Teaching School Students through Distance Mode Some Reflections

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Abstract

Teaching school students through chalk and talk approach has been in practice for long in India. Various strategies for achieving the present goal of school education were discussed and some are put into practice. In this paper it is argued that if teaching to school students, particularly Class IX students is offered through distance mode in the form of self-study material, they will prove to be more effective and economically viable. We think the case merits serious consideration as the issues raised remain significant.

Rationale

One of the important considerations for improving the quality of teaching in any subject is the provision of effective teaching learning material. There are many methods, models, and techniques which can be used to make an instructional process effective. Self learning material (SLM) is one of them. The SLM may be defined as learning material designed on auto instructional style for the self study by the learners. It enables learners to learn independently, unaided and on their own pace. It consists of self contained learning activity packages which promote self learning, self evaluation, and self enhancement through continuous feedback. As a learning technique, SLM incorporates educationally sound and empirically proved psychological and pedagogical principles as it allows the learner to find his way into and around the subject by repeating the content. It explains the subject matter in such a way that the learner can relate it to what he already knows, encourages him sufficiently to make whatever effort is needed in coming to grips with the subject, motivates him in exercises and activities that make him work with the subject matter, gives the learner feedback on these exercises and activities enabling him to judge for himself whether he is learning successfully, and helps him to sum up

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his learning at the end of the unit. The use of this material makes the teachers' job easy and can solve some of the problems of present classrooms. It has the potential to improve the quality of teaching. Research studies conducted in India and abroad reveal that, SLM is significantly better than traditional face to face teaching.

The author of this paper is thoroughly convinced that, considering from the academic and economic point of view, the distance education mode, as it offers autonomy and independence in planning and executing learning, will be much more effective than the formal face to face teaching and learning. As opposed to the running of conventional face to face teaching, distance education methodology offers a non traditional possibility for significantly reducing the direct and indirect costs involved in running the school system. Economic viability of the distance education for offering certain courses in school education is established beyond doubt. Hence this paper proposes that to launch school education through distance mode would be viable.

The most obvious justification for self instruction is that, there are circumstances where there is no alternative or where any alternative involves the learner in unacceptable personal sacrifice. Thus, the learner may live at a considerable distance from an appropriate institution; the learner's time may not allow him the right part of the week to attend classes, or the learner may be disabled and unable to attend classes. The learner's learning needs may not fit with the available courses in various ways; the learner may require a particular competence in a relatively short time. This justifies for a flexible approach to learning in the form of SLM. Another reason for advocating self-learning is that, it is a way of coping up with the various short of differences among learners. Some learners learn more quickly than others. They differ in their performances in learning, e.g. some cannot remember anything unless they write it down and others have very good oral memories, and so on. All learners manifest some preferred learning strategies and learning is unlikely to be most effective if the learner is prevented from learning in the ways he prefers. Importance of these differences has been recognised in learning and is the main justification for the thrust towards individualised instruction.

Theoretical Considerations

Learning is an individual, personal matter. It can most effectively be accomplished if the learner's own unique cognitive style is recognised and accommodated. The self-learning strategy is a form of teaching which takes place on an individual basis, rather than a group. The SLM helps the students to make decision about what to study, how to study, how much to study, and involves the learners in evaluating the effectiveness of their progress. Since this strategy invokes learning, makes use of clear and defined goals, promotes active participation of the learners and rests on feedback, it holds the motivation level of the learners high. The SLM, which is prepared taking the aforesaid principles of sound pedagogy and written in

behavioural form incorporating Magerian principles of writing objectives and is laid down in a series of logical sequences might help the learners to progress satisfactorily with their own speed, repletion, exercise and practice. The content followed by testing questions would encourage the learners to understand the content satisfactorily. The feedback provided by correct response might add to motivation of the learners. Since the essence of learning lies not in the machinery but in the material to be presented and since SLM incorporates all the essential criteria of an effective programme, it would contribute significantly to the achievement of the learners. Hence, it is natural that, this type of learning material could result in positive gain in the performance of the learners.

