Module – 3

Unit – 6

SOME AREAS OF RESEARCH ON TEACHER EDUCATION

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Paper – VII / VIII

TEACHER EDUCATION (B)

Module – 3

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CONTENT STRUCTURE :

7/8.3.6.1 : INTRODUCTION

In this Unit we are going to get a thorough understanding and to develop critical analytic competency for pursuing research on teacher education for qualitative improvement of teacher preparation programmes as well as to improve classroom practice in order to attain learning objectives included in the curriculum. For this purpose various concepts like teaching effectiveness, school effectiveness, and cognitive style, learning style and implementation strategies of curricula and also aspects of behavior modification of teachers will be learned sequentially.

Over the past few years literature on research on teacher education has disseminated a vast stock of knowledge of various dimensions of teacher education. These theorizations and empirical data have isolated some variables that touch upon the three dimensions of teaching and teaching behavior, popularly called presage, process and product variables. These variables have been found to contribute substantially to quality of teaching-leaning. Secondly, such research findings also have suggested that teaching is a craft and that can be sharpen with the aid of skilled and refined professional competency of the teacher and that can also be developed and improved.

Moreover, individual variations in pupils in the matter of their learning styles and also cognitive style are two variables that must be conceptualized by the teacher to impart good teaching for meeting learning needs of all learners. Hence, the technology of teaching should be judiciously applied. The solutions in this area in the form of research findings are not so universally acceptable till this date.

Similarly, the concept of school effectiveness is new. But it is a fact that the teachers have positive role for making one school effective. But in which way ? Answer is not easy to prescribe but it is demanding today. Therefore, school effectiveness is a new area of research in today's teacher education.

The central message of this Unit is that teaching is dynamic conscious, iterative and goal-oriented process; and this process can be analyzed in term of teacher behavior, can be judged good or bad, effective or ineffective or ineffective against

some context-embedded criteria and can also be improved through sustained research activities in the filed of teacher education.

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7/8.3.6.2 : OBJECTIVES

You will be enable to –

* Understand some areas that are linked with the professional development for the teachers;
* Develop your own stance about teaching effectiveness as a research variable in teacher education;
* get acquaintance with modification of teacher behavior as another research variable in teacher education ;
* understand the meaning of school effectiveness and its need for research in teacher education ;
* understand learning style and its linked with researches on the professional development of the teacher ;
* understand cognitive style and its linked with researches on the professional development of the teacher ;
* develop your own conceptualization about variations in implementation modalities of curricula and their relation with research on teacher education.

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7/8.3.6.3 : TEACHING EFFECTIVENESS

Many people believe that good teaching is impossible to define in any general way. A large body of research suggests that certain characteristics are consistently associated with good teaching as viewed by students, other teacher, and administrators. The following characteristics may be associated with the effective teachers :

* The teachers got right down to business. They began class promptly and were well organized.
* They taught at an appropriately fast pace, but stopped regularly to check student

comprehension and engagement.

- They used a variety of instructional strategies rather than lecture alone.

- They focused on the topic and their instructional objectives and did not get sidetracked. Their explanations were clear.

- They used humor that was in keeping with their individual styles.

- They practiced good classroom management techniques, holding the attention and respect of the group.

- The interacted with students by providing immediate answers to questions or comments and corrective feedback when needed. They praised student answer and used probing questions to extend the answer.

- They provided a warm classroom climate by allowing students to speak freely and by including personal humor or other attempts to relate to students as people.

- They used nonverbal behavior, such as gestures, walking around, and eye contact, to reinforce their comments.

Concept, Model and Research

The term reaching effectiveness is very ambiguous. It is not easy to define in all-agreed manner. Earlier D. G. Ryans put : "Teaching is effective to the extent that the teacher acts in ways that are favorable to the development of basic skills, understanding, work habits, desirable attitude, value judgment and adequate personal adjustment of pupils". Similarly Mitzel has given three criteria of teacher effectiveness - Presage, Process and Product. However, these have been challenged by many experts.

