phenomenon of adolescence. It emphasises the importance of social institutions and cultural factors in human development and describes the rituals of pubescence as well as adolescent experiences in primitive societies. Generally, in Western society, movement through adolescence from childhood to adulthood involves much more than a linear progression of change. It is multi-dimensional, involving a gradual transformation or metamorphosis of the person as a child into a new person as an adult. It is important to note that, however, that the required changes in a young person during adolescence differ with culture. For example, in some cultures some of the roles played by children and adults are similar. Children may be expected to perform work-like tasks for the welfare of the family while quite young. Also, in some cultures the number of years spent in being educated before working is short. In such cultures the transition from childhood to adulthood is likely to be less challenging (Mead,1951, p.185 as cited in Muuss 1975, p. 112).

Ruth Benedict's *Theory of Adolescent Transition to Adulthood* (1938) provided specification of cultural influence on adolescent development. She argued on the importance of differences and similarities in roles that children and adults are expected to play. A discontinuity in adolescent and adulthood roles produces emotional strain, which in turn produces conflict. However, cultural continuity produces a smooth and gradual growth from childhood to adulthood with relatively little conflict. Development of an individual varies from one culture to another because of differences in cultural institutions and even within the same culture what is true of one generation, may not be true for next generation, and may not have been true for the previous one. In the western culture where children must relearn new behaviours and must unlearn childhood behaviours in order to become adults, transitions to adulthood are relatively more difficult than in other cultures where there is continuity in child-adult roles.

Today, this child-adult transition is better thought of as a status with uncertain and diffuse guidelines, engendering equally uncertain and diffuse behaviour. In short, it means social existence without a clear blueprint for behaviour. The young individual often cannot decide whether a situation calls for acting as a child or as an adult, and he or she frequently suffers uncertainty in relation to the adult world-the Establishment, as it is sometimes scornfully called. This confusion does not arise in relation to his or her peer group. In fact, adolescents evade uncertainty through involvement in the group activities of their age mates and by relying on the standards of the peer group, hence forming a youth sub-culture estranged from the larger society.

Psychological Dimensions

The sociological and psychological definitions complement each other in so far as they call attention to the principle that an undefined social situation will have a corresponding repercussion in the personality of the individual who goes through it. It brings to mind a special meaning of the old adage that "no man is an island." Sociologists adhere to the theory that a vacuous or inconsistent socio-cultural environment is a poor bet for the development of a stable identity, whereas, a clearly defined and consistent socio-cultural environment is prone to yield a stable identity. American psychologist G. Stanley Hall, a pioneer in the study of children and their learning processes, gave its first full definition in Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education published in 1904. Hall's fundamental argument sprang from the idea of what he called 'recapitulation' – the idea that the development of the individual corresponds to the evolution of the species. Erik H. Erikson's concept of 'identity crisis' has been considered to be of as much relevance to our epoch as the problems of sex seemed to be to Freud's. The concept deals with the relationship between what a person appears to be in the eyes of others and what he or she feels he or she is. It refers to the dynamics of the search for an inner continuity that will match the external social conditions. The reference was first used to explain a type of breakdown of inner controls observed among psychiatric patients. Similar, control disturbances were found in young persons suffering from conflict and confusion. Gradually, the term *identity crisis* acquired a normative connotation and was applied to adolescents in general. As used by Erikson, crisis does not mean a breakdown or catastrophe but rather

a 'crucial period' when development must move one way or another and when stable reference points in and around the young person must be established. Generally, the identity concept focuses on the integration of a number of important elements — such as capacities, opportunities, ideals, and identifications — into a viable self-definition. Adolescents differ in the pace with which they establish an identity. Some may formulate a limited identity too early in order to avoid further confusion. In Eriksonian terms, such an early identity formation is called 'Identity foreclosure', and is usually due to parental ascription. Many delay such crystallisation, are for many years incapable of a clear formulation, and exist in a psychosocial moratorium during which they try out various identities. Certain developmental tasks complicate the identity struggle of adolescents. They include the necessity of the young to learn new ways of behaving, to acquire new ideas about themselves and other people, and to make important decisions that will affect the rest of their lives. Developmental psychologists emphasise how important it is that the young learn to master these tasks during their teen years.

Physiological Dimensions

The problems presented by developmental demands are intensified by physiological changes that occur during the earlier part of adolescence. During adolescence, growth is rapid, often disorganised and confusing, compared to the relatively happy period of childhood. The word 'puberty' comes from the Latin word *pubertas* (to grow hair), one sign of physical maturity. During pubescence, the changing proportions of the body tend to cause poor coordination, and the maturing of the endocrine system sharpens sexual interest. For girls, the average age of onset of puberty is under 13 and for boys it ranges from 13 ½ to 14 ½ years. However, the range in reaching puberty is from 9 to 17 years in girls and 11 to 18 years in boys. The dramatic physical changes do not occur at the same time or at the same rate. The fact that girls mature a year and a half to two years ahead of boys is widely recognised, but the tremendous variation in the rate and timing of the developmental processes of both boys and girls is not so well known. Some boys have achieved puberty before some girls have started. And what one child accomplishes in growth in 18 months may take up to three or more years in another. As a result, a seventh class is likely to include men, women, and children. The emergence of puberty in the average teen arrived approximately 19 months earlier in 1966 than it did in 1947. This means that the

average youth of today is entering puberty almost two years prior to those of Second World War vintage (Muuss, 1962, page 6). The physical changes of puberty take place in a time span of approximately two years that begins around the middle of the sixth grade for girls and the seventh grade for boys. Muuss has said, 'At perhaps no other period in human life, except birth, does a transition of such importance takes place. And though physiological changes take place at all age levels, the rate of change during this period is immeasurably greater than in the years that follow it. The young must learn to adapt to these biological changes. Within a relatively short time they find themselves endowed with primary and secondary sex characteristics and have reproductive capability. However, society discourages the enactment of these capabilities, insisting on postponement of their expression.

In early times, when the span of adolescence was shorter, human biological and social clocks were set at the same time. When teenagers were physically ready to reproduce, society was structured for them to be parents. Now there is about a 10-year gap between individuals' ability to reproduce and the prevailing society's wisdom of an appropriate time to marry and begin raising children? The period of time between puberty and adult responsibility is lengthening. The transition from childhood to adulthood has become prolonged and during this period an adolescent is sexually unemployed.

Ethological Dimension

Ethology is the study of animal and human behaviour within an evolutionary context. The person most identified with modern evolutionary theory is Darwin. In early civilisations, of the greatest importance to such early people was the progression of their dependent child to that of autonomous adult. This was a process that had to be completed sufficiently early to ensure that the young adult would be able to take on whatever were the responsibilities of the earlier generation before they died. While, there is much evidence about the care and attention given by such people to the very young (as can easily be noted to this day in remote areas of Africa or elsewhere) there was absolutely nothing soft or sentimental about this.

Amongst the nomads of the Zagros mountains of southern Iran, until very recently, adults spent much time and energy equipping every four-year-olds to look after the chickens, the six-year-olds the goats, the eight and nine-year-olds the sheep, the ten-year-olds the asses and twelve-year-olds the donkeys – leaving only the bad

tempered camels as needing actual adult attention! When the tribe moved everyone had a task to complete. As the child grew older so the tasks they were allocated became harder. Everyone was engaged, even if work frequently felt like play they all shared in the sense of achievement.

Such small-scale, self-contained communities depend upon the goodwill of their members to ensure cohesion, but such cohesion would have come at too high a cost if youthfulness lasted too long, and there was any undue delay in reaching adulthood. The adaptation that had earlier enabled the young to learn easily in their earliest years through intense emotional connection with older people had to be balanced by an internal mechanism that prevented the children from becoming mere clones of their parents. In other words unless those close bonds which had characterised the earliest years were ruptured (forcibly if necessary) the young would not grow to be adaptable to new situations. Adolescence, is now becoming clearer, is that deep-seated biological adaptation that makes it essential for the young to go off, either to war, to hunt, to explore, to colonise, or to make love – in other words to prove themselves – so as to start a life of their own. As such, the biology of adolescence aims to stop children being merely clones of their parents. It is probably a time-limited predisposition. In other words, if the adolescent is prevented (by over careful parents or too rigid a system of formal schooling) from experimenting and working things out for itself, it will lose the motivation to be innovative or to take responsibility for itself when it becomes adult.

We know that, the Greeks and the Romans were systematic in forcing their young (for whom they would have had deep familial love) into proving their manhood under the harshest conditions. The initiation ceremonies of native Americans and Africans served a vital task; they showed which of the boys were tough enough to take on adult roles. Those that could not brought shame to their families.

The Economic Dimension

There is another abrogation, albeit an informal one, of full adulthood after age of eighteen. What about the millions of young students, who are between eighteen and twenty, and even older, enrolled in colleges and universities, and who are economically dependent on parents, relatives, and loans? Is it not a mark of adulthood to achieve a balance between production (making a contribution to the division of labour) and consumption? Many, if not most, young students who

attend institutions of higher education have not achieved symmetry between giving and taking. They are still being nurtured and receive support and care without making an equivalent contribution. Full adult status, although only informally and not necessarily legally, is tied up with a balance between producing and consuming. Being a fulltime student after age eighteen is often a moratorium on full adult status. Allowance must of course be made for individuals using savings that are the result of their productive status and that are now used to balance the score. Participation in higher education under such circumstances does not disturb the production-consumption balance. Students who work as well as attend school to finance their studies likewise achieve balance and maintain adult status — at least with respect to the economic criterion. The legislation declaring eighteen-year-olds responsible adults has nevertheless introduced greater clarity. For example, the tradition of educational institutions playing the in *loco parentis* role has been curtailed, and college students have achieved a state of independence.

Adolescence in India – Issues and Debates

"The only universal definition of adolescence in India is to mark it as a period in which a person is no longer a child, and not yet an adult". In India, the number of adolescents alone (10-19) has crossed 230 millions (National Population Policy 2000). In India, there is a resistance to the concept of 'adolescence', if it is understood, as in the west, as an extended period of education and training for adult roles. The experience of such a phase is limited in the Indian context. This may be explained by delay in the onset of puberty (due to poor nutritional status) and prevalence of early marriage (signifying adulthood). It may further be noted that in India the generation gap cited in the west does not exist. However, with the changing economic and social profile, generational differences in India are becoming increasingly important.

Adolescence in India is shaped by various contextual elements like religion, caste, gender, class etc. Even though, constitutionally, India defined itself as a secular state, religion and caste are deeply entrenched in the identity of Indians across ages and play a direct or indirect role in the daily lives of young people. In other words, religion is ever present in the lives of adolescents, though it plays more of a social than religious role in most cases. The role of caste in adolescents' lives is much more complex. Religion and caste are not barriers to friendships. However, when it comes to marriage partner

selection, the embeddedness of caste in the Indian psyche is transparent. If a young person's own choice of partner transgresses religious and caste barriers the whole family, especially in rural areas, risks social ostracism. But, resisting young people's choice of their own partners can at times have tragic consequences, for example, suicide.

In the patriarchal setting of the Indian family, growing up as a female child carries with it the connotation of inferior status and lesser privileges when compared to the male child (Dube 1988; Kakar 1979). Females across social classes are encouraged to develop an interdependent and even sacrificial self and to prepare for their roles as good wives and mothers. The picture is not too different even among the increasing number of career-oriented young women, who clearly prioritise family obligations (T.S.Saraswathi, 1999). The family continues to play a major role in socialisation despite the fast pace of social change. The family itself is undergoing structural and functional modifications that have a direct bearing on adolescent socialisation and parent-child relations. The ambiguity of values adolescents observe in the adult world, the absence of powerful role models, increasing gaps between aspirations and possible achievement, not surprisingly, lead to alienation and identity diffusion (Singh and Singh 1996). Parents themselves appear ill-prepared to cope with social change, having grown up in hierarchically structured and interlinked social groups and collectives, such as the extended family, kinship network, and caste groups that provided stability and solidarity (J.B.P. Sinha 1982, cited in Singhal and Misra 1994). The conflict between parents' desire to help their adolescent children cope with the competitive demands of the market economy and achievement orientation and their own rootedness in the safety of tradition expresses itself in the "cold feet syndrome" when things go wrong (T.S. Saraswathi and Pai 1997). Parents who seem 'modern' in their child rearing practices get anxious when their adolescent child breaches established social codes. Intergenerational conflicts related to marriage, career choice, or separate living arrangements result in the tendency to fall back on tradition. A key concern is the stress created by the changing composition and dynamics of the family with differential expectations, values, competencies, and coping styles between parents and adolescents. Increasing numbers of educated and employed women with consequent expectations of greater gender egalitarianism in a highly patriarchal society is yet another issue that will continue to challenge Indian families in the coming decades.

Yet, across the Indian subcontinent, in both rural and urban locales, even while the outward forms of the family are changing, strong traditional family values prevail and create a vital family life for adolescents and youth.

Conclusion

The question returns – Have adolescents been around for a long time? So teenagers have been around for a long time. And teenagers have always been "adults in progress." The English word for *adolescence* has only existed since the fifteenth century (Kaplan 1984, 44). "Puberty, is a universal experience but adolescence is not" (Nilsen and Donelson, 4th ed. p-5). Biological maturation is clearly universal. It happens in every culture (although young people in the West reach sexual maturity earlier now than they used to). The elongated period of puberty is not a physiological necessity but a social invention. Adolescence is an invention of consumer society that does not exist in traditional society. The existence of adolescence as a unique period may also vary within a culture and by gender and social class. Saraswathi (1999) recently argued that Indian children in the upper social class typically had a more distinct stage of adolescence than children in the lower social class. Indian girls in general also experience greater continuity between childhood and adulthood than do boys.

In most of the societies, the beginning of adolescence is marked by initiation ceremonies, or rites of passage, that are major public events (Delaney, 1995). Themes of initiation ceremonies are typically consistent with the eventual adult responsibilities (e.g., productivity or fertility) in the various societies. In contrast, few or no formal initiation ceremonies exist in industrialised societies, leaving the period of adolescence with no clear beginning or the end. There are many indicators of termination of adolescence. From a theoretical point of view, no agreement has been reached as to the relative importance of the various factors. Also, these variables are not conterminous; that is, each follows its own course and expires at different times. We may therefore speak of degrees of adolescence, or, conversely, of adulthood. For example, the onset of puberty normally signals the entrance into adolescence. This would set the modal entrance age at between twelve to fourteen years for girls and thirteen to fifteen for boys. But the termination of adolescence is not so readily determined. There are no objective physiological indicators signifying the termination. While economic independence, stable employment,

and marriage are adult indicators, they do not necessarily indicate psychological maturity. Moreover, the psychological and sociological meanings of such achievements must be viewed within the traditions of a given socio cultural environment. In tribal societies, the transition from childhood to adulthood may be swift, and adolescence is merely a brief interval that is clearly terminated by an initiation ritual. However, in American postindustrial society this transition is exceedingly protracted, and no specific rite of passage tells the young when he or she is an adult.

As has been mentioned above, in a strict legal sense adulthood in most of the Nations is reached at eighteen years of age. At that age, fun civil rights usually become available to young population. These privileges pertain to among other things like voting, driving, drinking, employment, marriage, concluding contracts, criminal justice, and so on. But in a social-psychological sense, the termination of adolescence cannot be judged on the basis of chronological age. While, the years of adolescence used to be fourteen through eighteen, in the late twentieth century these years start earlier and extend into the twenties, and many youngsters remain adolescents until they are thirty.

The criteria for this assertion are embedded in at least two interrelated processes. Adolescence terminates psychologically with the establishment of realistic and relatively consistent patterns of. Problem solving and is socially still not defined as an adult; and, vice versa, an individual may have entered adult status according to the general socio cultural definition but may still be lacking in realistic patterns of problem solving. However, psychological and social development is expected to coincide and produce a normally functioning young adult by the late teens.

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AN ANALYSIS OF QUESTION PAPERS OF DIFFERENT BOARDS OF EXAMINATIONS IN SOCIAL SCIENCES

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ABSTRACT

The Boards of Education/Examination in India play a significant role in the students' evaluation and through this the system of education. They follow an elaborate process in question paper setting and marking answer scripts. In the present paper a qualitative analysis of the question papers in social sciences is made across the four boards at secondary level public examination, so as to verify the quality of question paper of these boards. The question paper studied from the point of view of content, framing of questions, types and quality of questions indicate that there is need for constant reviewing of the question paper setting activity.

Introduction

The purpose of assessment is necessarily to improve the teaching-learning process and materials, and be able to review the objectives that have been identified for different school stages, by gauging the extent to which capabilities of the learners have been developed.

NCF – 2005

Evaluation is a very comprehensive term, which includes evaluating any object, individual, institution, position of an office, event, trend, etc. However, educational evaluation deals with students' evaluation, which includes the assessment of the performance of the students in the areas of their personality development in terms of intellectual,

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social and emotional development after they have been provided learning experiences through classroom processes.

Evaluation is often confused with the term measurement and both terms are used synonymously. But both are not the same. The term measurement stands for measuring the performance of the student at a particular scale. The pattern of measurement which is mostly followed in our assessment system relates to marking on a scale of 0–100 marks. Therefore, measurement provides a quantitative description of pupils' performance based on artificial classification. It does not include value judgment and thus it gives a fragmented picture of student's performance.

On the other hand, evaluation is a broader term as compared to measurement and it includes both quantitative and qualitative description of the performance and value judgment. Regarding quantitative description as discussed earlier measurement on a scale is applied and marks are allotted. For qualitative description, interpretation of the marks secured by the student are made in reference to him/herself, his/her group and certain criteria. It also includes value judgment regarding the desirability of behaviour related to all the domains of personality development.

Evaluation in Social Sciences

There are various aspects in the evaluation of students' performance in social sciences, which need to be taken into consideration. But many a time they are either ignored or not understood thoroughly by the paper setters and evaluators. For example, though many boards have made it mandatory to use design, blueprint, marking scheme and question-wise analysis etc. in preparation of the question paper, but they are hardly adhered to and as a result of this, a question paper is set which is often not a balanced one, covering the entire syllabus. Also the necessity to do proper justification to different forms of questions by selecting right items from the right areas is not done. The framing of the questions may also be very dubious, as they may not convey the message, which they should, and as a result of this the students cannot do proper justification. The questions are also set by using such action verbs, which are often not appropriate and this also leads to misunderstanding the questions. The marking scheme is also set sometimes in a very vague manner and the evaluators do follow them too rigidly.