Further, SLM encourages the learners to take on greater responsibility for their own learning. Thus learners are encouraged to consider their own learning needs and in some cases to undertake a substantial analysis of them. They are also encouraged to select relevant goals and sub-goals at wish to aim, monitor and assess their achievements through various self-assessment techniques. The learner has the opportunity to negotiate the course and so he becomes a participant in decision making rather than a passive object to which things are done. By giving importance to the learner, SLM may help to reduce the sense of inferiority resulting from the learner's feeling being an infant on the subject in the early stage of learning. Secondly, the learner's involvement in decision making may increase his motivation to achieve more in learning. Finally, there is an evidence to support the view that, where learners are perceived by the teachers as committed to achievement of learning objectives, as seeking and accepting responsibility and as a person able to exercise control and self-direction, then they will behave in a way which confirms this perception. Furthermore, affective factors merit a special importance in learning. Through self-instructional learning mode empathy may be developed within a group of learners by reducing the centrality of the teacher so that her role becomes more than a consultant. This is likely to increase the empathy between the teacher and learners. Rogers (1969) argues that, where the teacher is empathic, liking and affection are more evenly diffused around the group and every learner tends to feel liked by all others who have a more positive attitude towards himself and towards the school. In understanding self-assessment learners reduce the need for the teacher to be involved in assessment and this helps to build greater empathy between teacher and learners.

There are economic, social and individual pressures on the educational system to provide continuing education. The rate of change in modern society through technological developments, economic and commercial development and political grouping may strain the ability of educational system to cope. There are need for skills to deal with the increasing internationalization and mobility of economic and political life. With the increase of knowledge and associated developments in technology,

there are changes in the process which require a parallel development in specialists' skills together with new patterns of work involving higher degree of collaboration among specialists. The strain on the agencies presently providing continuing education can be reduced by the adoption of some form of self-instructional mode. In addition, the clients of continuing education frequently are just those who are unable to fit into the normal schedules of educational institutions and so a self-instructional mode may help to provide the learning opportunities required.

In the light of above considerations, it is hypothesised that, SLM will prove to be more academically and economically viable than traditional face to face teaching learning approach. This hypothesis is theoretically substantiated by the fact that, SLM designed as self-contained course will prove to be academically viable for learners because it will provide them opportunities to learn according to their own pace, encourage learners to take on greater responsibility for their own learning by experiencing the study work on their own which is felt to develop independence and lead to greater autonomy than conventional teaching method. It will prove to be economically viable because SLM in the form of self-contained course can be used as distance learning materials. Once this material is used as distance learning material, it would offer the following advantages which distance education offers in general:

(i) The applicability of distance education to large groups of learners as a kind of Mass Communication,

(ii) The economy of both the large group approach and of the fact that the need for residential teaching is eliminated and diminished and that the study can take place during any time and anywhere when the learners feel the need, and

(iii) The feasibility of developing large scale projects by enlisting the services of the very best subject teachers and educationists. For example, they can be utilised to write the course materials.

As regards the economic viability of distance education it has been found out elsewhere that, a successful teacher training project in mathematics for some 50,000 active teachers in 1969-71 proved to require only 3per cent of the cost of a parallel residential study programme with equal effectiveness (Holmberg, 1973).

Psychological Considerations

Besides these theoretical considerations, that support the contention that learning would be more effective for the students if they are offered autonomy and independence in pursuing their studies, there are psychological bases that support the contention that learning and retention is enhanced through the study of written materials produced on the basis of certain psycho-educational theories. The strongest support for the written instructional materials' capability of influencing learning and retention has come from the influential work of Ausubel(1968) on meaningful verbal learning and the notion of 'Mathemagenic Behaviour' introduced by Roth Kopf (1965). In a period when many

psychologists were still studying associative learning, Ausubel (1968) pointed out that, in learning emphasis on cognitive process and structure is important. His emphasis on cognitive process and structure showed the importance of controlling of presentation of instructional material and the influence of knowledge learners bring with them to the learning situations. Regarding the importance of learner's cognitive process and structure, Ausubel(1968) stated, "If I had to reduce all educational psychology to just one principle, I would say this: the most important single factor influencing learning is what the learner already knows, ascertain this and teach accordingly".