Anderson and his associates (2001) of the International Institute for Educational Planning. UNESCO in their Increasing Teacher Effectiveness, have given us a number of suggestion for developing effective teachers as well as provided conceptual clarification about the complicated term "effective teacher". This book is in one angle a report of meta-analysis of earlier research on teaching effectiveness and on the other hand it may be taken as a compass for undertaking future research studies in this field of inquiry. They have on the outset have proclaimed that the influence of teacher on the effectiveness is not direct rather it is mediated or moderated by their

effect on the way in which teachers organize their classrooms and operate within them.

They have maintained : "Effective teachers are those who achieve the goals which they set for themselves or which they have set for them by others (e.g. ministries of education, legislators and other government officials, school administrators). As a consequence, those who study and attempt to improve teacher effectiveness must be cognizant of the goals imposed on teachers or the goals that teachers establish for themselves, or both".

"A corollary of this definition is that effective teachers must possess the knowledge and skills needed to attain the goals, and must be able to use that knowledge and those skills appropriately if these goals are to be achieved". They asserted that teacher effectiveness embraces two other concepts teacher competence and teacher performance in context the goals to be achieved.

Anderson and his colleagues isolated four assumptions underpinning the above definition of teacher effectiveness. The first is that effective teachers tend to be aware of and actively pursue goals. These goals, in turn, guide their planning as well as their behaviors and interactions with students in the classroom. This assumption does not mean that effective teachers are always aware of goals; in fact, awareness is particularly likely to be lacking when goals have been established for, teachers by others. These goals set by others are called 'standards'. That is, a teacher must clearly understand the goals.

Further, this definition of teacher effectiveness does not mean that everything that teachers think about or do is (or should be) related to the attainment of some goals. Teachers often do things on their own initiative which are independent of any motivation to fulfill certain goal. Rather the definition lies on the second assumption : teaching is an intentional and reasoned act". Teaching is intentional because we always teach for some purpose, primarily to facilitate learning. Teaching is reasoned because what teachers their students is judged by them to be worthwhile "(Anderson, et al 2001). A third assumption implicit in this definition of teacher effectiveness is that the vast majority of teachers' goals are, or should be, concerned either directly or indirectly with their students' learning. Thus, a definition of teacher effectiveness

must be defined, and can only be assessed, in terms of behaviors and learning of students, not behavior of teachers.

A fourth assumption underlying this definition of teacher effectiveness is that no teacher is effective in every aspect of their profession. Thus, the degree to which a given teacher is effective depends, to a large extent, on the goals being pursued by that teacher.

Then despite the underlying assumptions, it seems reasonable to assume that those who are referred to as being 'effective teachers' are more often than not effective in achieving specified learning goals. In other words, there is some degree of consistency in these teachers' effectiveness vis-à-vis classroom conditions, time and goals.

Anderson and his associates also noted very carefully the main characteristics associated with effective teachers reported by Hay MaBer (2000) and they developed a Conceptual Framework for understanding and improving teacher effectiveness as presented in Figure 1.