As a result of this, assessment of student's performance may also go wrong, and all this is not under the control of a student. For example, in the Class X Social Science analysis of answer scripts of

Manipur Board, for a question as to "Why Sangai deer does not get shelter during rainy season", a student wrote the answer as "Due to cutting and felling of the trees". As it did not match with the exact expected outline answer "Deforestation" the student was not given any mark/point. This shows how stringent the evaluator is in adhering to the marking scheme and turning a blind eye to the variety of expression. This also raises many questions some answered and some unanswered. The first and foremost is considering marking scheme as divine. (2) Lack of training in evaluation. (3) Lack of time to understand the contents written in varied forms. (4) Lack of analytical abilities. (5) Feeling of threat from higher-ups for going beyond the prescribed etc. It is clear from the above point that the much talked about "rote memorisation" is also encouraged by the teachers as they confine to the textbooks and do not want to go beyond. The NCF-2005 also addresses these issues and views that types of questions that are set for assessment need to go beyond what is given in the book. Questions that are open-ended and challenging should also be used. In fact there is a paradigm shift from behaviourist approach to constructivist approach of education and evaluation of students. But ultimately the meeting point/point of convergence could be arrived at, as the questions which are considered to be of the level of application under behaviourism are no different from the questions of problem solving and critical thinking under constructivist approach. However, constructivist approach focuses not only on the above aspects but also on the importance of having questions, which can be related by the student to her/his immediate environment and what she/he can experience from one's own environment.

Under the circumstances mentioned above it is necessary to study the very process of examination that is conducted across the boards to derive a meaningful conclusion as to how far the boards are doing justice to the candidates appearing for the public examination by adopting proper methodology through the usage of design, blueprint, marking scheme and question wise analysis etc., in framing the right type of questions. The study also cuts across the few selected boards and provides a cross-comparison. The study will be useful to the teachers, paper setters of examination in social sciences, evaluators and the boards.

In India several studies were made with regard to various aspects of evaluation, but no study has been made so far with regard to the comparison of the question papers of different boards of examination with respect to various aspects of evaluation such as design, blue-print, marking scheme and question-wise analysis, etc.

Population and Sample

Research is invariably conducted by means of a sample drawn from the target population on the basis of which generalisations are drawn and made applicable to the population. There are, in all, 45 boards of Education/Examination conducting publication examination in the country. In fact every State/UT has a board of Education/ Examination and some States have more than one board, for example the State of West Bengal has a board even for primary education. The target population in the present study covered however comprises only the Boards Secondary Education/Examination of Manipur, Mizoram, Punjab and Karnataka. The selection of the boards was made on the basis of random sampling method. The simple random selection of the States was made for obtaining the design, blue print marking scheme and question papers of 2005 public examination of the respective boards. These States account for ten per cent of the total number of Boards of Examination at secondary level and also geographically represent different parts of the country.

Methodology

In the present study, the techniques developed by NCERT for preparation of question paper such as design, blueprint, marking scheme and question wise analysis etc., were used. Though all the States adopt the above said techniques in preparation of question paper, many times it has been empirically found that the questions set by the boards are not in line with the level of instructional objectives as outlined in the design and blueprint. Hence it is not only strict adherence to the above, but also to check the quality of the questions so as to find out how far they meet the standards is important. This needs a qualitative analysis of question papers in addition to the quantitative techniques of analysis through the allocation of marks to different forms of questions and time limit etc.

Procedure of Data Collection, Analysis and Interpretation

For this study the question papers of Class X Social Science (2005) of different Boards of Education along with the design, blue print, marking scheme and question wise analysis have been procured from the boards. After the collection of data, the data were tabulated and percentages calculated. A qualitative analysis was made on the basis of the obtained data in terms of the Bloom's Taxonomy of Instructional Objectives (subsequently modified by NCERT) to verify as to how

appropriately they fit into the prescribed scheme on different aspects of question papers as follows:

TABLE1
Subject-wise distribution of marks in Public Examination-2005

Sl. No.	Subject (as % of total	Manipur	Mizoram	Punjab	Karnataka
1.	History	33.3	35	30	No subject specific division of marks is done in Karnataka.
2.	Geography	33.3	35	30	
3.	Civics	16.7	20	20	
4.	Economics	16.7	10	20	

Interpretation

Table 1 shows that three States viz., Manipur, Mizoram and Punjab have allocated marks for four different areas of Social Sciences i.e., History, Geography, Civics, and Economics but in various percentages to the total marks. Manipur and Mizoram have same percentage of marks for History and Geography which is more than the marks allocated for Civics and Economics. Punjab Board has equal percentage of marks allocated for History and Geography. The marks allocated for Civics and Economics are also the same. The least percentage of marks among these three Boards is given to Economics by the Mizoram Board. In the Board Examination of Karnataka though all these four areas are represented in the questions, they are not clearly demarcated in the question paper.

TABLE 2
Allocation of marks/questions/minutes in Public Examination-2005

Sl. No.	Marks/Questions/ Minutes	Manipur	Mizoram	Punjab	Karnataka
1.	Total No. of Questions	78	36	28	50
2.	Total No. of Marks	150	100	100	100
3.	Total No. of Minutes	360	180	180	180
4.	Minutes per Question	4.6	5.0	6.4	3.6
5.	Marks per Question	1.92	2.8	3.6	2.0
6.	Minutes per mark	2.4	1.8	1.8	1.8

Interpretation

Among the four States Manipur has largest number of questions in the question paper, while Punjab has the lowest. However, the total marks, and the time allocated for answering the question paper is also more in Manipur in comparison with other States. Only in Manipur the total number of marks is 150, while in other states it is uniformly 100. Also the total amount of time for answering the question paper is 360 minutes in case of Manipur and for all others it is 180 minutes only.

If we see the average amount of time allocated for each question, it is highest for Punjab with 6.4 minutes and lowest in Karnataka with 3.6 minutes. In terms of allocation of marks per question Punjab is highest with 3.6 marks per question, while Manipur is lowest with 1.92 marks. In terms of minutes per mark Manipur is highest with 2.4 and all the remaining states have uniformly 1.8 minutes per mark. A detailed State-wise Question paper analysis is as follows:

Manipur Board

Q.No.1. "Justify", the action used in the first question for two marks is inappropriate because for a two-mark question the candidate cannot justify. Hence the action verbs of this kind must be used in essay/long answer type questions rather than short answer or very short answer questions. The model answer given also mentions only two specific points. Instead one or two more points should be added so that the students get flexibility in answering. Question No.11 and 12 are well prepared asking for reasons, which helps the students to answer through thorough understanding.

In essay type questions the marking scheme in addition to providing model answer should also highlight/underline specific focal points. This will enable the inter-examiner variability to be as narrower as possible. The map pointing also tests skill and understanding of the students rather than identification and location of places in a rote method. The number of objective questions could be increased. Also they have to be given in the beginning of the question paper, rather than in the end.

Geography: Question numbers 4 and 5 require more explanation and hence not so suitable for the 2 marks, as given in the question paper. The essay type questions like the question number 13, both in either and or questions the competency tested is not very specific and appears to be very superficial. While the map pointing in History

is more of analytical in nature, in Geography it is mere location of places without any reasoning. Hence the approach followed in History needs to be observed even in Geography also.

The very short answer questions has to be a proper mix of knowledge level and also understanding level. But the composition of knowledge level is more, which needs to be reduced. Even in the objective questions (multiple choice type questions or MCQs) only knowledge level questions are used. Instead MCQs must be used for all types of testing (including understanding and application level).

Civics: The questions given in the form of either/or (internal choice) have to be of equal nature from the point of view of testing. But many a time they are not given like that in the question paper. In question No.6 the internal choice do not represent the same thing. While either the question tests the level of understanding or the question tests merely the knowledge. This does not create parity between two students who are answering different questions and this also leads to a state of imbalance in the scoring. The composition of knowledge and understanding levels has been finely balanced in the very short answer and objective type of questions.

Mizoram Board

In part A, very short answer questions have components of various levels of testing, but for a question as to what is meant by colonialism the explanation needs to be longer and hence not suitable for very short answer type. The usage of action verbs has to be proper and for example instead of using the word "describe", it will be better to use "narrate" as it is more appropriate. The action verbs provide specific direction to the students and hence they need to be appropriately used. Otherwise there is every chance that the candidate may misunderstand the question and not be able to answer the question properly. In essay type questions also the action verb describe has been recklessly used and all the questions given only test the knowledge level and do not go beyond this.

In part B, the map pointing tests the skill of the candidate as one is asked to draw outline map of India. But one should not get confined to this and repeatedly the candidates should not be asked to draw the same over the years. Asking for writing symbols along with places also gives an opportunity to the students to relate the places with symbols and enhances their ability to understand the things better. All the very short answer questions in this section are of knowledge level only, as they indiscriminately start with what, which etc. Even

the short answer type and essay type questions are largely knowledge type questions.

In part C the short answer type questions are thought-provoking. But the essay type questions are again only limited to knowledge level though the action verb "describe" is used, as in fact where there is nothing to describe, but only to list the functions, like in question no. 26 In part D, also there has been inappropriate use of the action verb 'describe'. In this part, two out of three questions are of knowledge level only.

Punjab Board

In part A-Geography, all the very short answer questions are of knowledge level only. The very short answer questions are also framed in vague manner, as they involve writing short note, which is a universal and open-ended type question without any specificity. In this type there is no clear concept, which is being tested, as a result of this it leads to a lot of subjectivity in evaluation. Even in the essay type question no.6 the action verb "explanation" is used, which is quite inappropriate. Instead it may be appropriate to use – write in detail or give a detailed account of, in the question.

The location/map pointing also is not very encouraging, as only places are asked to be located. Also there is vagueness in asking to show the area of dry vegetation on tea producing etc. These cannot be answered/located by the student to the satisfaction of evaluator, as the areas they represent are not very specific.

In part B, it is important to note that the word "define" should be avoided as much as possible, as they merely test the memory of the student like it is given in the answer no.8. Questions of short notes appear in this section also. In this section majority number of questions test only knowledge level only.

Part C, has got a balanced composition of knowledge and understanding level questions in the short answer questions. For essay type questions the expected content has to be sufficiently large, but whereas in the case of question no.20 "why did Guru Gobind Singhji create "the Khalsa?" the answer cannot be sufficiently long for the award of 10 marks. Moreover, this has to match with the other question given as internal choice. The map pointing in this section is also only confined to location of places, which needs to be improved.

The questions in the part D, civics have also some terms, which need to be changed such as "what do you mean by Constitution". The student may not mean anything and he may write that for which

no marks are awarded. Hence it is suggested, not to use such words. In this section also there is a question, on writing short notes, which needs to be avoided.

Karnataka Board

In Karnataka the very first section starts with fill in the blanks, which is unique of its kind, not used by other Boards. Out of the eight questions given under this type all eight are only knowledge level, and this makes clear that these type of questions need to be avoided. In all these questions either it is asked to identify, locate or name the person, which test the students at the base level only.

Even in the next section of very short answer questions, out of six, all are of knowledge level only. Out of six questions, five start with the action verb "what" and the other with "which", and this usage of these verbs itself makes it clear that they are of knowledge level only.

The matching type questions are also given in the question paper, which do not find place in other boards question papers. All the three questions given under this head make the student think and apply his understanding and hence they can be rightly considered as good questions. In the next section there is a question asking for rearranging the events in chronological order. But it is surprising that, instead of allotting only one mark for rearranging four marks are awarded. There seems to be no sound logic in this.

In the short answer type questions (2 marks) out of 15, eight questions are of knowledge type and seven are of understanding type. Here again most of the items testing knowledge start with the action verb "what". This confines the scope of the questions and as a result using of variety of questions to test different abilities of the students gets restricted. The same comments hold true with regard to the short answer type questions (3 marks) also. Out of 10 questions under this 6 questions start with the action verb "what". In this section of 10 questions, only 3 are of understanding nature and the remaining fall under the category of knowledge level.

In the long answer type (4 marks) normally the questions are awarded anything between 5 to 8 marks. But in this Board the questions carrying maximum number of marks is only 4. In this section, out of 4 questions 2 are of knowledge level and 2 are of understanding level.

The map-pointing question, which has a maximum of 4 marks merely, asks for location of places and this can be improved so as to

relate the identification and location aspects with understanding abilities.

Interpretation

Table 3 gives a detailed description of the distribution of questions among different subjects and forms of questions. Manipur has used three forms with 2, 5 and 1 mark(s) each for a question. Mizoram has used maximum of 6 forms of questions with marks ranging from 1 to 6 for each question. Punjab Board has given marks ranging from 2 to 10, including 2,4,6 and 10 marks questions. Karnataka Board has used question forms of four varieties with range from 1 to 4, i.e. 1,2,3, and 4 marks questions.

The Table 4 gives a description of the different forms of questions as a percentage to the total number of questions in the question paper. Manipur is the only State which has used the Multiple Choice Questions (MCQs or Objective type) in the Examination. While the percentage of marks allocation is highest to the short answer questions with 42.7 per cent, it is lowest to the MCQs with 8 per cent only.

Mizoram state has used very short answer, short answer and long answer type questions with highest percentage of marks allocated to short answer i.e. 50 per cent and lowest to the very short answer i.e. 9 percent only. Punjab State has no objective type question and very short answer type questions. Out of the total 68 per cent marks are allocated to the short answer type questions and 32 per cent marks are allocated for the long answer type questions. Karnataka has very short answer, short answer and long answer type questions. However the long answer type questions have maximum marks of four only. Out of the total 60 per cent marks are allocated for short answer type questions and 20 per cent each for very short answer and long answer type question.

Findings of the Study

The study was conducted to analyse the Social science Question papers of different Boards of Education/Examination. The findings are presented as under:

1. The subject-wise distribution of marks is not uniform among states. Very high importance is given to History and Geography, in comparison with Civics and Economics. These areas also need to be addressed properly with due weightage, as they lead to

TABLE 3
Subject-wise Distribution of Questions in Class X Social Science Question Paper

SL. No.	Subject	Manipur			Mizoram			Punjab			Karnataka		
		No. of Marks	No. of Qns.	Total	No. of Marks	No. of Qns.	Total	No. of Marks	No. of Qns.	Total	No. of Marks	No. of Qns.	Total
1.	History	2	12	24	1	5	5	2	3	6	1	20	20
2.		5	3	15	2	3	6	4	2	8	2	15	30
3.		1	11	11	3	4	12	10	1	10	3	10	30
4.					6	2	12	6	1	6	4	5	20
5.	Geography	2	12	24	1	4	4	2	3	6	Questions are not given on subject basis in Karnataka		
6.		5	3	15	2	2	4	4	2	8			
7.		1	11	11	3	4	12	10	1	10			
8.					4	1	4	6	1	6			
9.					5	1	5						
10.					6	1	6						
11.	Civics	2	4	8	2	2	4	2	4	8			
12.		5	2	10	3	2	6	4	3	12			
13.		1	7	7	4	1	4						
14.					6	1	6						
15.	Economics	2	4	8	3	2	6	2	4	8			
16.		5	2	10	4	1	4	4	3	12			
17.		1	7	7									
	Total	32	78	150	56	36	100	56	28	100	10	50	100

TABLE 4

Forms of Questions as percentage to the total number of questions

Sl. No.	Form of Question	Manipur				Mizoram				Punjab				Karnataka			
		No. of marks	No. of Questions	Total	In %	No. of	No. of marks	Total Questions	In %	No. of	No. of marks	Total Questions	In %	No. of	No. of Questions	Total	In %
1.	Objective	1	12	12	8												
2.	Very short Answer	1	24	24	16	9	9	9	9					1	20	20	20
3.	Short Answer	2	32	64	42.7	2 3	7 12	14 36	50	2 4	14 10	68	68	2 3	15 10	60	60
4.	Long Answer	5	10	50	33.3	4 5 6	3 1 4	12 5 24	41	6 10	2 2	32	32	4	5	20	20
	Total		78	150	100		36	100	100		28	100	100		50	100	100

development of civic sense and optimal utilisation of economic resources.

2. Karnataka has not shown the weightages given to different subject areas in the question paper that is leading to unplanned and unorganised distribution of questions. Distribution of questions with due weightage to all subject areas provide a balance, which is essential in developing an integrated understanding of different subject areas of social sciences.

3. There is a wide variation in the number of questions that a student has to answer in different Boards. While the number is maximum in Manipur with 78 questions it is least in Punjab with 28 questions. However this does not give a complete picture as in the Manipur Board the total marks are 150 and the time allotted is also 360 minutes, which is more than other Boards. However, the increase in number of questions will lead to physical reading load of the student in addition to occasional mental load.

4. With regard to the total number of marks and number of minutes/ amount of time three out of the four states have uniform pattern.

5. If the average time allotted per question is seen, it is least in case of Karnataka, and largest in case of Punjab with 3.6 and 6.4 minutes per question respectively. Though number of questions themselves does not explain much, but it is necessary to keep in mind that a proper distribution of different forms of question paper is necessary for setting a rational type of question paper with optimal weightages of time allotted to different forms of questions.

6. If we see the marks allotted per question it is least in case of Manipur and maximum in case of Punjab with 1.92 and 3.6 marks respectively. However, the time allotted for each mark in minutes shows that there is uniformity in it as three out of four states have 1.8 minutes per mark while Manipur has 2.4 minutes per mark.

7. There is an indiscriminate usage of action verbs which misleads the candidates many a time. For example the action verb "justify" is used for a two-marks short answer type question. This word will be more appropriate to use for a long answer type question than a short answer type question. A student may, seeing this action verb elaborate his argument to justify and in that case he will not be sufficiently rewarded as the maximum marks is only two. This will consume his/her time which otherwise could have been used for answering other questions.

8. An important factor which the Boards, evaluators and paper setters need to note is that while it is important to give an ideal answer in the marking scheme to serve as a guide for awarding marks, the evaluators should not strictly stick to it and permit for variation in expression in terms of presentation in language, style and content etc. This must however revolve around several focal points which must essentially be included in the answer as otherwise students may write something unrelated/irrelevant when they do not know the answer. Hence, all this in essence could be said as flexibility with certain limitations in-built in answering questions.

9. The map pointing is an important aspect covered in Geography and History. But this map pointing should not confine to routinely asking to draw the outline maps and simple location of places. This could be made interesting by interrelating several aspects as it is done in the Board of Manipur. This will eliminate the rote memorisation, identification and location of places. But even in the in the case of Manipur also while History questions have this kind of questions of understanding level, the Geography items suffer from the same problem as explained above.

10. Only the Board of Manipur has given objective type (MCQs) in the question paper and no other Board has any mention of it. It is very important to include objective type of questions as they prepare the students for competitive examinations and also enable in testing items of various levels.

11. The order of questions in the question paper needs due attention by all the Boards. The question paper should start with easy questions which can be attempted by all students and end with difficult questions. Also in the beginning it should proceed with MCQs, very short answer type questions, short answer type questions and essay/long answer type questions and these are not followed in the case of Manipur Board.