Although Ausubel's work drew attention to meaningful text learning, it was Roth Kopf, according to Faw and Waller (1976), who showed how, investigations should be carried out in this field. He suggested that, subjects when studying written materials, not only learn this specific content but also acquire some general facilitative skills, namely, 'Inspection Behaviours' which he later called 'mathemagenic behaviours'. Although criticised for its imprecision (Rickard, 1979) this notion serves to remind researchers that what the students do in the learning situation is an important pointer to how much he will retain (Faw and Waller, 1976). Roth Kopf created an experimental paradigm which allowed the assessment of a direct instructive effect and an indirect effect, the so called mathemagenic behaviour (Rickard, 1979). Richards and Denner (1978) stated, "Research has taken on two orientations: one directed towards the influence of different variables such as the effects of question-answering on text retention, and the other directed towards the processes involved in learning from textual materials. Specifically, in the field of adjunct questions, research influenced by the behaviouristic model, originally studied the effect of question frequency and position within written text. Later, influenced by the general trend of experimental psychology towards the cognitive model, the investigators studied the effects of levels of questions on the depth of the cognitive processes" (Richards and Denner, 1978). In support of his view regarding learning as a cognitive process, Anderson (1977), observed that, "Learning is no longer a mere aggregation of information, but as a dynamic structure –imposing process resulting in schema changes." In his view, schemata are essentially organisations of information in holistic and hierarchical structures.

Recognising the weakness of the studies conducted in laboratory settings, Hartley and Davis (1976) observed, "Today, a substantial body of knowledge is available on many variables that may affect learning from written text adjunct pre and post questions, advance organisers, text organisations, and feedback. Generally, the studies have been conducted in laboratory settings. The paradigm used to assess the effectiveness of each teaching strategy in isolation or of cluster of several strategies, rather than their interrelation within a total learning situation." (Hartley and Davis, 1976).

Based on all these considerations, the author in this paper argues that the deliberate use of self-learning material which will use the above psychological foundations could influence learning positively amongst school students.

Empirical Observations

Teaching through the distance mode (self-learning material) is significantly more effective than conventional teaching in terms of better educational achievements, attitudinal changes, etc. It is not only supported by the theories of learning, but also supported by empirical researches. For instance, Gogoi (2008) developed a package of SLM on General Science of Class IX students in Assam state and studied its effectiveness against traditional teaching method. The study revealed that, the developed SLM was effective in terms of performance of the students on criterion tests and reaction towards it. More than 70 per cent of students secured more than 30per cent marks and reaction of the students towards different aspects of the SLM and material as a whole was found to be favourable. Further, the performance of the students taught through the developed SLM was found to be significantly better than those taught through the traditional method when students' performance scores were adjusted with respect to intelligence. Similarly, the developed SLM was found to be significantly better than the traditional method in terms of development of scientific reasoning ability of students when their mean scores were adjusted with respect to intelligence. Therefore, it was concluded that, teaching through the SLM is significantly better than the traditional talk and chalk method for teaching General Science to Class IX students. The SLM has induced better scientific reasoning abilities among the students than the conventional method. Students' reactions towards the SLM have been found to be positive. Hence, the SLM could be effectively used as a viable strategy for teaching school students.

Further, the experimental findings of the studies conducted in India and abroad by Mullick (1964), Bhusan (1973), Chauhan(1973), Govinda(1976), Sansanwal(1978), Shah(1980), Pandey (1982), Passi(1982), Rabindradas (1984), Shah(1984), Desai (1985), Desai(1986), Dasgupta (1988), Singh (1988), Singh(1989), Devi(1989), Talat (1990), Das(1990), Siddiqi(1991), Verma(1991), Bhatia (1992), Prabha (1992), Agarwal and Mohanty(1998), and Agarwal(2000) in India and, Sheppard and Mc Dermot (1970), Taveggia(1976), Mc Carney and Bullock(1977), Lee and Mc Lean(1978), Dean(1981), Otto(1981), Grant(1983), Edelman(1983), Neuberger (1984), Songwiwat(1984), Vatanvigkit (1985) abroad have reported that, learning through the SLM is significantly better than that of traditional talk and chalk method.