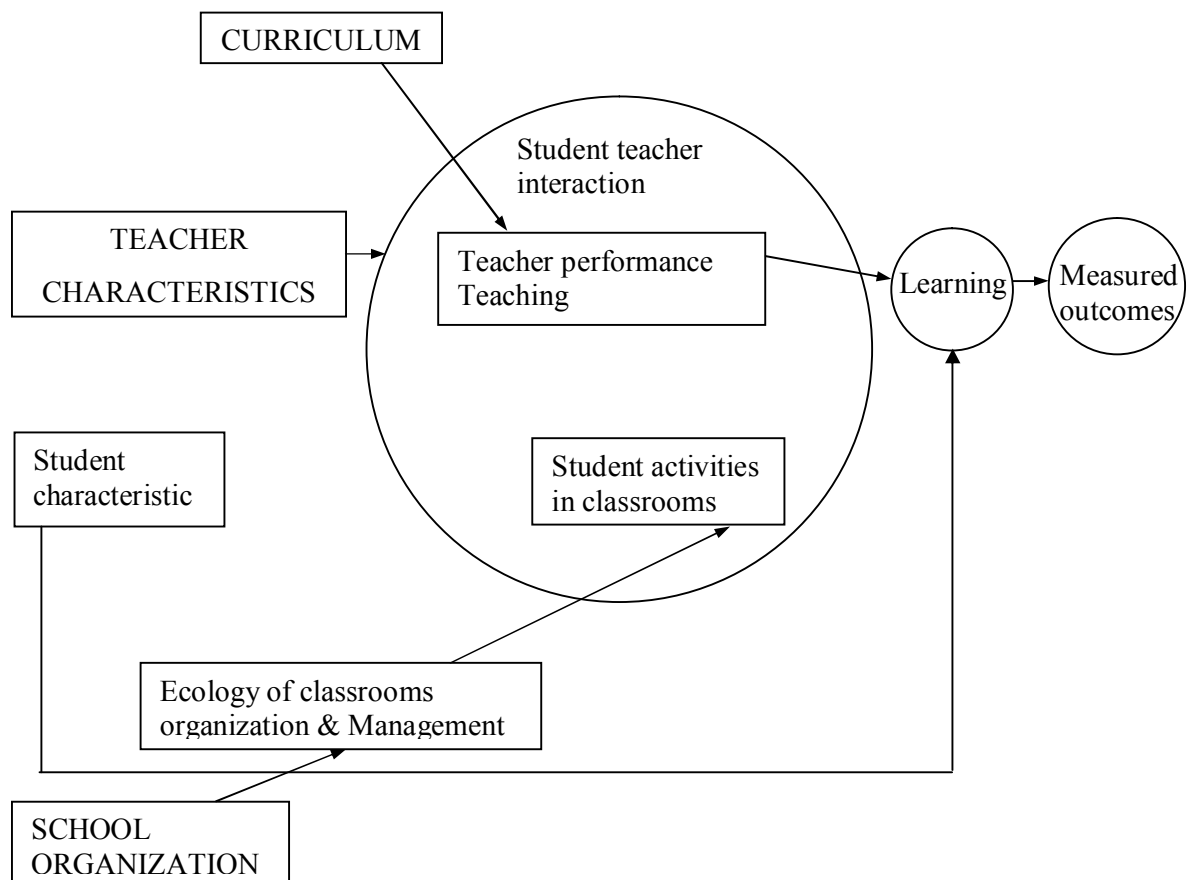Moreover they explored avenues for increasing teacher effectiveness.

Figure 1 : Conceptual model on effective teaching, adopted from Anderson, 1991

The central category of teaching is subdivided in four major areas : the enacted curriculum, (the substantive curriculum choices that a teacher makes), classroom environment and climate (in the sense of the physical environment and the psychological environment), actual teaching activities (the way lessons are structured and aspects of communication between teacher and students) and stimulating involvement.

In Table 1 below the key variables within these categories are included.

Table 1 : Conditions of effective teaching according to Anderson, 1999

Teaching characteristics (Anderson)	**Teaching**
enacted curriculum	*structuring of lessons (sequence)*
• opportunity to learn	• orientation
• academic work	• clear purpose
- appropriate selection	• monitoring
- regular (home) work	• independent practice
- students held accountable	• corrective feedback
	communication teachers / students
	• clear explanations
	• showing & telling
	• appropriate guiding
	• providing feedback
Classroom environment and climate	Stimulating involvement
physical environment	• reinforce paying attention
• classroom arrangement	• develop learning strategies instruments
• equipment	• success standards
• seating patterns	• create "holding power" in learning
• class size	• keep students actively involved
climate (psychological environment)	• circular during seatwork
• mutual respect	• communicate interest
• task orientation	
• structure	

Clearly, factors like opportunity to learn, time on task, a structured approach to teaching, feedback and reinforcement that stood out from the earlier studies and reviews are also central in Anderson's study.

In a more recent review, published in Wang and Walberg, 2001, he distinguishes 12 principles of effective teaching. These are the following :

1. Supportive classroom climate : students learn best within cohesive and caring learning communities. The role of the teacher as models and socializers is emphasised.

2. Opportunity to learn : students learn more when most of the available time is allocated to curriculum related activities and the classroom management system emphasises maintaining students' engagement in those activities.