12. When internal choice is given in the question paper the two items asked should not differ in the competencies being tested. For example one question testing knowledge and the other question testing understanding/application will not place the students answering these two types of questions on the same footing. This will also lead to inconsistencies in the scoring as a student who answers the knowledge type of question will be in a position to answer better than the student who answers a question of

understanding or application level, where he/she cannot reproduce the answer as it is in the textbook and this in turn will result in writing answers different from the expectations of the evaluator.

13. The questions with what, which and where etc., should be largely avoided as they are found in the question papers of these boards. Even while testing the knowledge of particular events, places etc., it could be little indirect rather than being very direct. Especially the language of textbook should be avoided, including the literal lifting of sentences from the text in constructing questions.

14. In the Mizoram paper the action verb "describe" has been used quite inappropriately, where other action verbs should have been used such as narrate, list, explain etc.

15. In the question paper of Punjab Board the questions asking for writing short notes in Geography gives a picture of how due to lack of specificity in the questions, the students fail to answer them properly. This open-ended, universal type of questions should be avoided, as they do not test any clear concepts. As against this the problem solving and application level questions under constructivist approach and behaviourist approach respectively, test the performance of student on a specific area, though the expected answer could be of varied nature.

16. Another action verb that is most often used is "define". In fact both "define" and "define in your own words" should be avoided. As the mention of any of the above will immediately make the student to reproduce the definition or structured sentence given as it is in the textbook. Instead it may be more appropriate to use "write in your own words".

17. The suitability of the content is also another important feature in preparation of questions as the expected length of the questions should neither be too large, nor too short as given in the question number 20 of the Punjab Board. In many occasions the thinking of the paper setter is that whatever question he/she gives the student writes the same answer (literally the same content in the textbook). With this intent, they set the questions without seeing the appropriateness of the questions, the usage of action verbs, their length and expected answer etc. However every question must be complete in all these respects and paper setters should not have any preconceived notions with regard to all this.

18. The questions occasionally start with "what do you mean by". Here the structure though expects the student to answer from his own understanding, but it is not a very right way of posing a question. This is essentially because the student may mean so many things or may mean nothing for which if he writes like that he will not be awarded marks. This is nothing but lack of clarity in posing the question by the paper setter, which leads to varied responses by the students and cumbersome evaluation patterns.

19. Fill in the blanks as used by the Karnataka Board may well be avoided in public examination and that too at the Class X level. All the questions given under this section are only knowledge level questions and this is another reason for suggesting its discontinuation. They can be substituted by the MCQs which even test higher levels of instructional objectives.

20. In allotting marks to the questions also there is no fixed pattern among all the Boards. There are large variations among them as for example Mizoram state has a maximum of 6 types of questions with marks ranging from 1 to 6. Manipur has the least number of types i.e., 1,2 and 5. Also the Karnataka Board awards a maximum of four marks only for essay type question. In fact there must be a set pattern for allotting marks to different forms of questions and this should ideally be one for MCQ and very short answer, 2 or 3 for short answer and 5 to 8 for long answer.

21. In the percentage of marks allotted to Objective questions it is eight per cent in Manipur and no other state has introduced this MCQ type. The introduction of objective type of questions in student evaluation is another important measure that needs to be seriously taken into consideration. In fact there is a gradual shift in framing the questions solely with essay type questions in the 1960's to inclusion of short answer, very short answer and objective type of questions of late. The National Curriculum Framework–2005 also views that well designed Multiple Choice Questions should form part of the Question paper.

22. The weightage given to short answer questions is also large in relation to other forms of questions by all Boards of education. Manipur board has given 42.7 percentage weightage, Mizoram 50 per cent, Karnataka 60 per cent, and Punjab 68 per cent which is the maximum allocation. It is necessary to note that there needs to be slow phasing out of the very short answer questions, replacing them with MCQs and problem solving and critical thinking type of questions of essay or long answer, as this will be an ideal combination of testing.

23. In essay type questions Karnataka has given 20 per cent weightage, Punjab 32 per cent, Manipur 33.3 per cent and Mizoram 41 per cent. Essay/long answer type questions play a dominant role in the scoring of the students and their overall performance. If there is large percentage of essay/long answer type of questions it certainly leads to variations in answers and subjectivity in answering by the students and in evaluation by the teachers. Hence the percentage of this type of questions should not be very high and very low. If it is very high then there will be scope for lot of subjectivity, and if it is very less then question paper does not test certain essential elements of testing and hence it becomes incomplete testing.

24. Punjab Board has not included both objective and very short answer type question and hence the question paper is lop-sided, and skewed towards subjectivity.

25. The overall analysis gives an impression that there is no uniformity in the paper setting of social science question papers of different Boards of education.

Educational Implications

The present study will enrich the existing stock of knowledge in the field of educational evaluation, as the study, administrators, and educationists.

The study has indicated that there are wide variations in the setting of question papers, their design, blueprint, marking scheme and question wise analysis etc. The allocation of marks to different subject areas is also different among the states where the present study was made. It also shows that there are inherent weaknesses in the public examination that are beyond the control of the student for which the blame cannot always go to the student but to the paper setters and evaluators etc.

The inter-variability of standards of performance of the different Boards is a problem which needs to be tackled either in some other way or through the agency of a National Evaluation Organisation (Remodeling of School Education Boards, 1997 p. XIII). This particular recommendation was made in the National Policy on Education (1986) and Programme of Action (1992), as "National Evaluation Organization will be developed as a quality control mechanism to organize nation wide tests on a voluntary basis so that norms can be evolved for comparability of performance and also for conducting independent tests".

Hence it is time for us to realise the importance of initiating measures for reducing/removing stress from the minds of everybody by over emphasising on external/public examination. Some of the steps proposed but still that have not received public support such as grading, continuous and comprehensive evaluation, de-emphasis on external examinations, weightage to internal evaluation, semester system and assessment of co-scholastic areas etc., have to be given due attention in addition to making the system of examination foolproof by undertaking the responsibility of validating educational objectives and identifying hard spots of learning through performance analysis of examination results.

Suggestions for Further Study

1. A similar study can be conducted on large scale i.e., all the Boards to ascertain the true situation among different Boards of education/examination in India.

2. The present study was confined to only social science subject of Class X and similar studies could be conducted in other subject areas.

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A Critical Analysis of Class X English and Social Science Question Papers

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ABSTRACT

Examinations play a very important role in Indian system of education. They are so important that they direct the entire teaching learning process in schools. These examinations use mainly one tool to evaluate the achievement of the students and that is the 'question paper'. So, if the public examinations have to stay till a viable mechanism of evaluation comes into effect, question papers used by the State Boards of Education in their public examinations need to be continuously examined and improved specially for the purpose of improving the quality of education at school stage. It was in this backdrop that a study of Class X English and Social Science Question Papers of Punjab School Education Board was undertaken. The objective of the study was to find out whether the question papers are valid and reliable and whether they fulfill the criteria of balanced question papers and what were their strengths and weaknesses.

Introduction

Assessment of performance is an integral part of teaching learning process. The National Policy on Education-1986 and its Programme of Action (1992) envisaged an improvement in the programme of evaluation to make it serve as a powerful instrument of quality improvement in the teaching learning process in schools. The National Curriculum Framework – 2005 (NCF – 2005) has also laid special emphasis on the quality of questions used in the evaluation process. The NCF points out, as long as examinations and tests assess children's ability to remember and recall textbook knowledge, all

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attempts to redirect the curriculum towards learning will be thwarted. First, tests in knowledge-based subject areas must be able to gauge what children have learnt, and their ability to use this knowledge for problem solving and application in the real world. In addition, they must be able to test the processes of thinking to gauge if the learner has also learnt where to find information, how to use new information, and to analyse and evaluate the same. The types of questions that are set for assessment need to go beyond what is given in the book. . . . . Questions that are open ended and challenging could also be used. (NCF – 2005. p: 74).

It is a well known fact that examinations are very important in our system of education. Examinations are so important that they direct the teaching learning process in schools.

Teachers teach only what is being tested and similarly students adjust their studies according to the examination. In fact, the first Board Examination i.e., Class X examination plays a significant role in dictating the teaching learning process in schools.

If the wash back effect of these examinations is so great, why not exploit it for the betterment of education? If the Board examinations are improved, the teaching learning methodology in schools will automatically improve.

Board examinations are basically written examinations in India and they use only one main tool to assess students' achievement. That tool is the question paper. If the question papers are improved, the impact percolates down to schools. Therefore, the question papers used by the Boards of Education in their public examinations need to be continuously examined and improved. The analysis of existing question papers is the first step towards improving the quality of testing.

Keeping in view the importance of the analysis of Question Papers and the Marking Scheme, the Department of Educational Measurement and Evaluation trains Key Resource Persons of various states in the Analysis of Question Papers and Marking Scheme in different subjects. During the training, the question papers in different subjects and their marking schemes are analysed in order to provide feedback to the paper setters and in turn to improve the quality of future question papers.

In one such programme, the question papers of Class X in the subjects of English and Social Science were analysed for the Punjab School Education Board.

Objectives of the Study

The analysis of Question Papers and Marking Scheme is a post-examination activity. The purpose is to re-examine the question paper and marking scheme to see if something is amiss, so that the same errors may not be repeated in future. The errors in the question paper may be of various kinds and may occur at various points like:

- The weightage to different objectives is not adequate – the question paper is more memory based and lacks higher order abilities like critical thinking, problem-solving, application, etc.
- The weightage to different forms of questions is not balanced.
- The weightage to different units is not balanced.
- The questions are mostly from the textbooks – not from beyond the textbooks. The language of questions is vague or ambiguous.
- Instructions are vague, inappropriate and inadequate.
- Sections – inappropriate division of content and questions.
- Options are not comparable in terms of objectives, content, form of question, difficulty level, etc.
- Too many options – overall options in place of internal options. Difficulty level is too high or too low.
- Time for answering the questions is not appropriate.
- Marking scheme not properly designed -left to the discretion of examiners, value points not fully given, outline answers not given, etc.

The objectives of the study, therefore, were to find out:

- Whether the questions papers in English and Social Science are valid in terms of coverage of the instructional objectives and course contents?
- Whether the question papers have appropriate difficulty level catering to different capabilities of all kinds of students?
- Whether the question papers have appropriate questions in terms of their form, language and scope?
- Whether the options are comparable and time given is adequate?
- Whether the marking scheme has been designed properly in order to have uniformity in scoring ?

In short, the study tried to find out whether the question papers fulfilled the criteria of balanced question papers and what were their strengths and weaknesses.

Methodology

The Punjab School Education Board was requested to provide the copies of Question Papers in English and Social Science for their public examination at Class X level for the year 2005, along with their design, blue print and marking scheme. The Board was also requested to provide syllabi and textbooks of these subjects.

Standard proformas for analysing the question papers, which already existed in the Department, were used for the analysis of the question papers. The Board identified teachers in each subject and training-cum-workshop was organised in Chandigarh in November, 2005 to analyse the question papers. This kind of workshop served a duel purpose, i.e. the capacity building of the teachers in analysing question papers and marking scheme and also a study of the strengths and weaknesses of the question papers in English and Social Science.

Tools

The analysis was carried out on the basis of two proformas:

1. Question-wise Analysis indicating the objective of the question, specifications, unit of the content, type of question, marks, estimated difficulty level, estimated time required for answering the question, language clarity and remarks if any.

2. Abstract of Analysis of the Question Paper (Based on proforma-I). This proforma indicated:

    (i) weightages to objectives.

    (ii) weightages to contents.

    (iii) weightages to different forms of questions.

    (iv) difficulty level of questions.

    (v) comments regarding the distribution of marks over the questions.

    (vi) comments regarding the estimated time.

    (vii) arrangement of questions and format of the question paper.

    (viii) comments on scheme of options.

(ix) comments on instructions to students-general instructions and specific instructions.

(x) comments regarding quality of questions (language, scope, relevance).

(x) general suggestions for further improvement.

In this proforma after calculating the percentage of marks as per analysis a comparison is made with the weightages given in the design. On the basis of all the aspects seen in the question paper observations and suggestions about the question papers are made.

Findings

Format of the Examination

The following table indicates the formats of English and Social Science question papers for Class X.

TABLE 1

Subjects	Marks	Time	Sections	
English	100	3 hours	**Part-A** Prose Poetry	24 marks 10 marks
			Part-B Extensive Reader	16 marks
			Part-C Grammar Composition Translation	20 marks 20 marks 10 marks
Social Science	100	3 hours	History Economics Civics Geography	30 marks 20 marks 20 marks 30 marks

It was observed that both the question papers followed the format and weightages given to the content units in the syllabus.

The following table shows the weightages given by the Board to different objectives in their design and the actual weightages found after the analysis.

Weightages to Instructional Objectives

TABLE 2

Subject	English		Social Science	
Objectives	Weightages given by the Board	Actual Weightages after Analysis	Weightages given by the Board	Actual Weightages after Analysis
Knowledge	23	28	44	66
Understanding/ Comprehension	24	6	32	12
Application/ Expression	53	66	16	10
Skill	–	–	8	12
Total	100	100	100	100

It can be seen that weightages to objectives in English is not balanced. The question paper has very little weightage to comprehension. In Social Science also the actual weightages did not tally with the design. In fact the question paper in Social Science is largely knowledge based and the weightages to other objectives has been reduced greatly.

Weightage to Forms of Questions

Boards of School Education use different varieties of questions in their question papers.

These are Long Answer or Essay Type Questions (LA/ETQs), Short Answer Questions (SAQs), Very Short Answer Questions (VSAQs) and Objective Type Questions (OTQs).

The following table indicates the types of questions used by the Punjab School Education Board as per design and as per analysis.

It was observed in the English question paper that for Objective Type Questions matching exercise was used. Instead of them Multiple Choice Questions (MCQs) should be used in a Board examination. Secondly, the question paper contains too many varieties of Short Answer Questions which can be reduced.

In Social Science question paper though the forms of questions are not identical with the design but they are not drastically different. Social Science question paper does not use any Objective Type Questions.

TABLE 3

	English		Social Science	
Forms of Questions	*Marks allotted as per design*	*Marks allotted as per analysis*	*Marks allotted as per design*	*Marks allotted as per analysis*
Long Answer/ Essay Type Questions	14	14	16	20
Short Answer Questions	36	42	48	52
Very Short Answer Questions	42	40	36	28
Objective Type Questions	8	4	–	–
	100	100	100	100

Difficulty Level of Questions

TABLE 4

	English		Social Science	
Difficulty Level	*Marks allotted as per design*	*Marks allotted as per analysis*	*Marks allotted as per design*	*Marks allotted as per analysis*
Difficult (A)	25	14	20	32
Average (B)	50	59	60	48
Easy (C)	25	27	20	20
Total	100	100	100	100

As is evident from the above table in English question paper difficult questions are very less whereas in Social Science the difficult and average questions are much more and easy questions are very less.

Provision of Options

In English question paper overall options have been used in all the Short Answer Questions, questions on grammar and translation. In Long Answer Questions the form of questions also differs like complete the dialogue by writing questions has been given as an option to

TABLE 5

Enlish	Social Science
1. Overall options in Short Answer Questions and Very Short Questions.	1. Internal options only in Long Answer Questions.
2. Options are not comparable in objective-wise and form of question-wise	2. Options are not comparable in objective-wise, difficulty level-wise and content-wise.

paragraph writing. Thus, paragraph is a long answer question whereas the other one is a combination of seven very short questions.

In the Social Science question paper the options are comparable as far as the form of question is concerned. They differ in objective, difficulty level and content.

Estimated Time for the Question Paper

TABLE 6

English	Social Science
Largely appropriate but some students may complete before time.	Can be completed in 150 minutes.

The Social Science question paper can be completed earlier than the stipulated time. However, the students may have enough time to revise their answers.

Language of Questions

TABLE 7

English	Social Science
1. Largely the language is Comprehensible. 2. Some questions have been bodily lifted from the textbook.	1. Language mostly simple. 2. Some questions are vague as expressions like 'what do you understand by', 'what do you mean by' have been used.

Bodily lifting the questions from the textbook and vague expressions like 'what do you mean by' etc. should be avoided.

Instructions to Examinees

TABLE 8

English	Social Science
1. Detailed general instructions are given in the question paper.	1. All the instructions are given in the beginning of the questions paper.
2. Specific instructions are given with each set of questions.	2. No specific instructions are given.
3. The instructions are clear.	

It was observed that the Social Science question paper lacked specific instructions with the group of questions where they are required.

Coverage of the Course Content

As far as the coverage of the course content prescribed in the syllabus is concerned, both the papers have shown adequate coverage. Thus, the question papers seem to have content validity. Only in Civics part of the Social Science question paper unit III i.e. 'Indian Democracy at Work' has been completely ignored.

Detailed Marking Scheme

TABLE 9

English	Social Science
1. Detailed guidelines have been given for marking letter and application but out of 7 marks, 4 marks have been used for format only.	1. General instructions for evaluation of Question Papers have been provided.
2. Marking scheme does not provide any outline answers for questions on text.	2. Detailed marking scheme along with outline answers is not provided.

In the English question paper outline answers to all questions along with their value points should have been provided. Similarly in Social Science also a detailed marking scheme needs to be provided to bring about uniformity in scoring and thereby making it more reliable.

Some Observations

English

1. Regarding the English question paper it was observed that the paper contained translation from Hindi and Punjabi to English. The translation should be dropped altogether for English language question paper as it hampers learning the language.

2. The question paper in English did not contain any unseen reading comprehension and the skill of comprehension cannot be judged without such a passage.

3. Many questions in prose, poetry and extensive reading were bodily lifted from the textbooks which encourage rote learning on the part of the students.

4. Questions on grammar need to be contextualised and technical terms should be avoided.

5. Weightage to text can be reduced in order to make it a test of language proficiency. More questions can be given on reading comprehension and writing tasks.

6. The extrapolative questions which test imagination, creativity need to be introduced.

Social Science

1. Regarding Social Science it was observed that the question paper is largely knowledge based.

2. Most of the questions asked the students what, who, when and also ask them to described and write short notes.

3. Only the map questions in History and Geography test the skill.

4. Many of the questions were found to be lifted from the textbook as it is.

5. The question papers did not have any objective type questions.

Suggestions

On the basis of the above findings some suggestions are given below which may help the Punjab School Education Board in improving the quality of its question papers in different subjects.

1. The Board may get its paper setters trained in writing questions testing higher mental abilities like understanding, application, critical thinking, problem solving, interpretation, analysis and creative thinking. At the time of paper setting only trained persons should be appointed as paper setters.

2. While editing the question papers care should be taken in writing the general instructions. Directional words like describe, explain, comment, discuss, etc. should be used judiciously. Vague expressions like, what do you mean by, what do you understand by, etc. should be avoided.