Thus, it is expected that, teaching school students through the SLM would result in positive transfer to new situations and deeper cognitive processing and hence better learning than conventional face to face teaching.

Discussion

In the theoretical front we know that, effective teaching occurs when active involvement of the learner in the learning process is ensured. In the traditional face to face teaching through the lecture method, the learner's involvement in the teaching learning process may not always be active. Because the learner may be physically involved but cognitively he may be totally absent. But in the case of self learning material either the learner learns or he does not learn. He takes up the self-learning material only when he has time and is motivated to learn. The motivation in the case of self-learning material comes basically from within and is not required to be aroused by the teacher as in the case of traditional teaching although strategies to motivate the learner are used while developing the self-learning materials. Through self motivation, learning is expected to be better, because while reading self learning material the learner's cognitive involvement would be complete.

Further, the Academic Learning Time for each individual is different as the learners vary in their intellectual abilities, memory, and endurance for work, aptitudes and their level of educational achievements. Self-learning strategy takes this point into consideration as it allows learners to make decisions and assures responsibility for their own education. It helps learners to make decisions about what to study, when to study, how much to study and thus it involves the learners in evaluating the effectiveness of their efforts and progress. Since this strategy makes use of clear and defined goals, promotes active participation in the learning process and involves self-evaluation and feedback, it is expected that, teaching school students through pedagogically sound self-learning material would lead to better learning outcomes.

Another factor that seems to act in favour of self learning material is the autonomy that it offers to the learners in planning their learning activities. For example, there may be learners who would like to undertake self study in the early morning, there may be others who would like to study after dinner, and there may still be others who would do self studies in free periods and so on. This implies that learners can learn effectively when they have freedom to plan their own study schedules and not compelled to attend a formal classroom teaching.

Since self-learning material provides autonomy and independence to the learners to go through it according to their own time and pace and since it offers freedom and responsibility for regulating their own learning, it is therefore expected that self-learning strategy will prove to be more effective for the learners than traditional classroom teaching. It is Self-directed learning (Moore, 1977) that is important for learners and not the traditional classroom teaching where they are directed to learn.

Besides, the observations made in favour of self-learning material in this paper, also find support from the theoretical writings in the field of distance education. For example, the theory of autonomy and independence

propounded by Wedemeyer (1983), in the context of distance education suggests that autonomous and independent learning through the self-learning materials is effective because:

(i) the normal process of teaching and learning is carried on in writing,
(ii) the teaching is individualised and learning takes place through the learner's activity,
(iii) learning is made convenient for the learner in his own environment, and
(iv) the learner takes responsibility for his progress with freedom to start, stop and pace himself at will.

Suggestions

From what is already known about the effectiveness of self-learning material and the observations made in this paper, the following are suggested which may be helpful in directing future thinking of the policy makers associated with school education through distance mode:

(i) School teachers can take the help of SLM and procedures involved in it to make their classroom teaching effective. By collecting materials for teaching school subjects and using such material as a support system, the teacher can improve his teaching efficiency and fulfill the present requirements of classroom teaching.
(ii) To cope up with the present changing society, students should have sufficient knowledge in each and every field which is impossible in the present classroom setting having wide variety of learners and a single teacher following a single teaching method. The SLM has proved to be effective for learners in learning in terms of learning on their own. Therefore, the SLM could be used for effective self-learning by the learners.
(iii) The administrators, Principals/ Headmasters, Directors, Educational Officers should cultivate positive attitude towards the development and use of the SLM from economic point of view. They should modify the curriculum and encourage both teacher and students for the use of the SLM.
(iv) The important suggestions for the practitioners and planners is that they should consider teaching school subjects through distance mode by using self-learning materials.
(v) The use of distance mode for teaching school students is suggested because a country like ours with paucity of funds and resources, it is going to be an economically viable mode.
(vi) Thus, if economy and efficiency in teaching school subjects are desired to be achieved , then the suggestions of this paper is significant as it has shown the way for the consideration of teaching school students through the Indira Gandhi National Open University.
(vii) It would ensure the academic viability of teaching school students because students would learn themselves only when they are really motivated to learn at their will.

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