3. Curriculum alignment : All components of the curriculum are aligned to create a cohesive program for accomplishing instructional purpose and goals.

4. Establishing learning orientations : teachers can prepare for learning by providing an initial structure to clarify intended outcomes and cue desired learning strategies. (e.g., providing advance organisers and cueing the kind of responses that are expected).

5. Coherent content : to facilitate meaningful learning and retention, content is explained clearly and developed with an emphasis on its structure and connections. "When making presentations, providing explanations, or giving demonstrations, effective teachers project enthusiasm for the content and organize and sequence it so as to maximum its clearly and "learner friendliness".

6. Thoughtful discourse : questions are planned to engage students in sustained discourse structured around powerful ideas.

7. Practice and application activities : students need sufficient opportunities to practice and apply what they are learning, and to receive improvement-oriented feedback.

8. Scaffolding students' task engagement : the teacher provides whatever assistance students' need to enable them to engage in learning activities productivity. Structuring and support can be lessened as the students' expertise develops.

9. Strategy teaching : the teacher models and instruct students in learning and self-

regulation strategies. Meta-cognitive awareness and self-regulation are sought in context like problem solving and general learning and study skills. An example of teaching modelling use of the strategy. Students are stimulated to monitor and reflect on their learning.

10. Co-operative learning : students often benefit from working in pairs of small groups to construct understanding of help one another master skills.

11. Goal-oriented assessment : The teacher uses a variety of formal and informal assessment examines students' reasoning and problem-solving processes.

12. Achievement expectations : the teacher establishes and follows through on appropriate expectations for learning outcomes.

It is interestingly to note that quite a few of Brophy's principles are variations on the theme of structured (advance organisers, stating clear goals, scaffolding, frequent monitoring, feedback). The next interesting point is the incorporation of some ideas from constructivism : attention for modelling, self-regulated learning as well as meta-cognitive processes.

Baumert, et al. 2000, interpret instruction as an opportunity structure for insightful learning. "This means that instructional materials, task selection, and instructional processes are analyzed from the perspective of whether they foster of obstruct active individual knowledge acquisition ... Dimensions of this opportunity structure include the safeguarding of the social action framework by means of appropriate classroom management; pacing and range of learning opportunities (quantity of instruction); general instructional quality, in particular the didactical quality of the structure and realization of the instruction; and the quality of teacher-student and student-student relations".

SOME RELEVANT ISSUES

1. The Role and Types of Feedback

A key element in the process of teacher development is feedback. As with all learning, getting information on one's action is essential to continuing improvement. Most teachers get feedback on their teaching by scanning faces in class for signs of

interest or confusion. While these are important strategies, they are highly inferential. The most effective teachers employ more systematic ways of obtaining feedback. Several ways are described below :

2. Written Evaluation from Students

There are a variety of ways in which instructors can obtain written information on their teaching from students. They may use one of several standard teaching evaluation forms with rating items that have been tested for their validity and reliability. Since the items on these forms are often very global and students frequently are asked to provide a rating without an explanation, standard forms sever mainly as gross performance indicators. They can alert instructors to areas that differ from average ratings.

Plans for periodic rests

While you may want the students to push ahead until they have learned everything on the teaching plan, remember that periodic plateaus occur normally in learning. When your instructions are especially complex or lengthy, your students may feel overwhelmed and appear unreceptive to your teaching. Be sure to recognize these signs of mental fatigue and let the students relax. (You too can use these periods - to review your teaching plan and make any necessary adjustments).

Tell your students how they are progressing

Learning is made easier when the students are aware of their progress. Positive feedback can motivate them to greater effort because it makes their goal seem attainable. Also, ask your students how they feel they are doing. They probably want to take part in assessing their own progress toward learning goals, and their input can guide feedback. You will find their reactions are usually based on what "feels right".

Reward desired learning with praise

Praising desired learning outcomes or behavior improves the chances that the students will retain the material or repeat the behavior. Praising your students'

successes associates the desired learning goal with a sense of growing and accepted competence. Reassuring them that they have learned the desired material or technique can help them retain and refine it.