3. As per the suggestions given by NCF-2005 the questions need to be generated by experts only. Through wide canvassing, good questions can be pooled all year round from the teachers, college professors in their discipline, educators from other states and even students. These questions after careful vetting by experts, could be categorised according to level of difficulty, topic/area, concept/competency being evaluated and time estimated to solve. These could be maintained along with a record of their usage and testing record to be drawn upon at the time of generating question papers (NCF-2005, p: 114). In short the Question Banks should be developed by collecting items from different quarters.

It may be concluded that the English and Social Science question papers of Punjab School Education Board need to be improved basically in the area of their objective of testing. More questions need to be introduced for testing higher mental abilities then only an improvement in teaching-learning process at school level can be thought of.

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Turning Against Object
The Aggressive Defence Style Adopted by Adolescents

Mercy Abraham* and Reena George**

Abstract

Aggression is a prime human characteristic necessary for survival in the struggle for existence. Aggression is often used as a defence against dangerous pleasures. The aggressive style of defence viz., 'Turning Against Object', adopted by adolescents in the age group of 13-17 years, is studied with respect to the age, gender and locale. The sample for the study constitute a representative group of 1730 adolescents in the age group of 13-17 years, studying in the Secondary and Higher Secondary schools of Kerala. 'Adapted Version of the Defense Mechanisms Inventory' was the tool used. Analysis of Variance (ANOVA), Scheffé Test for post hoc analysis and Critical Ratios were employed for data analysis. The study found that the adoption of 'Turning Against Object' decreases with age. Gender as well as Locale were found to have a significant influence on the adoption of 'Turning Against Object' as aggressive defence style among adolescents in the age group of 13-17 years.

Introduction

In the animal world, there are three built-in coping mechanisms that are waiting to be activated when the organism confronts a dangerous situation. They are *fight, flight* and *freeze*. At the human level, the same broad categories of coping mechanisms are available. However, because of our astonishing adaptability, flexibility and resourcefulness, these behaviours are not limited to fighting, fleeing and freezing; rather, we may stand up and oppose the source of stress, withdraw, or take no action. Depending on the circumstances, any of these behaviours may be either adaptive or maladaptive. When

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stress situations are handled in a competent manner our behaviour tends to be 'task-oriented', but when our feelings of adequacy and worth are threatened by stress situations, our reactions tend to be 'defence-oriented', aimed primarily at protecting ourselves from devaluation and relieving painful tension and anxiety.

Turning Against Object: The Aggressive Defence Style

Aggression is regarded as a primitive defence, originating from the '*fight-flight*' response, and is frequently deployed when more complex and mature defences fail. Aggression has been noted to have a capacity to bolster self-esteem by creating an illusion of dominance, strength and control. Freud (1946) has mentioned, quite early in psychoanalytic literature, about the use of aggression for defensive purposes. 'Turning Against Object', is an aggressive defence style, which involves the expression of direct or indirect aggression that serves to master perceived external threats or mask inner conflicts that are too painful to confront consciously. Classical defence mechanisms like '*identification-with-the-aggressor*', '*displacement*' and '*regression*' can be placed under this defence style.

Objectives

The specific objectives of the study are:

1. to find out whether adolescents in the age levels of 13, 14, 15, 16 and 17 differ significantly with respect to the adoption of 'Turning Against Object'.

2. to determine the influence of gender on the adoption of 'Turning Against Object' as defence style by adolescents in the age group of 13-17 years.

3. to assess the differential effect of rural–urban locale on the adoption of 'Turning Against Object' as defence style by adolescents in the age group of 13-17 years.

Sample

A representative group of 1730 adolescents in the age group of 13-17 years, studying in the Secondary and Higher Secondary schools of Kerala, selected on the basis of 'stratified random sampling technique', giving due representations to age levels, gender of the students, locale and management category of the schools constitute the sample for the study.

Tool

'*Defense Mechanisms Inventory*' developed by Gleser and Ihilevich (1969), adapted into *Malayalam* by George (2004), was used as the tool for the study. The *reliability* of the adapted version of *Defense Mechanisms Inventory* was determined by *Test-Retest method* by administering the tool on 100 students studying in the Secondary and Higher Secondary Schools of Kerala. The *reliability coefficient* obtained for *Turning Against Object,* over a period of one week was 0.86, and after a period of one month was 0.84. The *validity coefficient* computed by correlating the adapted version and the original version of the *Defense Mechanisms Inventory* was 0.96. Norms, directions for administration and scoring, *Response Sheet* and *Scoring Template* are provided in the *Manual* of the adapted version of the *Defense Mechanisms Inventory.*

Analysis and Findings

1. 'Turning Against Object' among adolescents in the age levels of 13, 14, 15, 16 and 17

Adolescents in the five different age levels viz., 13, 14, 15, 16 and 17 years, studying in the Secondary and Higher Secondary schools of Kerala, were compared with respect to the adoption of 'Turning Against Object' as the aggressive defence style. The data and results of the comparisons done using ANOVA (Garrett, 1981) and Scheffé Test (Winer, 1962) to find out exactly the pairs, which differ significantly with respect to the Turning Against Object, are presented in tables 1 and 2.

TABLE 1

Comparison of Adolescents in the Age Levels of 13, 14, 15, 16 and 17 with respect to 'Turning Against Object': Data and Results of ANOVA

Source of Variation	df	SS	MS	F-ratio
Between Groups	4	1596.989	399.247	28.482**
Within Groups	1725	24180.574	14.018	
Total	**1729**	**25777.563**		

**Significant at 0.01 level

From Table 1, it is evident that there is significant difference between adolescents in the age levels of 13, 14, 15, 16 and 17 (F=28.482; p<.01) with respect to the aggressive defence style 'Turning

Against Object', adopted by them. In order to find out the exact pairs that differ significantly Scheffé Test, was done at .05 level of significance. The data and results of Scheffé Test are given in table 2.

TABLE 2
Comparison of Adolescents in the Age Levels 13, 14, 15, 16 and 17 with respect to 'Turning Against Object':
Data and Results of Scheffé Test

Age levels	N	Turning Against Object		Age levels (in years)				
		M	σ	13	14	15	16	17
13 years	252	14.15	4.39		*	*	*	*
14 years	386	13.26	4.31			*	*	*
15 years	406	12.76	3.58				*	*
16 years	377	11.92	3.35					*
17 years	309	11.17	3.01					

Significant at 0.05 level

It is seen from Table 2 that there is significant difference (at .05 level) between all the age levels under comparison (between adolescents in the age levels 13 and 14, 13 and 15, 13 and 16, 13 and 17, 14 and 15, 14 and 16, 14 and 17, 15 and 16, 15 and 17, 16 and 17), with respect to the aggressive defence style 'Turning Against Object'. Further, from Table 2, it is evident that the defence style 'Turning Against Object' is lowest for adolescents in the age level 17 years (M=11.17) when compared to the 'Turning Against Object' adopted by adolescents in the age levels 16 years (M=11.92), 15 years (M=12.76), 14 years (M= 13.26) and 13 years (M=14.15). This means that adolescents in the lower age levels are found to adopt more defences belonging to the aggressive defence style 'Turning Against Object' than other groups of higher age levels. In other words, *adoption of the aggressive defence style 'Turning Against Object' is found to decrease with age, among adolescents in the age group of 13-17 years, in the Secondary and Higher Secondary Schools of Kerala.*

2. 'Turning Against Object' among Male and Female sub samples of adolescents in the age group of 13-17 years.

The male and female sub samples of adolescents in the age group of 13-17 years, were compared with respect to the adoption of aggressive defence style viz., 'Turning Against Object'. The two-tailed test of

significance for difference between means (Garrett, 1981) was applied for comparison. The data and results of the tests of significance are presented in table 3.

TABLE 3

Comparison of Male and Female Sub samples of Adolescents (age group of 13-17) with respect to Turning Against Object: Data and results of the Test of Significance

Aggressive Defence Style	Gender Groups				Critical Ratio
	Male (N_1 = 837)		Female (N_2=893)		
	M_1	σ_1	M_2	σ_2	
Turning Against Object	13.092	4.158	12.148	3.502	**5.09****

** Significant at .01 level

As seen from Table3, the test of significance shows that there is significant difference between the male and female sub-samples of adolescents (C.R=5.09; P<.01) with respect to the adoption of the aggressive defence style 'Turning Against Object'. From the mean scores provided in table 3, it is evident that the male sub-samples have higher mean scores for the aggressive defence style 'Turning Against Object' than the female sub-samples. This is at par with the popular expectation that boys are more aggressive than girls. This implies that *Gender has a significant influence on adoption of the aggressive defence style viz., Turning Against Object, among adolescents in the age group of 13-17 years in the Secondary and Higher Secondary Schools of Kerala.*

3. *'Turning Against Object' among Rural and Urban sub-samples of adolescents in the age group of 13-17 years.*

The rural-urban subsamples of adolescents in the age group of 13-17 years, were compared with respect to the adoption of aggressive defence style viz., 'Turning Against Object', by applying two-tailed test of significance for difference between means (Garrett, 1981). The data and results of the tests of significance are presented in Table 4.

As evident from table 4, the critical ratio shows that there is significant difference between the rural and urban sub-samples of adolescents in the age group of 13-17 years, with respect to the adoption of aggressive defence style - 'Turning Against Object'.

According to the mean scores of Turning Against Object, as given in table 4, it is evident that the urban sub-samples have higher mean scores for 'Turning Against Object' than rural sub-samples, indicating

TABLE 4
**Comparison of Rural and Urban Sub-samples of Adolescents in the
age group of 13-17 years, with respect to Turning Against Object:
Data and results of the Test of Significance**

Aggressive Defence Style	*Locale Groups*				*Critical Ratio*
	Rural(N_1=880)		*Urban(N_2=850)*		
	M_1	σ_1	M_2	σ_2	
Turning Against Object	12.40	63.806	12.811	3.910	**2.18***

* Significant at .05 level

that adolescents in the age group of 13-17 years, from urban locales
are more aggressive than their rural counterparts. Thus, *Rural-urban
locale has a significant influence on the adoption of aggressive
defence style 'Turning Against Object', among adolescents in the age
group of 13-17 years in the Secondary and Higher Secondary Schools of
Kerala.*

Conclusion

The following conclusions were drawn from the findings of the study:

1. There is a decreasing trend with respect to the adoption of the
    aggressive defence style - 'Turning Against Object' with increasing
    age levels among adolescents in the age group of
    13-17 years in the Secondary and Higher Secondary Schools of
    Kerala.

2. Gender has a significant influence on the adoption of 'Turning
    Against Object' among adolescents in the age group of 13-17 years.
    The male students prefer to adopt the aggressive defence style
    'Turning Against Object' more than their female counterparts.

3. Rural-urban locale has a significant influence on adoption of
    'Turning Against Object' among adolescents in the age group of
    13-17 years. The urban students prefer to adopt 'Turning Against
    Object' more than their rural counterparts.

Implications

The aggressive defence style viz., 'Turning Against Object' preferred
by adolescents in the age group of 13-17, involves the expression of
direct or indirect aggression adopted to master external threats or

mask internal conflicts, which are too painful to be confronted consciously. The finding that adolescents in the age group of 13-17 years adopt 'Turning Against Object' as a defence style implies that they tend to adjust to minor as well as major frustrations through aggression and such other aggressive emotional defences, which may make them turn against the frustrating object.

The decreasing trend with respect to adoption of the aggressive defence style 'Turning Against Object' with increasing age levels implies that as adolescents progress up the age levels they tend to adopt more mature and logical defence mechanisms and tend to reduce adoption of defences that are aggressive, immature and childish while facing stressful situations. This is a very strong positive implication.

The finding that the male students prefer to adopt the aggressive defence style 'Turning Against Object' than their female counterparts implies that adolescent boys in the age group of 13-17 years tend to react more aggressively to frustrating situations than adolescent girls in the same age group. This result is in line with the popular expectation that boys are more aggressive than girls.

Adolescents from the urban locales prefer adopting 'Turning Against Object' more than their rural counterparts. This implies that urban adolescents have a tendency to adopt more aggressive ways of defences compared to those from rural areas, which is not a very healthy trend. This may be the outcome of unhealthy competition existing among students in urban schools, and the stressful lifestyle in urban nuclear families. Parents and teachers should give serious attention to this trend prevailing among adolescents in urban locales. The finding indirectly implies that adolescents from rural locales are more sensible and logical in coping with stressful conditions. This may probably be due to the rich life experiences that they might have gained from their family and society. Further, they are generally exposed to the field of work quite early in their life, which might have tempered them to face life and its stresses confidently and rationally.

Education should be concerned more with redirecting aggressive impulses than with inhibiting them. Parents and teachers should help adolescents develop socially acceptable outlets for aggression by teaching them good habits of work, constructive skills and creative play. Organising "*Conflict Management Programmes*" in schools for equipping adolescents in dealing with stressful life situations is strongly recommended.

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Comparative Study of the Effectiveness of three Instructional Systems for Teaching Information Technology to Secondary School Students

Rajender Kumar*

Abstract

Information Technology is the fastest growing feld in India. Proper teaching of this subject at secondary level is very important. This study attempts to find out the best instructional method out of three i.e. Conventional Instructional System (CIS), Audio-Video Instructional System (AVIS) and Multimedia Instructional System (MIS) for teaching Information Technology at the secondary level. For this purpose total 120 students were randomly selected from three CBSE affiliated schools. They were assigned to three groups on the basis of their acores in Intelligence test. These three groups were taught by three different methods. Four tools were used in this study out of which, except for Intelligence test all other tools were developed by the researcher. After attaining the raw scores and applying different statistical techniques like ANOVA, t-test and factorial design, it was found that MIS is the best method, AVIS is the second best and CIS is the third best method for taking Information Technology at secondary level.

Introduction

In the age of Science and Technology 'Instructional Technology' is used in schools to make the teaching-learning effective. Planned efforts in Education would mean identifying educational activity, ensuring their potential and evolving effective ways of Instructional Technology. Instructional Technology is the application of scientific and technological principles into teaching and learning situations. It is the systematic use of scientific knowledge to plan, realise and to

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assess the teaching learning process. Instructional Technology is a science of technique which helps to solve the problems. In education, many issues are arising everyday because of explosions of population and knowledge, aspirations of the people and expectations from the students. Within the limited time and money, available more knowledge has to be given to students. This can be achieved only through the proper use of Instructional Technology.

Audio-Video instructional system is a strategy of teaching-learning which refers to the wise use of senses of hearing and sight, magnificently helpful in making the learning more meaningful, more interesting and more effective in the realisations of the teaching objectives. Multimedia instructional system is a strategy of teaching learning which concerns to systems that integrate video, audio, text, graphics, animation. The computer is the best multimedia instructional system in teaching learning. We are living in the era where globe has become a virtual family. We can communicate to any person in any corner of the world from anywhere in the world through computer. And the credit for all this goes to communication revolution that has happened in this century especially in the last thirty years. Advances in the communication technology techniques, coupled with evolving computer technology in the form of multimedia have made possible nearly everything we dreamt of. Experts are of the opinion that different media serve different educational functions so that various media should not be used in isolation instead they should be integrated. Computer Assisted Instruction approach comes under multimedia instructional system. Media combinations are generally referred to as multimedia system. Multimediations means "many media". The term 'multimedia instructional system' refers to the uses of appropriate and carefully selected varieties of learning experiences which are presented to the learner through selected teaching strategies which reinforce and strengthen one another so that the learner will achieve predetermined and desired behavioural objectives.

The potential of modern Instructional technology has a direct bearing on the education system. Thoughtfully and judiciously used Instructional Technologies can massively extend educational opportunities and improve the quality of education. The State and Central government is also introducing the multimedia approach like computers in the curriculum of school students and college students.

After going through the study of literature in education including Buch's surveys of research in education reveals that no such type of study has been undertaken so far in the field of education.

Statement of the Problem

Comparative Study of the effectiveness of three Instructional Systems for Teaching Information technology

Definition of Terms

Effectiveness- It is the indicator to evaluate the standardised achievement criteria test of Secondary school students for teaching of "Information Technology" by three strategies i.e. Conventional system of instruction, Audio-Video instructional system and Multimedia instructional system and comparing them to judge the indication in the form of effectiveness.

Achievement- Good (1973) in his dictionary defined achievement as academic knowledge defined or skills developed in the School subjects, usually designed by test scores or by marks assigned by teachers or both. In the present venture, achievement. means scores of the students on the criterion test in a particular discipline i.e. 'Information Technology'

Instructional Technology - It is the system of transmission or sharing of ideas, facts, data for the individual or for collective activity by some means, media, channel in the field of education through which communication takes place is called Communication Technology in Education. The various media of Communication Technology are-Printed study material, Audio-Video Cassettes, Radio, Television, Telephone, Computer, Internet, E-mail, Fax, Video-Disc, Computer Disc, Multimedia Tools etc. Communication Technology is a vital area of instruction. It is an instructional tool. In the present investigation, investigator have taken two types of communication technologies as instructional tool viz-Audio-Video instructional system and Multimedia instructional system.

Instructional System- In accordance with UNESCO (1977), "Education is an organised and sustained instruction designed to communicate of knowledge, skills and understanding valuable for all activities of life." If, instruction is not made to contribute effectively to education, the aims of education cannot be realised. It is a means employed by the teachers, designers of material and curriculum specialists to promote learning. A planned instruction has the purpose of helping each person to develop optimally in the direction of his own tendencies, innate and/or acquired.

In the present investigation, investigator have taken two types of communication technologies as instructional tool viz-Audio-Video

instructional system and multimedia instructional system.

Conventional Instructional System (C.I.S.)- Conventional instructional system of teaching in which teacher is the centre of class-room activities of teaching - learning process. According to Good's dictionary, conventional teaching is that type of teaching, which is out growth of custom or common practice. It is the teacher, who presents the entire content to be learnt in the final form. In this approach, the student is not required to make any lecture hall which exemplifies conventional teaching. The terms connected with conventional instructional system are expository, traditional and lecture method. All these further, most of the researchers have taken conventional teaching as it exists in the class room today. In these class rooms, lessons are not planned, objectives are not stated in behavioural terms and stepwise evaluation of students is not done during teaching. But in the present study, Conventional instructional System means that teaching process where the teacher plays the major role. But the lesson is planned, objectives are framed in the behavioural terms and stepwise evaluation of students is done at every stage.

Audio-video Instructional System (V.I.S.)- The Audio-Video Instructional System is a strategy which call upon the auditory and visual senses of the learners. The Audio-Video Instructional System have the wise use of our senses of hearing and sight proving magnificently helpful in making the learning more meaningful, more interesting and more effective. It is the strategy which help the teacher in effective realisation of his teaching objectives by calling upon the auditory & visual senses of his students.

Multimedia Instructional System (M.I.S.) - Multimedia Instructional System is the strategy which belongs to systems that integrate video, audio, text, graphics, animation. Multimedia Strategy call for the use of number of media, devices and techniques for teaching - learning for an effective realisation of teaching objectives in a best possible way, for example - Computer Assisted Technology is the best technique of multimedia approach.

Multimedia instructional system ultimately aims for the creation of such teaching learning environment that may prove helpful in making students learning an independent and individualised activity. Accordingly, there needed a significant change in the attitude and role of the teacher. His task in the multimedia approach is not limited to the imparting of knowledge and disseminating information to the students. Consequently, there will be a shift of his role from direct

communication of information to guiding students in learning. He has to make his students active participants in the process of learning instead of learning passive. The learning experiences are to be designed by him by adopting multimedia approach in such a way that the students may be able to proceed on the path of learning quite independently. Slowly and slowly they are to lead on the path of auto-instruction and self-learning. The role of the teacher thus needs a major shift in the shape of guide, adviser and organiser in place of a mere communicator, demonstrator or tutor etc.

Information Technology- An information technology can be simply defined as the interacting of man and machine which, under man's control, gathers data and disseminates information. The main objective of such a system is to provide information to its user. To accomplish this, data must be evaluated, analysed and processed to produce meaningful and useful information. 'Information Technology' is widely used in education along with other fields.

Objectives of the Study

The study envisages the following objectives—

(1) to compare the effectiveness of Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System in terms of achievement.

(2) to study the relative retention in learning through Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System.

(3) to study the Interaction effects of Instructional Systems at different level of intelligence.

(4) to study the interaction effects of Instructional Systems at different levels of sex.

(5) to study the interaction effects in different levels of intelligence and sex factor.

(6) to study the interaction effects in terms of achievement in 'Information Technology' having three instructional system, two levels of intelligence and two levels of sex.

Hypothesis

In order to realise the objectives of the study, the following hypothesis will be formulated for testing.

H-1   There is no significant difference between the mean achievement of students receiving instructions through Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System.

H-2   There is no significant difference in the relative retention of students receiving instructions through Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System.

H-3   There is no significant interaction between three instructional systems and two levels of intelligence..

H-4   There is no significant interaction between three instructional systems and two levels of sex.

H-5   There is no significant interaction between two levels of intelligence and two levels of sex.

H-6   There is no significant interaction between three instructional systems, two levels of intelligence and two levels of sex.

Delimitation of Study

The propose study will be delimited with respect to area, discipline, method, sample and tools, However, some of the delimitations are listed below :

Area   -   The study will be confined to the Secondary Schools (Affiliated by C.B.S.E, New Delhi) of Bhiwani City (Haryana)

Grade   -   The study will be delimited to Secondary school students.

Discipline   -   The study will be confined to only 'Information Technology' contents of the Secondary school students (Affiliated by C.B.S.E, New Delhi)

Sample   -   The sample will be restricted to the available Secondary school students only.

Limitation of Study

Total 120 students were selected randomly from three CBSE affiliated schools. Three equal matched groups of 40 students were taken from each school considering their previous numbers in 'Information Technology' subject in their previous class to reduce the school effect.

Research Design

Methodology

Experimental research method will be adopted in the present investigation.

Sample

The school will be selected randomly. All the available Secondary school students (Affiliated by C.B.S.E, New Delhi) will be taken. They will be assigned to three groups on the basis of their scores in Intelligence Test so as to obtain three equal groups (I, II, III) matched with respect to Intelligence.

Group I   One Group of Secondary School Students will be taught Information Technology by Audio-Video Instructional System.

Group II   Second Group will be taught Information Technology by Multimedia Instructional System.

Group III   Third Group will be taught Information Technology by Conventional Instructinal System.

Tools

The following tools will be used to collect the data.

1. Intelligence test for making the three equal matched Groups. (Group I, Group II, Group III)

2. Achievement Test for Secondary School Students for teaching of Information Technology will be used for measurement of dependant variable. (To be developed by the Investigator)

3. Preparation of Audio-Video Instructional System for teaching of Information Technology of Secondary School Syllabus (To be developed by Investigator)

4. Preparation of lesson by animation in computer under Multimedia Instructional System for teaching of Information Technology (To be developed by investigator)

Procedure of the Study

In the present study, pre-test control group design will be employed. It will include three groups of students, two experimental and one control group. The achievement test of Secondary School Students of Information Technology will be the criterion test.

After selection of the sample institutions, investigator will divide all the available students into three homogenous groups. Before teaching the content, achievement test as pre-test will be given to all the students of three groups. All the students of three groups will be exposed to the three types of Communication Technology viz. Audio-Video Instructional System, Multimedia Instructional System and Conventional System of Instructions, assigned randomly to three groups.

After completion of the instructions, again achievement test as first post-test will be given to all the students. After fifteen days the same test will be readministered to study retention in learning. Again achievement test as second post-test will be given to all the students Thus, obtained scripts will be scored and submitted for further statistical treatments.

Statistical Analysis

The following statistical techniques will be employed for the analysis of data collection.

1. Analysis of variance. (ANOVA)
2. 't'-test & F-test
3. Factorial design (3x2x2)
4. Any other statistics as warranted by the data will be used.

Analysis and Interpretation of Data

H-1 There is no significant difference between the mean achievement of students receiving instructions through Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System.

TABLE 1
Analysis of Variance Table on Gain in Achievement Scores

Sources of Variance	df	SS	MS	F	Level of Sign.
BT	2	720.07	360.04	F=28.29	0.01
WT	117	1483.80	12.68		

The obtained F value is 28.29 is siginifant at 0.01 level of siginifance i.e.4.80 with df (2, 117). The null hypothesis is rejected

and it may be stated that there is significant difference among three methods. 't' test is used for comparing the effectiveness of three instructional systems using ANOVA.

TABLE 2
Comparison of various Pairs of Means of three Groups on Gain in Achievement Scores Using 't' Test

Various pairs	Mean Difference	SEdm	't' value	df	Level of Sign.
A.V. inst. System & Multimedia inst. system	3.05	0.72	4.10	78	0.05
A.V. inst. system & conventional inst. system	2.95	0.74	4.12	78	Significant
Multimedia inst. system conventional inst. system	6.00	0.92	6.52	78	

From the above table 't' value shows that their is significant different between (AVIS and MIS), (AVIS and CIS), (MIS and CIS). From the mean values of above three instructional system it shows that MIS is the first most best method and AVIS is the second test method and CIS is the third best method.

H-2 There is no significant difference in the relative retention of students receiving instructions through Audio-Video Instructional System, Multimedia Instructional System and Conventional Instructional System.

TABLE 3
Analysis of variance table on Retention

Source of variance	df	SS	MS	F	Level of Sign.
Between (A)	2	405	202.50	F=25.31	0.01
within	117	935.50	8.00		Significant

The obtained F value is 25.31 with df (2,117) is significance at 0.01 level (i.e.4.80) The null hypothesis is rejected and it may be stated that there is significant difference among the three methods on retention.

't' test is used for comparing the effectiveness of three instructional system on retention using ANOVA.

TABLE 4
**Comparison of Various Pairs of Means of three Groups on
Gain in Achievement Scores Using 't' Test**

Various pairs	Mean Difference	SEdm	't' value	df	Level of Sign.
A.V. inst. System & Multimedia inst. system	2.25	0.442	5.09	78	0.01
A.V. inst. system & conventional inst. system	2.25	0.735	3.06	78	0.01
Multimedia inst. system conventional inst. system	64.50	0.680	6.62	78	0.01

From the above table 't' value shows that their is significant difference between AVIS, MIS and AVIS and CIS and MIS and CIS. From the mean values of above three instructional system on retention shows that lower mean value shows better on retention, so MIS is the better than AVIS and CIS on retention.

H-3 There is no significant interaction between three instructional systems and two levels of intelligence.

Interaction Effects (A   B)

F_{AB} ratio for interaction between three instructional systems and two levels of intelligence i.e. 45.37 from table No. 6 was found to be significant at 0.01 level of significance. So null hypothesis is rejected. Therefore, the interaction of three instructional systems and two levels of intelligence is significant.

H-4 There is no significant interaction between three instructional systems and two levels of sex.

Interaction Effects (A   C)

F_{Ac} ratio for interaction between three instructional systems and two levels of sex i.e. 0.008 from table 6 was found to be insignificant at

0.01 level of significance. So null hypothesis is accepted. Therefore, interaction of three instructional systems and two levels of sex is not significant.

H-5   There is no significant interaction between two levels of intelligence and two levels of sex.

Interaction Effects (B   C)

F_{BC} ratio for interaction between two levels of intelligence and two levels of sex i.e. 19.01 from the above table was found to be significant at 0.01 level of significance. So null hypothesis is rejected. Therefore, there is interaction between two levels of intelligence and two levels of levels of sex.

H-6   There is no significant interaction between three instructional systems, two levels of intelligence and two levels of sex.

Interaction Effects (A   B   C)

F_{ABC} ratio for interaction between three instructional system, two levels of intelligence and two levels of sex i.e. 20.48 from the above table was found to be significant at 0.01 level of significance. So null hypothesis is rejected. Therefore, there is interaction between three instructional system, two levels of intelligence and two levels of levels of sex.

Conclusions

On the basis of these findings, the following conclusion have been drawn:

1) Multimedia instructional system was found to be the best instructional system than two instructional systems i.e. Audio-Video instructional system and Conventional instructional system. Audio-Video instructional system was better than the Conventional system.

2) The relative comparison of three instructional systems on retention by using the assumption that a method lower on mean score i.e. mean score of Multimedia instructional system would be termed as more effective on retention as compared to a method having higher mean scores i.e. Audio-video instructional system and Conventional instructional system on retention.

TABLE 5
AxBxC Factorial Design

(B) Intelligence Level (12 n) (n = 10) A	(C) Sex Factor	Instructional System (A)			Total
		l (C.I.S.) (4n)	A2 (V.I.S.) (4n)	A3 (M.I.S.) (4n)	
High Intelligence (6n) B1	Boys (C1)	$\Sigma A2B1C1 =$ 505 $M = 50.5$ $S.D. = 2.75$ $n = 10$	$\Sigma A2B1C1 =$ 477 $M = 47.7$ $S.D. = 1.41$ $n = 10$	$\Sigma A3B1C1$ 544 $M = 54.4$ $S.D. = 1.95$ $n = 10$	$\Sigma B1C1 =$ 1526
	Girls (C2)	$\Sigma A1B1C2$ 435 $M = 43.5$ $S.D. = 1.95$ $n = 10$	$\Sigma A2B1C2 =$ 453 $M = 45.3$ $S.D. = 1.88$ $n = 10$	$\Sigma A3B1C2$ 528 $M = 52.8$ $S.D. = 1.68$ $n = 10$	$\Sigma B1C1 =$ 1416
Average Intellignece (6n)	Boys (C1)	$\Sigma A1B2C1 =$ 406 $M = 40.6$ $S.D. = 1.42$ $n = 10$	$\Sigma A2B2C1 =$ 494 $M = 49.4$ $S.D. = 2.11$ $n = 10$	$\Sigma A3B2C1$ 487 $M = 48.7$ $S.D. = 3.71$ $n = 10$	$\Sigma B2C1 =$ 1387

B2	Girls (C2)	$\Sigma A1B2C2 = 436$ $M = 43.6$ $S.D. = 1.77$ $n = 10$	$\Sigma A2B2C1 = 476$ $M = 47.6$ $S.D. = 10.7$ $n = 10$	$\Sigma A3B2C2 = 463$ $M = 46.3$ $S.D. = 1.49$ $n = 10$	$\Sigma B2C1 = 5704$
Total		**$\Sigma A1 = 1782$**	**$\Sigma A2 = 1900$**	**$\Sigma A3 = 2022$**	**$T = 5704$**

$\Sigma B1 = \Sigma B1C1 + \Sigma B1C2 = 1526 + 1416 = 2942$

$\Sigma B2 = \Sigma B2C1 + \Sigma B2C2 = 1387 + 1375 = 2762$

$\Sigma C1 = \Sigma B1C1 + \Sigma B2C1 = 1526 + 1387 = 2913$

$\Sigma B2 = \Sigma B1C2 + \Sigma B2C2 = 1416 + 1375 = 2791$

$\Sigma B = \Sigma B1 + \Sigma B2 = 2942 + 2762 = 5704$

$\Sigma C = \Sigma C1 + \Sigma C2 = 12913 + 2791 = 5704$

TABLE 6
Analysis of variance table for (3 2 2 Design) for 'F' Ratios
(Three way classification)

Source	df	SS	MS	F Values
A. Teaching Methods	2	720.07	360.03	$\dfrac{360.03}{4.21} = 85.51^*$
B. Intelligence	1	270.00	270.00	$\dfrac{270.00}{4.21} = 64.13^*$
C. Sex	1	124.03	124.03	$\dfrac{124.03}{4.21} = 29.46^*$
A B Intelligence	2	382.2	191.03	$\dfrac{191.03}{4.21} = 45.37^*$
B C Intelligence	1	80.04	80.04	$\dfrac{80.04}{4.21} = 19.01^*$
A B C Intelligence	2	172.46	86.23	$\dfrac{86.23}{4.21} = 20.48^*$
Between Cells	11	1748.87	...	
Within Subjects	108	455	4.21	
Total	**119**	**2203.87**		

Analysis of variance table for 3 2 2 design having 7F values.
3F values for main effects, 3F values for interaction effects of two factors and 1F values for interaction effects of three factors.

* Significant at 0.01 level of significance.

3) In factorial design (3 2 2), the interaction of teaching methods and intelligence level is significant. There is an interaction between teaching methods and intelligence levels. The high and average level of intelligence learn differently interacting with three instructional systems. It may be concluded that when three instructional system (A) and two levels of intelligence (B) are taken jointly, they do effect the dependent variable i.e. Achievement scores of students in 'Information Technology'

4) In factorial design (3 2 2), the interaction of teaching methods with sex levels is not significant. There is no interaction between teaching methods and sex levels. The male and female secondary school students have no difference in learning through three different teaching methods. It may be concluded that when three instructional system (A) and two levels of sex (C) are taken jointly, they do not effect the dependent variable i.e. Achievement scores of students in 'Information Technology'

5) In factorial design (3 2 2), the interaction of different levels of intelligence and levels of sex is significant. There is an interaction between two levels of intelligence and two levels of sex. It may be concluded that when two levels of intelligence (B) and two levels of sex (C) are taken jointly, they do effect the dependent variable i.e. Achievement scores of students in 'Information Technology'

6) In factorial design (3 2 2), the interaction of three instructional systems (A), two levels of intelligence (B) and two levels of sex (C) is significant. There is an interaction between three instructional systems, two levels of intelligence and two levels of sex. It may be concluded that when three instructional system (A), two levels of intelligence (B) and two levels of sex (C) are taken jointly, they do effect the dependent variable i.e. Achievement scores of students in 'Information Technology'

Educational Implications

The findings of the study have their implications for students, teachers, teacher educators, curriculum planners, media persons, administrators and education policy makers. The findings have special relevance to the 'Information Technology' teachers who are teaching 'Information Technology' and computers to secondary school students.

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Individuals, Workers or Citizens? Reflections on the Limits of School-based Educational Reform

CHRISTOPHER WINCH

About the Speaker

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The Text of the Lecture

The last thing that I could claim would be any deep knowledge of the life and work of Mahatma Gandhi, let alone of his educational thinking. The little that I do know, however, leads me to believe that his insights into education were profound and are not merely relevant to India but to societies like the UK as well. By this I mean that he seems to have regarded education as being a preparation for life in the broadest sense, to develop human beings who were capable, not just to manage their own affairs but to serve their society and to achieve their own unique individuality and dignity. One of the features of his writing that I find particularly admirable was his realistic recognition of the nature of the adult lives that young people were being prepared for and his belief that the lives of workers and farmers, however modest their circumstances, were to be given the highest priority by educators. In this respect, he breaks with the assumption that educators from Plato and Aristotle onwards have assumed– namely, a preparation for a life of cultivated leisure is an appropriate goal of education. Gandhi's view seems to have been that work not

only contributes to society's well-being but also to the dignity and spiritual beauty of those who practise it with love and care. In this sense, worthwhile work represents one important aspect of the life of a complete human being; not the only aspect, to be sure, but a centrally important one.

This view continues to be relevant to the educational problems confronting developed societies like the UK, but I think that it will have increasing relevance to those societies like India, which are now firmly set on the path of rapid economic development. A significant part of the destiny of most of the population in both developing and developed countries is to work, usually within the labour market as employees. If education is a preparation for life, then it must be, at least in part, a preparation for working life. The quality of working life will have a critical impact, not only on education provided for future workers, but also on their perception of the value of that education to them. One point about this that I wish to emphasise is that young people really do expect education to prepare them for life. This does not mean that they can or that they should only select from education what they take to be relevant to their future lives, but rather that their reasonable expectations concerning what education has to offer them be properly taken into account. In brief, I am going to argue that in our society at any rate, these expectations are not adequately being met and that the sustained programme of educational reform in England runs the risk of stagnating because young people realise that what is being asked from them at school does not necessarily correspond with employers' expectations. Let me spell this out–

1. A process of sustained educational reform that has been going on for at least twenty years has now reached an impasse.

2. The central issue of the aims of education in our society has been avoided to the detriment of coherence in the reform programme.

3. Work is central to education and to educational reform and employers need to make their contribution.

This last point seems to make the solution to education problems one that has to be solved outside education, but I will argue that this is not so. Rather, the relationship between vocational education, employers and the labour market needs to be addressed and further school improvement depends to a large extent on the satisfactory resolution of this relationship.

England as a Test-bed for State-directed Educational Reform

I have already suggested that there is a general aim of education, to prepare young people for life. But of course that general formulation begs a number of questions about educational aims which clamour for an answer:

1. What kind of life and for whom?
2. What if different aims conflict with each other?
3. Even if they don't, how should we prioritise aims in their order of importance?

To take the first, do we expect everyone to be prepared for the same kind of life, or are different kinds of lives appropriate to different kinds of people? The answer given by Plato and his successors has almost invariably been that education properly so called is a preparation for leisure, contemplation and governorship of the society. Such an education is only appropriate to the small élite who are capable of benefiting from it. For those destined to work, either as peasants, tradespeople or slaves, some kind of basic vocational training is necessary. The objection is, of course, that such a basic education would not enable people to become informed citizens in a democratic society. Nevertheless, the idea that different forms of education are appropriate to different kinds of people is still a significant undercurrent in contemporary thinking. It is rarely articulated explicitly because to do so exposes painful fault lines in our society which we do not really want to talk about in too much detail.