EVALUATION OF TEACHING EFFECTIVENESS

1. Evidence from Students

Students are the most obvious source of feedback on instruction. Research has shown that students provide in a valuable information about your teaching if the questions are structured in a useful way. Michael Theall (2002) has written a concise, insightful article in which he debunks several of the myths about student evaluations. For Ohio State's policy on evaluation of instruction see the section in the Office of Academic Affairs Handbook entitled "Evaluation of Instruction".

There are three main elements, discursive (qualitative) evaluations, and reflection about and interpretation of the evaluations themselves. Below, various types of student feedback options at Ohio State are discussed.

Top Types of Student Feedback

There are many ways to assess your teaching, and using an end-of-team survey is the most popular and mandatory for most instructors. These provide instructors with valuable information to help shape the course and teaching strategies for future course.

Mid-term feedback

Mid-quarter evaluations can be conducted at any time (and several times) during the quarter. The advantage to collecting mid-quarter feedback is that you can act on it immediately by the next class.

CATs (Classroom Assessment Techniques)

The process is typically very brief and focused questions or tasks related to the current content of the course for evaluating teacher. For example, at any point during a class, you may ask your students to write a "minute paper" addressing something

specific, e.g. "What were the two most important points covered in class thus far ?" Give your students a minute to write their answers, collect them, and use their responses to guide you in constructing the next class period. Another useful question is "What is the muddiest (most confusing) point from today's class ? REF : Angelo and Cross (1993).

FYI (Feedback on Your Instruction)

A useful tool in putting together a longer questionnaire is FYI only by designing a questionnaire for students to answer about your course. It lists several questions from which you may choose a relevant subset, depending on your course and your teaching goals. The questions are either sealed or open-ended. You simply select the questions. You may want to consider 8 – 12 questions to include at any one time, depending on the ratio of scaled versus open-ended questions and print it from the website survey you provide at the end of the term.

SGID (Small Group Instructional Diagnosis)

SGIDs are focus groups conducted by FTAD consultants during class time and with the instructor absent. The consultant will put the students in small groups and ask them to talk about and write down answers to three questions : (1) what about the course / instructor is helping you learn, (2) what about the course / instructor is not helping you learn, and (3) what specific suggestions do you have for improvement ? The consultant and instructor will meet after the data are transcribed to discuss the feedback and constructive ways to respond it. Instructors receive a document (on FTAD letterhead) with the transcribed student responses and a short description of the process. This document is shared only with the instructor, but could be a great source of data to include in a teaching portfolio.

2. Evidenced from, non-students

Other teaching professionals, such as your peers, professors or university teaching consultants can also provide you with, evaluations of your teaching. If you are thinking about getting documentation on your teaching for summative and / or

formative purposes, you may want to consider which individuals are appropriate sources to give you written evaluations on your teaching : peers, outside, consultants, faculty, an advisor, or others who know your work and the field. Here are some kinds of documents from others that could be included.

3. Peers, advisors, and other faculty

- Written feedback from a classroom observation that details judgment on teaching.
- Written feedback that details judgment on course materials such as handouts, exams, and syllabi.
- Written documentation that details teaching contribution to the department.

4. Documentation from outside consultants

- Written feedback from a classroom observation that details strengths as well as areas for improvement.
- Written summary from a classroom videotaping that details strengths as well as areas for improvement.
- Written summary of open-ended comments from students evaluations of instruction that details strengths as well as areas for improvement.
- Written summary from midcourse feedback that details areas of strength as well as areas of improvement.
- Written summary that details the teaching improvement work that you did with the consultant.

5. Instrumentation

Related research evidence show that some systematic tools have been developed and used for assessment of teaching effectiveness. Some tools are also of self-rating type; some others are used by observers. Some assess behavioural qualities like personal characteristics of the teacher; some other assess the teaching acts of the teacher-in-action.