To take the second, the aim of developing a ruling élite and that of a subservient worker class are incompatible if applied to the same group of individuals. In order for both aims to coexist they have to be applied to different groups. To take another example, one cannot easily prepare the same person both for a life of leisure and personal cultivation and, at the same time, prepare that person for a working life. Difficult choices have to be made and one of these objectives has to yield to the other. A solution can obviously be found through prioritisation: both these aims are compatible if they are jointly pursued with respect to the same individuals, with one of them assuming priority. But one cannot escape the further question 'Which of the two is most important?' Conflict may well arise between those who say that personal cultivation is the most important goal and those who say that being an effective and fulfilled worker is. We can therefore see that the aims that a society adopts for its education

system may be highly contestable and a source of much potential conflict. One possible solution is to be bland, an approach favoured in England. Here are the aims of the School Curriculum enshrined after (apparently) a debate in1999. As far as I know this is the second time (the first was in 1988) that such aims have been put in a statutory instrument.

Aim 1: The school curriculum should aim to provide opportunities for all pupils to learn and to achieve.

Aim 2: The school curriculum should aim to promote pupils' spiritual, moral, social and cultural development and prepare all pupils for the opportunities, responsibilities and experiences of life.

For very understandable reasons these aims have been written in order to avoid controversy. However, they don't address the issue of what education is for. This is simply a question that cannot be ignored. If it isn't addressed explicitly by the society, it will be addressed in the day to day practice of that society: in schools, homes and workplaces. Even the production of explicit aims cannot guarantee that they will be adopted in practice. But without them, one can be sure that the 'default' norm of assumptions, values and practices within the society will continue to express the *de facto* aims of education in a largely implicit way.

Aims of education are thus unavoidable. But what should we do about them? Are they a necessary tool or a painful running sore? The English experience suggests that official explicit reflection on the aims of education that ignores taboos is too painful to be contemplated. Such reflection would very rapidly expose fault lines within the society. Much the easier option is to continue with the implicit default norm and to seek to subtly change public opinion through 'kite flying' or putting up ideas that one hopes will seep into the bloodstream of the society. As an example, I will draw your attention to what recent legislative proposals concerning the reform of 14-19 education are designed to do.

1. Tackle our low post-16 participation. We want participation at age 17 to increase from 75% to 90% over the next 10 years;

2. Ensure that every young person has a sound grounding in the basics of English and maths and the skills they need for employment;

3. Provide better vocational routes which equip young people with the knowledge and skills they need for further learning and employment;

4. Stretch all young people; and

5. Re-engage the disaffected. (DfES 2005, p.5).

These five aspirations tell us a great deal about how successive recent governments have viewed the purposes of the education system in England Aim 2 and 3 tell us that entry into employment is a key aim of education at this phase. Aim 1 is concerned with moving more young people into vocational education rather than straight into the labour market as a preliminary to later entry onto the labour market, including the 11% of the age cohort who are NEET (not in employment, education or training). These are a major segment of 'the disaffected' referred to in Aim 5. Aim 4 refers to the boredom of young people and the low expectations that are often had of them within our education system. These aspirations tell us far more about what successive governments think they want from the education system than do the official aims of school education. One telling omission is any reference to the *quality* of employment into which young people are supposed to be going. The aspirations set out above are rather modest, to put it kindly. Young people are to go into work and they need to be equipped for that. But the question of what kind of equipment for what kind of work is left unanswered.

However, the picture is more complicated because such stated aims may be difficult to achieve given other political imperatives and, in particular, the ever-present political need to attend to powerful interests within the polity. The achievement of aims requires that the appropriate conditions obtain for those aims to be realised. This can often be difficult.

Often one of the most important implicit aims of any education system is to maintain existing social structures and, consequently, relative inequalities, particularly of wealth and income. It is much easier to debate educational aims in relatively homogenous societies as the social structure is a less contentious matter. But if debates about educational aims are painful when conducted in such a way as to probe the divisions within a society, maybe there are ways to address those divisions through educational reform that can avoid the painful divisions. It may be possible to do this by emphasising neglected aims in the broader context of necessary reforms, particularly those to do with citizenship in a democratic society and the changing nature of economic activity. But don't underestimate the difficulty when powerful and entrenched interests are involved. The thesis that I want to develop concerns the limits of educational reform and how much can be achieved through a certain kind of

change within the school system. I will use England as a case study of such reforms and try and show their limits, going on to suggest how educational reforms beyond the school system may bring further progress, but at the risk of upsetting powerful interests.

By the standards of Western Europe, England traditionally ran a low skill economy. It needed a political and administrative elite, scientists, professional, technical and clerical workers. Up until the 1960s those needs could be met by providing an academic education up to the age of 16 and, for a much smaller group, further and higher education beyond that. The remaining four fifths of the population were largely destined for semi-skilled and unskilled work, a small minority becoming apprentices in traditional skilled trades and crafts. It is fair to say that, for most of them, their time in school was more of a form of warehousing prior to labour market entry than it was education in a meaningful sense, despite the heroic work of many teachers in the secondary modern schools. By the 1960s it had become abundantly clear both that the electorate would no longer tolerate such electoral apartheid, but also that our education system had become a poor performer compared with those of some of its European neighbours. Slowly but surely a reform process began to get under way. It is thus worth using England as a starting point for thinking about educational reform issues for a number for reasons. Bear in mind, though, that some of the lessons are general ones and some are more particular. I wish to concentrate on the points of general application. But, before I do so, it will be helpful to draw to your attention the educational situation pre-1988 in England and the political philosophy that underlay, and continues to underlie, those reforms.

English Education prior to 1988

1. There were no explicit aims for the education system.

2. De facto curriculum control rested in the hands of schools and teachers.

3. There was no universal mandatory testing of pupil achievement, either formative or summative.

4. There was no universal inspection.

5. Teacher education had just begun to be lightly regulated.

It can easily be seen, therefore, that the country had a remarkably decentralised and unregulated education system despite the fact that

the UK has a very strong state. This had arisen because successive governments had consciously decided to minimise state involvement in education. England was one of the last of the northern European countries to develop a state education system and did so with reluctance. The influence of both Adam Smith and John Stuart Mill, with their minimalist ideas about state intervention in education, continued to exercise a dominant influence over the society (although it could be argued that, taken to their logical conclusions, their liberal philosophies of education had the potential for very vigorous state intervention in the education system).

English Education after 1988 and the Education Reform Act of that Year

It is worth mentioning that from 1987 onwards, education has been a major theme for reform that has been mentioned by politicians as a central plank of their programmes. Tony Blair, when asked in 1996 to identify his priorities, replied, 'Education, education, education'. The main impulse behind this was largely to address perceived problems of economic competitiveness, which turns out to be rather ironic when we come to consider the labour market policies of the successive Blair governments.

- *The National Curriculum* is a detailed prescription of the curriculum from the ages of 4 until 16 across nine subjects. There have since been changes in a more permissive direction, particularly after the age of 14.

- *National testing and published attainment tables* at 7, 11, 14 and 16. The amount of testing has since been reduced, but national tables of attainment are still published and have considerable political influence.

- *Inspection:* After 1992, a semi-private inspection regime was installed, which visited every school every four years and the results of these inspections were published. It was possible for schools to be deemed to offer an unsatisfactory education and to be put into 'special measures' and, if these failed, to be closed. This harsh regime has been modified somewhat in the intervening years. This regime is also applied rigorously to teacher education institutions. In addition, this approach has been increasingly supplemented with the use of pupil level data with which to analyse the expected outcomes of children in different categories, so that inspectors and the schools themselves can assess school

outcomes against expectations generated through the use of statistical techniques.

● ***Strategies*** have been laid to increase student achievement. There have been four broad strategies, three of them centralising in their assumptions, the other one decentralising. These diverging strategies sit rather uneasily with each other.

Testing

National testing allowed trends in achievement to be monitored. With the installation of the Labour government of 1997, target-setting became a major policy instrument across a range of public services, including education. Thus, persistent shortcomings in achievement in literacy and numeracy in particular, led to the development of explicit targets for these subjects and science, particularly at Key Stage 2 (age 11) and the development of strategies which it was the presumption that teachers should follow, unless they had overwhelmingly good reasons not to. These strategies were meant to address shortcomings in teachers' initial and continuing professional education which were perceived to be serious, despite reform that dated from 1983 at least. These strategies have now been extended into Key Stage 3 and into Key Stage 4.

School Effectiveness Technology

The second concerns, the rise of the technology of 'school effectiveness', which aims to assess student progress against contextual factors and to identify the characteristics of effective schools.

From the 1980s onwards, academics in several countries, notably the UK, Holland and the US, developed a technology of school effectiveness, which after 1997 came to have a profound effect on national policies for improving school performance. This technology was based on one important normative assumption, that the key indicator of a school's success was in high levels of achievement in the academic curriculum, as measured through testing. The fundamental methodological assumption was to adopt a measure of *progress* rather than of *achievement* in order to measure that success. A further assumption was the adoption of a working hypothesis that there was a 'school effect', that the particular school a pupil attended could affect his or her expected progress either positively or adversely. Progress measures were to be contextualised to take account of the

social composition of the school's intake. This programme led to the development of regression equations which made it possible [a] to plot prior and posterior achievement scores [b] to construct a regression line allowing comparison of measured schools on a progress measure [c] to rank order schools according to contextualised progress [d] to identify the independent variables responsible for progress or the lack of it.

National Pedagogic Strategies

Concern over slow progress is raising achievement in the key areas of literacy and numeracy led, in 1997, to the implementation of a national literacy and a national numeracy strategy which, purporting to make use of the best pedagogical research in these areas, proposed detailed prescription of lessons to be undertaken for an hour a day in these subjects, initially in the primary phase. It was evident that the government had little faith in the ability and/or the willingness of teachers to make an effective contribution in these areas without considerable assistance. In the space of nine years the English school system had thus passed from one in which teachers had *de facto* control of curriculum and pedagogy, to one in which their lessons in two important areas were laid down virtually minute by minute.

Markets and Diversity in School Provision

The fourth of these strategies is concerned with increasing the diversity of schooling, particularly at the secondary level. This strategy has been designed partly to break the monopoly of the state education system, partly to cater for the diverse needs and interests of children beyond the age of 11, and particularly of age 14 and partly to find ways of extra funding for schools in 'deprived' areas. Thus there have been City Technology Colleges with private sponsors, specialist schools with limited additional funding for academic specialisms and the Academy programme, which involves modest private sponsorship in return for a very considerable control of the day to day running of the school, which will receive considerable funds for starting up. Alongside the strategy of diversity has been developed much enhanced parental choice of school, which has tended to accentuate the class polarisation of pupils within schools. Free choice in school places tends to favour those parents who have both the desire and the knowledge of how to place their children in schools with middle class parents. Such actions reflect a reality which the school effectiveness research programme makes clear, that both

achievement and progress are closely associated with the social class composition of the school intake (Gorard 2005).

There is considerable tension between the micromanagement and the market strategies. The former involve detailed intervention in the workings of the school using tools developed by the government. The latter involve devolving power from the government to the school particularly in respect to whether the National Curriculum needs to be rigorously followed. It is far from clear that running two such strategies together is really coherent.

The progress to date that results from such measures is modest, but at least measurable. The National Literacy Strategy and the National Numeracy Strategy have, until 2005, yielded approximately 1.5% cumulative annual increases in pupil target achievement in meeting basic functional standards of literary and numeracy over a 9 year period. There are signs, however, that the limits of these strategies have now been reached and that this progress has now become stalled.[1]

Approximately 20% of 11-year olds failed to reach Level 4 in the English National Curriculum in 2005, which requires that they should "show understanding of significant ideas, themes, events and characters, beginning to use inference and deduction. They should refer to the text when explaining their views. They locate and use ideas and information". It should be noted that the chances of progressing beyond level 4 if it has not been attained at age 11 are not good.

Current government statistics on the achievement of Level 6 in Key Stage 3 in 2005 assessment of Mathematics, which is below the basic level of simple algebraic competence, is 52% for all pupils at age 14 (53% teacher assessment, 51% test assessment) (DfES 2005).

These figures for the education system of one of the wealthiest countries in the world, achieved after 17 years of sustained educational reform focussed on increasing achievement, are extraordinary. They suggest that endogenous school-focused educational reform has its limits and that there is a need to consider external factors that may have an impact on achieving enhanced performance against benchmark standards, and also possibly that many of the reforms are misconceived or poorly implemented, particularly those that seem to be in tension with one another. Unless we make the assumption that there is a genetically based limitation

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[1] See the latest statistical release from the DfES, http://www.dfes.gov.uk/ rsgateway/DB/SFR/s000673/index.shtml, consulted 23/11/06.

in our population that is a natural bar to further progress, we must assume that improvement is, in principle possible and that it can be achieved through collective action. In what follows, I will identify what are the most important of these factors and how they can be addressed. Before I do so, however, I would like to suggest that there are three aspects of our humanity that need to be addressed before progress can be made. One of the problems with the English system is that not all of these are not adequately addressed.

Different Facets of Education

In what follows, I look at three different aspects of education, which of course, have considerable overlap with each other (which is also my main point). I suggest that education needs to address at least three important aspects of our humanity.

Human beings as individuals, with their own interests and needs. We need to address their acquaintance with their own culture, their spiritual, personal, moral and social interests and their desire to forge their own destiny. Traditionally the English education system has always recognised this, but in a way that presupposes that the human being in question is a member of the aristocracy or the gentry rather than a citizen and worker (see below).

Human beings as citizens. Here we are concerned, not merely with citizens as voters, or even as political activists, but as participants in the civil society of their country, whose sphere of interest and operation extends beyond the confines of family life into churches, clubs, associations, trade unions, charities and businesses.

Finally, there is the category to which I want to devote most attention, although it should be obvious that the fate of the worker is tied up with that of the individual and the citizen.

Human beings as workers. Economic activity is not merely an economic, but an action category and should certainly include paid employment but also activity such as raising a family, that contributes to the maintenance and improvement of a society's productive potential. This clearly includes work that is in the 'public sector' such as teaching, medicine and even religion which is not directly connected with the production of goods and services. There is clearly an overlap between humans as citizens and as workers. The most striking manifestation of this, however, is that of employee self-governance or industrial democracy, a development anticipated by John Stuart Mill in his 'Principles of Political Economy' in 1848 but which has only really flourished in Germany in the system of

'Mitbestimmung' or co-determination, in which workers in enterprises of over 2,000 employees have an equal say in the governance of their businesses. This has also been an economic success and it is now envisaged that Mitbestimmung may be extended into firms of up to 1000 employees. Note though that this is a unique development with strong cultural and historical roots in German society.

I am going to suggest that the key to future reform, once the limits of strategies such as the one outlined above have been exhausted, lies in labour market reform and in education post school, both the compulsory and the non-compulsory elements. Why is this the case? We need, I would suggest, first of all to look at education from the point of view of parents and their children at the very least as a starting point. Rightly or wrongly, the idea that education is going to prepare them to be workers is very prominent in their thinking. For example, the commission on education in England found that:

"The vast majority (sc. of children) believed that schools should help them to do as well as possible in their exams and teach them things that would be useful when they entered jobs" (National Commission on Education 1993, p.151).

Such sentiments may seem unwelcome to those reared on the aristocratic conception of education favoured by the élites of countries like England but they are, nevertheless highly significant for those concerned with educational quality and accountability. I would suggest that they are also views shared by the vast majority of parents. What they tell us is that the dominant conception of education held by the vast majority of the population who have to enter compulsory education is that in which human beings as workers is dominant. Their view of quality is thus dominated by how effective education is for their entry into economic activity. Clearly also, in a public education system they are an important constituency to whom accountability has to be rendered. This view is partly a reflection of reality; people recognise that they are going to have to participate in paid employment and that education could have a bearing on what employment they are going to take up. Consequently, we can expect them to take a view of the importance of education which is strongly dependent on how well they think that it achieves such an aim. Rightly or wrongly then, many people attach more importance to the preparation of people as workers than they do to their preparation as citizens and individuals, supposing no doubt, that such things can take care of themselves without much contribution from formal education. It is an important corollary of this position that in those communities in which the view   is taken that education does not

contribute to employability, the view may also be taken that it is of little or no value at all.

Now it may well be the case that such views are limited in certain ways. For example, parents and children may well only think about the job opportunities that education may lead to, in the sense of getting paid, although I personally think that that is a somewhat patronising view of what they think. Nevertheless, taking the views of education that parents and children seriously and trying to at least combine them with the views of other influential interests to develop a consensus of some kind, seems to be both an equitable and a sensible strategy.

Once we look at educational reform through this prism, the picture looks interesting and also, I would argue, gives us an insight into why school-based endogenous reform may reach limits, even within a wealthy and developed society such as the UK. One thing that we know about the UK economy is that is largely what is known as a 'low skill equilibrium', which is to say that the dominant mode of exchange is of low specification and low quality goods and services to low paid, low-skilled workers (Ashton and Green 1996, Keep 2006, Coffield 2004). Indeed the UK government often takes pride in this, lauding a 'flexible' economy in which formal training is minimal and where hiring and firing are easy and unregulated. The government's own figures for projected increases in skill demand (DfES 2003) forecast little or no increase in demand for level 1, 2 and 3 qualifications (roughly 11, 16 and 18 year old school achievement respectively), while forecasting some increase in the demand for higher education and a declining but still substantial demand for unskilled labour. There is also evidence that relatively few of those who attain level 2 vocational qualifications, rather than level 2 academic qualifications progress to level 3 vocational qualifications (Hayward 2005, Keep 2006) and that the economic returns on vocational level 2 qualifications are zero or even negative (Keep 2006).

In a high-skill equilibrium, by contrast, represented by Japan and most of the countries of northern Europe (the US is thought by some commentators to be a mix of low and high skill segments), goods and services of high quality and specification made by highly skilled workers are bought by highly paid and discerning consumers. It is important to stress that both high and low-skill routes can lead to economic success in terms of employment and GDP growth, although they each have their dangers. However, by its nature, the low skill option is going to require much smaller educational inputs than the

high skill one. Let us now look at what this means to the parent and child in a group that traditionally have entered low-skill employment.

Their experience of schooling has largely been that it is unnecessary to excel in order to become economically active. The structure of the UK economy gives them little reason to suppose that this situation has changed or is about to change drastically in the near future, although there are signs that migration from Eastern Europe will change this picture. They also know that the returns on school exit qualifications are low. Consider someone leaving at 16 with sub level 2 qualifications, who is considering acquiring level 2 vocational qualifications. They also have to consider deferred wages and, post 18, the considerable deferred costs of undertaking higher education. We also need to factor in peer pressure, reluctance to move from one's community and a desire not to break a settled pattern of life. Putting all this together, it is not difficult to see why a very large section of the population does not judge that it is getting an adequate return from school-based public education.

It isn't really helpful to respond that parents and their children *ought* to like education more. They look at the benefits of education in a certain way and draw their own conclusions. Furthermore, successive governments have *encouraged* them to think of education primarily in terms of economic benefit and lifetime earning power. A particularly striking example of this has been the introduction of higher fees for students in higher education, premised on the human capital idea that the fees paid initially will be more than remunerated by a lifetime earnings premium. What then, if you encourage young people to pay more attention to their education and they find that getting more education does not really help them economically, because of the way in which the British economy is structured? This is a very dangerous strategy as it looks like a piece of trickery; young people are being asked to do something for a reward that is not forthcoming. And it won't take very long for them to realise that they are being tricked.

'But surely', one might reply, 'if one enhances the education and the skills of the population and increases the supply of employment relevant skills, that supply will generate its own demand?' This has been the premise of VET policy in England for many years now, but there is no evidence that increasing supply generates demand on its own. Employers need to demand skills and then prospective workers will demand them in order to fill job vacancies. Potential workers won't demand skills unless employers want them. For them, a huge

risk is involved, which they will only take if the rewards are adequate. Indeed, in some respects, the British government itself encourages employees to think in this way.

I have argued that the low skill strategy of employers in England is a rational if rather narrow-minded one; they are in an equilibrium with their employees and their customers. For them, there could be risks in moving out of that equilibrium if other players do not also do so. Of course, there are risks in running an economy as a low-skill equilibrium since countries such as India might be able to compete not only on price, but also on skill, thus threatening even those activities which require a considerable level of education. However, much of the British economy is locally and regionally based and involves the exchange of services on a local and regional level. These cannot be outsourced to other countries. Such is the demand for low skill work that British employers are happy to engage workers from Eastern Europe, often at minimum wage levels, in order to fulfil that demand. The conclusion that I, and many other commentators draw from this is that employers have no individual or collective economic interest in making any dramatic and considerable shifts in skill demand in the medium future and that consequently they will not do so.

Defining the Problem before Solving it

Before we can propose a solution, we must first define the problem, and this is not as easy as it might seem. Employers in general do not have a problem with the levels of education and skills available in the British workforce, although they often claim that they do. Neither do young people in general have such a thirst for either general and vocational education that they are clamouring for more of it. Indeed, as Hayward has shown, if anything, there is a decline in demand for vocational education amongst that 58% or so of the population who are not moving on to matriculation for higher education. Something like 11% of the 16-18 age group are classified as NEET (not in employment, education or training), which means that, of the 58% or so not going on a higher education track, that figure is nearer 20%. This is a truly devastating indictment of a failure in aspiration in a wealthy and developed country that has ambitions to educate its population to higher levels.

The people who really see the difficulty in raising levels of educational achievement are the government and politicians more generally, who have hitched their star to ever increasing performance

as a way of enhancing social inclusion and increasing international competitiveness. Their views, however, are not shared by the bulk of the population or employers (despite lip service that the latter often pay to the benefits of enhanced education) – as the Bible says, 'By their deeds shall ye know them' and their deeds tell us most of what we need to know about what they consider to be important.

I think that low levels of educational achievement do matter, and I think this primarily as a private citizen of my country. My reasons are as follows–

- poor levels of educational achievement perpetuate the relative social inequality which is a scourge of our society.

- With poor education, people's lives are impoverished culturally and intellectually.

- Poor education is associated with insecure, badly paid and uninteresting employment

- Poor levels of educational achievement compromise the workings of our democracy

- In the longer term, low levels of educational achievement and skill will compromise the prosperity and security of our country.

These five reasons are good enough and I guess that they will be relevant to most societies. So what is to be done?

The place to start is with employer demand for education and skills. There is ample evidence to suggest that this won't arise as a result of the spontaneous operation of market forces, for reasons already suggested. This leaves government with the major responsibility. Governments can create a climate in which it is in employers' interests to demand higher levels of skill from their workforce. Once young people know this, we may begin to get incentives in place for getting better educated.

One mode of generating employer demand is *hortatory*: government exhorts employers to demand more skills. This has been tried with limited success.

Another method is *persuasion*, by encouraging employers to work together with government agencies to work up a demand for more skills. Again, this approach has had limited success.

Another method is *financial*, through subsidising employer-based apprenticeships. This has been operating for about 15 years through the Modern Apprenticeship scheme, again with limited success, particularly in those sectors of the economy which have not traditionally taken on apprentices.

The final method is *regulatory*. This involves using legislative or executive instruments to either encourage or to compel employers to demand qualifications. The first of these instruments is the *license to practice*. Licenses to practise are a key characteristic of those occupations that we call professions, such as medicine or the law. Typically the license is only awarded on the achievement of a certain level of professional educational qualification. One also finds it with safety critical occupations such as gas fitting. One option would be to progressively extend the license to practice to a wider range of occupations. A more radical option would be to specify an educational threshold to be achieved before one can enter the labour market. Such a measure would bear directly on both employers and potential employees as a direct incentive to achieve threshold levels of general education.

Interestingly enough, a thinker most associated with keeping the State out of employers' business, Adam Smith, proposed just such a thing in Book V of 'The Wealth of Nations', published in 1776. He proposed that, in order to practise as a tradesman or to be a member of a body corporate (i.e. a guild or profession), all young people should be educated to a basic minimum level in literacy and numeracy. This was not because this would help them with employment, but for civic reasons. Young people with a general education will be less inclined to sedition than they would otherwise.

"They are more disposed to examine, and more capable of seeing through, the interested complaints of faction and sedition, and they are, on that account, less apt to be misled into any wanton or unnecessary opposition to the measures of government."[2]

Thus for Smith, the main justification for the labour market license to practise is civic rather than vocational. Indeed, and notoriously, Smith's vision of work in an industrial society was unremittingly bleak. Fragmentation of the labour process, while highly productive, has a devastating effect on the cognitive abilities of those who submit to it. Again, to quote from the *Wealth of Nations*:

"The man whose whole life is spent in performing a few simple operations, of which the effects are, perhaps, always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become."[3]

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[2] Smith op.cit. Bk 2, p.788.
[3] *Ibid.*

So Smith's economic vision was of a society in which there were a few inventors and a stratum of manager-owners and foremen who supervised the line along which products passed in the course of their manufacture. In other words, it is a vision of a highly efficient low-skill economy. One of the striking features of Smith's vision is the dissonance between the civic and the economic aspects of humanity. At work, one is expected to be a moron; as a citizen however, one should be alert to and critical of the ranting of revolutionary demagogues. This vision seems to be skewed. Human beings may be citizens as well as workers, but the two aspects of their lives cannot be compartmentalised in this way. An alert citizen is likely to take an interest in the workplace, to demand independence and responsibility for the work he carries out and even to claim some role in the governance of his firm or organisation, even if it is through membership of a trade union rather than a seat on the board. Had it ever been put into effect, Smith's general license to practise would have had far-reaching consequences in English society which he would have found, in the main, most undesirable.

Such a generalised license to practise would politically impossible to achieve in the short term. The main alternative is to introduce occupational licenses to practise so that only a properly qualified workforce can enter the labour market. This gives employers an immediate incentive to contribute to vocational education and to ensure that it is working properly in order to secure a steady supply of labour. Young people likewise are given an incentive from their schooldays onwards to work towards school exit qualifications that will qualify them for apprenticeships or college courses. If the state also makes a financial contribution to such programmes, then it too will be able to demand continuing elements of general and civic education as part of these vocational programmes. Perhaps most important for the school system, minimum requirements for literacy and numeracy for the entry onto vocational programmes will provide a powerful incentive for students to improve their individual performance. This time, though, they will know that becoming literate and numerate will actually prepare them for jobs. The major problem with such a programme of course, is that employers would vigorously resist any such attempt to interfere with their power to hire and fire workers at will and to employ the skill strategy that they feel best suits the market conditions in which they operate. With governments such as those in the UK, it is inconceivable that employers would ever be challenged in such a way.

Vocational Education and Training Levies

The other regulatory approach is through *training levies* within a particular economic sector. Firms are charged a levy for training new entrants to the occupations within the sector. They recoup this levy by drawing from it to train their employees. This again provides a powerful incentive to train as the costs of training are already sunk through the levy. Once again, however, employers have tended to resist levy schemes and they have all but disappeared in the last fifteen years.

Class and Educational Achievement

Social class is officially defined by economic status in the labour market. But the official classification hides the cultural reality behind the classifications: the aspirations, the inequality, the poor life chances. This is a universal phenomenon. In every society, people measure their worth according to how they stand relative to other people and they pitch their expectations according to what they think are their chances in life. The degree of relative inequality that exists within a society has an effect on life expectancy, health, criminal behaviour and educational outcomes.[4]

A large gap between the skilled and the unskilled is both symptomatic of and a continuing causal factor in the reproduction of such social inequalities. Increasing skill levels and reducing relative inequalities is thus a social good, whatever one thinks about its economic benefits strictly conceived. In addition, skilled work usually implies flatter management hierarchies, more room for independence of judgement and action, not to mention teamwork, within the workplace. These are all factors that contribute to an increase in the quality of life. Where societies' own expectations of its future workforce are low, that future workforce will respond in kind. They won't in the end, be fooled by conflicting signals that 'education is good for you' if the message from the workplace continues to say otherwise.

We all know that, from the 1960s sociologists were fond of saying that class was the main determinant of educational success. The school effectiveness movement that appeared at the end of the 1970s arose partly to oppose such pessimism and cynicism. In the 1980s and 1990s, the regression-based models that the movement developed sought to identify the characteristics of effective schools and the

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[4] Richard Wilkinson (2005) *The Impact of Inequality: How to Make Sick Societies Healthier*, London, Routledge.

associated school improvement technology sought to put those lessons into effect. By 1997, the school effectiveness/school improvement paradigm had captured Downing Street and formed the basis of the various strategies that were employed to improve schooling in lower class areas. Despite all the disclaimers that there were poor schools in well-off areas and good schools in poor areas, it remains a stubborn fact that poor school achievement remains mainly rooted in lower class areas. This is so despite the use of progress 'value-added' measures rather than exit achievement scores.

I would first, however, like to make three observations about value-added methodology. The measure of progress for each individual pupil is subject to statistical error. At the aggregated level, measures of progress can only be accepted within a wide 95% confidence interval. It was known, as early as 1988, that these confidence intervals overlap to such a degree that one can only say, with security, that the highest achieving 20% of schools perform discernibly better than the lowest 20%. It is therefore highly misleading to compare schools within the mainstream 60% with each other on progress measures. Secondly, because value-added methodology makes use of background variables such as prior achievement and a proxy measure for social class in order to adjust scores, the so-called 'school effect'– that is to say, the difference that being a good school makes to pupil progress, is quite small, less than 10%. This is not negligible in terms of the effect that it has on the life chances of thousands of individual pupils, but it is clear that the school effect is limited, even according to the technologists of school improvement. Finally, progress measures are computed through the cohort comparison of schools. They are thus *relative* measures, not measures of what a school is theoretically capable of. It might be said that such measures can tell us the performance of schools relative to each other, they cannot, however, tell us what schools might be capable of in optimum conditions.

School Effectiveness – An Impasse?

Unfortunately, there is worse news concerning school effectiveness, recently pointed out by Stephen Gorard. The point is a simple one. It is generally accepted that the main determinant of progress, alongside social class is prior educational achievement. That is, the more that you have already achieved educationally speaking, the better your chances of progressing. But of course prior achievement is embedded in its own set of causal and background factors. And since prior achievement is itself an effect of prior educational progress,

it should be evident that it cannot be considered in isolation. In fact, as we already know, prior achievement is heavily dependent on the social class of students. This means that one of the main independent variables that determine progress is confounded. It itself heavily involves the other main factor, namely social class. School effectiveness methodology then seems to be measuring, to a more considerable degree than was realised, the effects of social class on progress, working their way through seemingly independent variables. Gorard's own (2005) analysis of the government's own figures bears this view out, showing that 71% of the variation between schools in value added can be accounted for in terms of prior achievement at KS2 at age 11. These tables show progress between the ages of 11 and 16. There is a correlation of 84% between raw achievement scores at age 16 and progress between 11 and 16. There are no mid to low attaining schools with high value added scores, and all schools with a benchmark 16 year old score of 40% or less are deemed to be achieving less than the norm in value added terms. Gorard argues that the value added scores, like the exit achievement ones that they are designed to replace, are largely proxies for the effect of social class on educational achievement.

This observation is, I think, an apparent blow to the dominant school effectiveness research paradigm which shows once again, what the sociologists of the 1960s claimed, that social class is an enormously important determinant of educational success. I hope that I have given some reasons for showing why that is so. Does this mean that there is no such thing as a 'school effect'? I don't actually think so, but I accept that school effectiveness methodology has now reached an impasse.[5] It is a good way of getting some basic preliminary information about systemic functioning, and, at the school level, can serve as an indicator of likely problems. But it cannot give us valid information about the effectiveness of particular schools.

Where are We Now?

It looks as if the limits of systemic reform of the state school system in England may have been reached. But the lesson is, perhaps, a more general one. There comes a point at which the realities of social class and the demands of the labour market set external limits to

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[5] However, this result depends on how value-added is calculated. See J. Foreman-Peck and L. Foreman-Peck (2006) 'Cognitive Achievement and Behaviour in School', forthcoming, in the way in which quite radically different results can be obtained depending on one's assumptions is made clear.

continuing educational progress. Further progress is possible through a revival of the post -16 vocational education system, but this can only be realistically achieved through an expansion of demand in the labour market for young people. The evidence of the post war years suggests that the economic strategies and attitudes adopted by the country's employers are not likely to change through exhortation, persuasion or financial incentive. The answer has to involve some kind of regulation to raise the expectations of employers. This may be a step too far for any imaginable future British government, but it is the price that will need to be paid in order to achieve future progress, let alone any reduction in the social class related relative inequalities that pervade educational outcomes and the consequent relative income inequalities that result.

Educational reform needs to go together with economic and social reform. In particular, relative inequality needs to be addressed and, as a complementary strategy, a high-skill equilibrium needs to be developed through state-initiated development of the labour market and the economic environment. The main target of educational reform should, then, be in vocational education for the 16-19 group and it needs to deal with the exogenous factors that affect the take-up of educational opportunities. School-focused educational reform can, on its own, make limited progress, but remains in danger of being undone by exogenous factors and will almost certainly be limited by them.

Conclusion

So what can we usefully say about the enormous natural experiment that the reform of the English education system has been over the last 20 years? I would like to draw out a few lessons and bring together the main themes of this lecture. No doubt my audience will draw their own conclusions in relation to India, but I hope that the themes that I have addressed bear some passing relevance to the Indian situation.

The first point that I want to make is that educational reform cannot avoid the big question of what education is for. We cannot address change in a national education system unless we get to grips with this issue. Admittedly to do so poses political dangers, but I would suggest that this is one area in which political parties need to do some work together in order to avoid such very important discussions fragmenting along narrow party political lines. Failure to do so leads to the default aims implicit in the education system

continuing to assert themselves, thus tending to reproduce the very problems that reform was designed to address.

The second point is that in addressing such issues we need to consider all the important aspects of our humanity and their relationships with each other. We cannot just consider humans as workers or as individuals or as citizens, but as people whose lives encompass at least all three of these aspects, ideally in such a way that each enhances the other. We have seen, in the English case, a fundamental failure to address what was the unstated central aim of educational reform, namely the preparation of the population to become more knowledgeable, engaged and highly skilled workers.

The third point is that educational reform is unlikely to succeed if it is conceived of as solely a matter of making the existing mechanisms for teaching and learning more effective. The place of education in its social, economic and political environment needs to be taken into account and the necessary changes to that environment need to be made in order to secure educational reform. This all goes back to the point made earlier about the need to engage all the interests in the society in the process of reform.

Finally, it may well be the case that, when all else fails, political courage is needed to confront powerful interests whose perception of what is best for them continues to be at odds with what most consider to be the public interest. In such circumstances, political conflict may be an unavoidable preliminary of educational reform. But if the reform is necessary and well thought through then, in the end, it will come to be accepted. The German law of 1976, which extended industrial democracy through a broad reach of German businesses, thus enhancing the role of worker as citizen, aroused the fierce resistance of the Christian Democrats, then the opposition party and large sections of business. So much so, that the legislation was challenged in the constitutional court before it was implemented. Now however it is largely accepted as successful, both in economic and social terms, so much so that there is talk of extending its provisions to smaller firms by the Christian Democrats themselves. Political courage and determination, harnessed in the cause of what one believes to be right are sometimes necessary ingredients of reform, including educational reform.

I imagine that "Gandhi would have been unhappy about many aspects of the rapid economic development of his country. It seems to me, though, that his insight that we have to keep in mind the central role of a citizen as a producer, who manifests a significant

part of his humanity, and indeed, his spirituality, through work is one that needs to be cherished, perhaps all the more so in a situation of rapid economic change in which all kinds of temptations to ignore considerations that are not strictly economic become almost overwhelming". I think that this is one of the most important lessons that the story of recent English educational reforms has to tell us.

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Integral Education: A Foundation for the Future

by Partho

Published by Sri Aurobindo Society, Pondicherry
in association with UBS Publishers' Distributors Pvt. Ltd.
Price Rs. 525. Pages 306.

Integral Education — A Foundation for the Future is a book with a difference. It is far from the rut and presents a deep understanding and crystal clear insight into the theory and practice of integral education. Partho, the author and a 'seeker of the self' has raised many pertinent questions and answered them in the book in a predefined Aurobindonian framework. The book has thirteen chapters. Each chapter gives a jolt to the established pedagogy and compels the reader to research his thoughts and beliefs.

There are two seminal ideas that are the mainstay of this book. First, the idea that man is a transitional being and must evolve to the Superman or the Divine Godhead. Second, this idea can be transformed into a living creative force by a new kind of education that would consciously go beyond the mundane aims of schooling and create a growth-oriented, evolutionary culture amongst the human from its pettiness to vastness, from selfishness to oneness, from discord, difference and conflict to harmony, love and compassion, from arrogance to a true nobility of the human spirit and to touch again the depths, to rediscover the mystic and the sacred. As per the author "the central purpose of such education would not be to repeat what others have done or doing, but to attempt something that may never have been attempted before on the planet — to create conditions for the emergence of a new way of being on earth." In other words to 'divinise' human life progressively would be the guiding belief of an evolutionary, integral education.

Since the book is based on the author's own practice of integral education it has reached brilliance in its explanation of integral learning, integral teacher and the concept of integral education itself The book is a must for every teacher and teacher educator to grasp the real intent of education in the emerging knowledge age.

Integral education believes in awakening the Psychic, perfection of the vital, perfection of the mind and perfection of the body. Best part of the book is its description of 'the integral environment' which is a critical factor in the building of an integral school. While designing a school building we are so enamoured by its grandeur, imposing architecture and space economy that we totally forget the basic principle namely "a happy, child-friendly environment creates happy children, confident and expansive, whereas, an imposing somber, intimidating environment forces children to shrink. Openness, freedom, warmth, friendliness, a certain lightness and playfulness of character, and alongwith these, a certain degree of order, safety and comfort would be the dominant psychological needs. Warmth in cold weather and coolness in warm weather, spaces for utility and play, greenery and natural beauty, order and organisation, cleanliness and easy accessibility, convenience and comfort would be the important physical needs.

The book therefore can be termed as a milky way in the galaxy of routine books on education. Its coherent and crisp presentation leads the reader straight away to the issue and authentically deals with all its aspects. However, Aurobindonian framework brings in some subtle concepts and constructs which may require deeper knowledge and insight into the vision and works of Sri Aurobindo and the Mother. Finally, it is a welcome addition to the world of books on education and needs to be read by teachers, teacher educators and students of education at whatever level they operate.

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Learning Achievement of Class V Students — A Baseline Study

By Dalip Singh
Response Books, New Delhi, Rs. 320.00 pages 235

The report of the Baseline Study is a voluminous publication of NCERT comprising 795 pages. It presents survey of learning achievement of Class V students. In the past, NCERT had conducted achievement surveys to assess qualitative change in pupil's achievement in basic

learning skills- reading, writing, and arithmetic. The last survey was undertaken in 1990 in language and Mathematics. Since then interventions have taken place, the present survey-cum-study of learning achievement of Class V students was initiated in 2000. The massive data were collected from 105 districts spread over 27 States and UTs comprising 4787 schools, 10,796 teachers and 88271 students. It was not only limited to assessment of learning achievement of Class V students in curricular areas — Language, Environment Studies and Mathematics but it also studied intensively the school and home factors which influenced the learning achievement.

The report is organised in three parts. The first part explains the rationale and need of the survey, describes development of tool, sampling design, administration of tools. The second part discusses the results of overall analyses at the national level. The third part presents state reports for necessary action on their part. The report also throws light on the profiles of school, teachers and pupils across the country .

The main objectives of the survey-cum-study are as follows.

1. To study the level of achievement of children in Language, Mathematics and Environmental Studies at the end of class V.

2. To study differences in achievement category wise, area wise and genderwise.

3. To study the influence of intervening variables like home, school and teacher on students' learning achievement.

The required data of the study were collected with the help of three tests in the main subjects. These tests were developed in 17 Indian languages. Each test comprised 40 multiple choice type objective test items. The coverage of these tests was comprehensive, testing concepts, relationships, generalisations and applications etc. in the three basic subjects- Language, Mathematics and Environmental Science. The tests were administered on a sample comprising 105 districts from 24 states and 3 UTs. Appropriate statistical techniques CR, t and r were used to analyse the data to study the significance of mean differences in achievement among social groups, areas and genders.

The report provides an interesting reading with colourful illustrations, diagrams, graphs and maps. The findings derived from analysis of results and their interpretations are large in number. It would have been better to draw general conclusions and print it within

box to focus attention of common reader. The results should also be compared with the previous survey findings whenever possible. Also certain specific analyses were presented especially comparison of student's achievement between and within 27 States and 3 UTs, classification of states according to the range of student's achievements, distribution of students in different ability groups. The analysis was also done to study the contribution of intervening variables of school-teacher-students. Coefficient off correlations of predictors of school related variables where the criterion variable was also worked out. In addition to multiple regression analysis ANOVA and independent t tests were also employed to examine the effectiveness of school-teachers-pupil related variables. However, detailed discussion of results in the light of socio-educational ethos and earlier researches are lacking throughout the overall as well as state specific reports. The huge data gathered may also be used to work out the 'Education Index'.

The report of this survey-cum-study is a valuable research document for the researchers, administrations, planners and policy makers. I m sure it would find place in the libraries of universities, research institutions in the field of education. It would definitely prompt future researchers to take up studies on problems of UEE and Sarva Shiksha Abhiyaan.

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Emotional Intelligence at Work — A professional Guide (Third Edition) 2006

Volume I

Published by
National Council of Educational Research and
Training, New Delhi : 2007. Price: Rs. 225. Pages 299.

The book is a collection of personal experiences of the author on emotional management, personal and interpersonal management, self satisfaction and career perfection in the fields of management, administration etc. taking care of social and psychological dimensions

of emotional intelligence. It provides elements on the intricacies of EQ in particular and compares talent, intelligence and emotional management in general. In the seven chapters of the book, the author begins with the conceptual framework of Emotional intelligence vis-a-vis professional success followed by its relationship with personality and IQ, development of EQ , personal and Inter-personal emotion management skills. It also tries to reflect upon the empirical evidences in the field through case- studies, examples from various fields, EQ requirements for various fields of emotional intelligence and the stress management. It has given a three phase training and development model for development of EQ. The book ends with an EQ test for knowing one's own EQ.

The author has excellently shared the field based experiences on various issues associated with Emotional intelligence and Emotional Quotient (EQ) with a view to explain the concept to a new researcher in the field and clarifies doubts raised in any one's mind. However author seems to have touched too many issues and grappled with difficulty of relating them. The book has given a supporting framework for a reader who is beginner in the concept with variety of issues. The size of the book is digestible and comprehensible as per the need of a beginner. The language, style and teaching points or exemplars from the field material and discussions have somehow a reflection of personality of the author's profession to a greater extent.

The book seems to be a collection of too many aspects of EQ at a place which if dealt separately in detail could have been more meaningful. Each chapter of the book stands independent of the other with some overlapping, which may be obvious in such concepts. While dealing with the concept in first chapter, importance of EQ has been overstressed. Emotions seem to have been discussed through examples and its positive and negative traits are talked about. Feeling part and thinking part compatibility is stated to be constituting EQ, whereas EQ is more than that. Some latest definitions and examples form a position paper in the chapter. EQ helps in professional success, is again a controversial issue touched upon by the chapter though in a rational manner. Myths about EQ are now universally accepted facts where again a lot of researches are being demanded. Chapter two, though more explicit and rational, has lot of components rewritten in another form as conceptualised in Chapter I, whereas Chapter III gives examples (as cases) to support one's contentions on issues of EQ development.

Chapter IV is again on management strategies called as

management skills or emotional skills, a manager needs to develop. This deals with development of self esteem, development of EQ ignoring stress and gives some tips for being an emotional winner. Empirical evidence in terms of emotional competency is given in Chapter V which also includes redefining emotional intelligence from other angles. However, the chapter quotes fifteen studies towards the end and relates of EQ established through them. Chapter V on Guidelines for training and development talks of assessing needs, aspirations, strengths and weaknesses; fostering position relationship between trainer and trainee; encouraging the use of skills on job and conducting on going evaluation research. All these four phases have further been classified into different skills.

Concluding chapter attempts at self evaluation tool for knowing Emotional Quotient in form of a test developed by the author with another scholar. The test quoted to have test retest reliability of 0.94 and split half reliability as well as validity as 0.89, througlr1he kind of sample on which it has been standardised is not mentioned. Ethical concerns involved and consistency on various issues seems to be lacking in this chapter. However various parameters and indigttors of Emotional Quotient have been well stated. The book has also given some select']ibliography and references. Tables and diagrams have tried to support the text.

The stress management strategies as essential part of Emotional Development including yoga, *pranayam* or other Indian contributions besides the effect of nutrition, discussions as contribution to emotional intelligence should also been included in such a piece of work to make it more comprehensive. Otherwise the book provides enough examples, case studies of individual experiences and their relevance in understanding different facts of Emotional Intelligence but fails to correlate the parameters of these studies. The book could however be used as supplementary reader for a beginner in the field of Emotional Intelligence. Deviation from a text format and user friendly style of the book in appreciable. It can help the professionals like business executives, administrators, teachers, counselors, psychologists etc. for increasing their professional efficiency. It may also be useful for individual to enhance their emotional quotients and helping others in their personal lives.

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The Economics of Elementary Education in India:

The Challenge of Public Finance, Private Provision and Household Costs

Edited by Santosh Mehrotra

Published by Sage Publications, New Delhi. Thousand Oaks, London, UNICEF, 2006. Price Rs. 640.

It is the elementary education system in India that is the focus of this book. This book is the product of a research project examining key aspects of the elementary education system, focusing especially on aspects of cost and financing, in the large educationally backward states of India. The surveys on which it is based were carried out in the year 2000 on the basis of representative samples in each of the selected States. The Survey was financed by UNICEF India and carried out by New Concept Information Services during the second half of 1999, based on a research design prepared by the lead consultants. This book examines seven States out of which six States account for nearly three-fourth of the children out of school in India (Bihar, Rajasthan, Madhya Pradesh (MP), Uttar Pradesh (UP), Assam, West Bengal (WB) and one relatively high-achiever State Tamil Nadu (TN).

There are eight chapters in this book. Chapter 1 written by editor Santosh Mehrotra 'What Ails the Educationally Backward States? The Challenges of Public Finance, Private Provision And Household Costs' is divided into three sections. This chapter examines the value added by this study, and explains why it was undertaken in the light of recent research work. It also dwells upon the comparative findings for all the states under study and the progress made in each of the States briefly so as to spell out the specific features of developments and challenges in each of the states. Appendix 1A-1 spells out the methodology of the survey that is the basis of the state-level chapters. The survey consisted of the following components-census, household questionnaire, schools, teachers, community interaction/field notes. The units for the study were the villages in the rural areas and the Urban Enumeration Area or UEB (a term used by the Registrar General of India documents) in the cities and towns. The survey covered more than 120,000 households and 1,000 schools spread over 91 districts in the eight States. The rural sample was based on 34 districts, four per state for all states except UP which had a sample of six districts. The urban sample of 80 towns and cities was spread over 64 districts. While most towns and cities fell in a different set of districts, a few districts coincided with those covered under the rural

sample. The sample size was fairly large and comparable with major national level surveys. A multi-stage stratified sampling technique was used to select districts and cities and sub-samples. In the first stage, the selection of districts for the rural areas and cities and towns for the urban areas was based on Primary Census Abstract lists (1991) of the States by using a circular systematic random sampling technique. In the second stage, villages and UEBs stratified according to population categories were selected by using the random sampling technique. The third stage consisted of selecting the households for in-depth study, in addition to census coverage of household for complete enumerations~ and of schools and teachers for educational details.

Chapter 2 written by Ravi S. Srivastava 'The Impasse Broken: Mapping change in Elementary Education in Uttar Pradesh' is divided into nine sections. The chapter pertains to the undivided state and presents an overview of the progress of literacy and elementary education in UP, focusing on the aspects of the costs and financing of education and their effects on access, equity and quality, Details of survey in UP are given in Appendix 2A-l.

Chapter 3 written by Anup K. Karan and Pushpendra 'Bihar: Including the Excluded and Addressing the Failures of Public Provision in Elementary Education' is divided into six sections. This chapter discusses the problems related to the growth of elementary education in Bihar. Appendix 3A-l provides the Gross Enrolment Ratio in Major States of India, 1999-2000.

Chapter 4 written by Sunil Ray 'The Cost and Financing of Universalising Elementary Education: A Silver Living in Rajasthan?' is divided into seven sections. This chapter addresses the issues of adequacy, quality and accessibility of the schools against the backdrop of household dynamics of demand for elementary education and responses of the state to such demand.

Chapter 5 written by P.R. Panchamukhi 'Universalising Elementary Education in Madhya Pradesh: Can the successes of Decentralised Governance Offset the Problems of Public Finance, Private Provision and Private Cost?' is divided into seven sections. This chapter is based largely, but not only, on the UNICEF survey. It presents the current education level and quality of schooling through Net and Gross Enrolment Rates (NER/GER), dropout and never-enrolled rates and the disparities between gender, location (that is, urban-rural) and socio-economic level. It focuses on expenditures on elementary education for the three types of school management: government, private aided and private unaided, and their impact on

the education level. It analyses the cost of elementary education from the perspective of a household and describes people's perception about the quality of elementary education. It also presents the trends of government expenditure on elementary education during the 1980s and 1990s. It summarises the various government initiatives for Universal Elementary Education (UEE) with a special emphasis on the successful Educational Guarantee Scheme (EGS) and presents policy recommendations aimed at achieving UEE. Appendix 5A-I provides list of villages surveyed in MP and Regression analysis of Early Childhood Schooling and Enrolment in Elementary Schools.

Chapter 6 written by Raghabendra Chattopadhyay 'Assam: The Challenge of Financing Universal Elementary Education in a Poor State' is divided into seven sections. This chapter presents an overview of enrolment, dropout and out-of-school children and trends in locational and gender equity in these variables. It is devoted to examining enrolment and the quality issues in elementary education by type of school, i.e. by management-type (government, private aided and private unaided) and evaluation of the school delivery system by an analysis of the public expenditure pattern on education. It also discusses, household expenditure on schooling as a determinant of demand for schooling and examines some reforms put in place and concludes with some policy implications.

Chapter 7 written by Tapas Majumdar 'Cost and Financing of Elementary Education in West Bengal' is divided into five sections. This chapter presents an overview of the West Bengal school system as a heterogeneous system, serving a divided society and compares the state's performance relative to other states. It examines the private sector as a provider, comparing quality of facilities with government schools, examines the public spending pattern on education, and then goes on to examine the household spending on private and government schooling. It is also devoted to an examination of the state government's response to the problems of the elementary school system specifically by creating alternative schools with Para-teachers (or Sishu Siksha Kendras).

Chapter 8 written by Jandhyala, B.G. Tilak and A.M. Nalla Gounden 'Private costs and Public Financing of Elementary Education in a High Achiever State: Tamil Nadu' is divided into six sections. This chapter is confined to an examination of a few select issues and problems relating to the costs and financing of elementary education (primary and upper primary) in the state. It also focuses on the role of private sector in elementary education.

The common themes of the eight chapters are cost of Elementary

Education, financing of Elementary Education, Private Provision and Private costs in these states. There was a considerable increase in academic attention given to elementary education in the 1990s (PROBE, 1999; Vaidyanathan and Nair 2001; Govinda, 2002). The present book is based on the first study of its kind that focuses mainly on the cost and financing aspects of elementary education. It is also the first major study of elementary education in India covering most of the major states based on a representative sample since the National Sample Survey of 1995-96. It also covers a much larger number of states than the PROBE (Public Report on Basic Education) study (which focused on four states). In other words, the data analysed in this book covers both aspects of financing and provision, public provision and financing and private provisioning as well as private out-of-pocket costs of the household. There is no other recent study that we are aware of which covers all these aspects of elementary education in the major states of India. If the survey, on which this book is based, had collected data about every district of the State, then the outcome by districts could be compared and it could have produced more reliable data and results. If the survey had covered aspects like private schooling and also the poor, it would have been more useful. However, this book is really interesting and useful for the people in the fields of primary and elementary education, health, Welfare Economics, education finance and funding. It may also be useful for the NGOs, administrators, donors and multilateral agencies active in the field of education.

<div align="right">

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राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

Priority Areas of Research under ERIC. NCERT

Educational Research and Innovations Committee (ERIC) of NCERT has identified the following priority areas of research. Research proposals related to these areas will receive priority for providing financial support by the ERIC in coming years.

Curricular Areas

In the backdrop of *National Curriculum Framework* (NCF–2005) it is important that each curricular area is revisited by the researchers and probed in depth to find answers to problems related to teaching-learning of different subjects. In this context the status and role of arts, crafts and aesthetics; health, yoga and physical education; work education and peace education also need to be examined. The linguistic diversity of India poses complex challenges but also a range of opportunities. Language teaching needs to be multilingual not only in terms of the number of languages offered to children but also in terms of evolving strategies that would use the multilingual classroom as a resource. Issues related to language as medium of instruction and multilingualism, therefore, assume significance. Research proposals will also be welcome in the area of comparative studies on concerns related to school education.

National Concerns

One of the foremost concerns is ensuring enrolment and retention of all children in the school. Commitment to Universal Elementary Education presupposes representation of cultural diversity, ensuring enrolment of children from different social and economic backgrounds with variations in physical, psychological and intellectual characteristics in the education process. In this context, disadvantages in education arising due to inequalities of gender, caste, language, culture, religion or disabilities need to be addressed. Research related to education of the disadvantaged groups, inclusive education, gender equity, education of rural children and functioning of rural schools becomes significant in this background. Vocational education and environment education are two emerging concerns that require attention from sociological, psychological, economic and

pedagogical point of view. Some other concerns in this context like psycho-social development of children, education for life skills, and education policies and practices related to school education will also receive priority.

Systemic Concerns

The curricular vision presented in NCF–2005 needs to be supported and sustained by systemic reforms. Important among these are the system' for preparing teachers - both pre-service' and in-service, system of producing textbooks and learning materials and the examination system. Integration of ICT in education as a pedagogic, administrative and monitoring tool and the related practices require extensive research for maximum efficiency within the boundaries of democracy, human dignity and freedom. Classroom processes and practices and management strategies are other useful areas of research in this context.

Pedagogic Practices and Learning Processes

Our current concern in curriculum development and reform is to make it an inclusive and meaningful experience for children. This requires a fundamental change in how we think of learners and the process of learning. Within the ambit of child centred pedagogy, research in areas like thinking and learning processes of children, pedagogic approaches of training teachers, text-analysis and text-learning dynamics becomes crucial.

Any other area as per *National Curriculum Framwork–2005* (NCF–2005) not covered above.

Research proposals may be submitted in prescribed format. The format and necessary guidelines can be downloaded from NCERT website (www.ncert.nic.in) or can be obtained by post from the address given below:

Head
Department of Educational Research
and Policy Perspectives (DERPP)
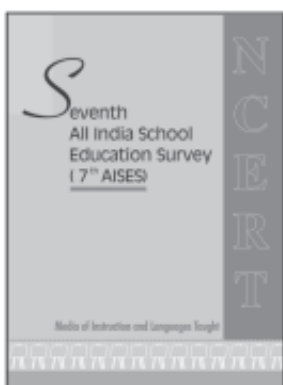**National Council of Educational Research and Training**
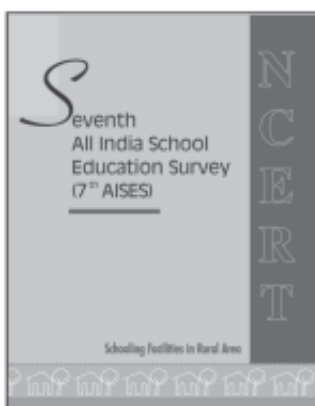Sri Aurobindo Marg, New Delhi 110 016
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