Let Us Check Our Progress

1. What do you mean by teaching effectiveness.

2. What do you do to make teaching more effective ? – Explain with example.

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7/8.3.6.4 : MODIFICATION OF TEACHER BEHAVIOR

Avenues

Originally modification of human behavior is a subject of psychology. It has now been a vital concerns as well a mechanism in teacher education as by teaching we mean a system of activities. These activities are now said to be observable, measurable and can be modified through input of some variables driven process. But some obvious questions are : What to modify ? What are the desirable behaviors for a teacher ? How to modify ? What are the characteristic of nature of the setting in which those identified teaching behaviors are to be changed ? What is the criterion behavior of an effective teacher ? There are, of course, no ready-made answers to these questions. Because up till now no theory of teaching agreeable to all has been evolved. Moreover, nature of teaching and hence teaching acts differ depending upon the nature of the learner, subject, content, assessment and many more linked factors. Whether the modification of teacher behavior be more effective and economic in the real classroom setting, simulated conditions, or in a laboratory are also some important aspects in teacher education. Truly, existing research data do not report exactly which condition is to be followed. Again, what are the performance areas of a teacher ? Teacher behavior varies with the variation in areas of performance.

R. H. Dave has given us some guidelines in this matter. His model speaks for five general performance areas for the teacher-performance in the classroom, school-level performance, performance in out-of school, performance related to parental contact and performance related to community contact and co-operation. Secondly this model identified ten broad competency areas for teacher-contextual competencies, conceptual competencies, content competencies, transactional competencies, competencies related to other educational activities, competencies to develop learning and teaching materials, evaluation competencies, management competencies,

competencies related to working with parents and competencies related to working with the community and other agencies. Each of these ten can be translated into numerous teaching acts, called skills. Thirdly, modification of teacher behavior means changes in perceptual, conceptual and attitudinal components of the professional personality profile of a teacher. Hence the Dave model has spelled out five commitment areas of a teacher as commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to basic values.

From the above stated model we may deduce several aspects of modification of teacher behavior and we may include in our teacher education curriculum. But the existing state of research along this direction is virtually insignificant in our country. Our literature in modification of teacher behavior learn heavily on two directions – modification of teacher behavior in scaled down simulated teaching encounter which is known as micro-teaching. Hoover strongly urged that simulation of reality may be superior to reality. He maintained that simulation techniques have the added advantages of condensing and reducing complexities to manageable learning units. This approach has now been admitted by NCTE Curriculum Framework. Since the seventies of the twentieth century this has been used vigorously in NCERT and the CASE (Centre of Advanced Study in Education) in M. S. University, Baroda. These institutions have toiled hard to identify component teaching skills and developed an Indian model of micro-teaching. This approach may be time consuming but now it is found very useful. However integration of component teaching skills is an essential aspect of it.

Micro-teaching approach is not a real classroom teaching; it is underpinned by simulation and role-playing. Simulation is good but sometimes it may loss the complexity of a real classroom and hence the trainee teacher may face some difficulties in handling the variables that exists or appear in the real classroom conditions. Finally, it generally gives much emphasis on the inter-active phase of teaching although it has spelled out and defined specific teacher behavior in the reactive and post-active phases of teaching.

Another popular approach to modification of teacher behavior is Flanders' Verbal Interaction Classification System. This approach or techniques can also modify teacher behavior (ten in number only) when a teacher's real classroom verbal behaviors are observed, encoded, decoded and interpreted according to Flander's method. The teacher does verbal acts of teaching and then gets feedback from the observer and then can modify his or her verbal interaction pattern in teaching. This system assumes that teaching is one form of linguistic activities with some conscious purpose. However, it does not take into account the non-verbal teacher behaviors. In reality the non-verbal teaching behavior also constitute much of the total teacher behavior. Afterwards many other researchers have developed other kinds of observable techniques for observing teaching behavior and are using these in modification of teacher behaviors.

Student teaching or popularly called practice teaching at school is another approach. This implies that teacher can be prepared more economically and effectively if the student teachers teach in the real classroom condition under close supervision of exerts teachers and they also get immediate feedback from them in systematic manner. Student teaching format may be of more than one kind. It is now advised that the student teacher must be supervised by their colleagues (co-learners) and get feedback from them also. It is believed that multiple supervision and observation and also feedback will help student teacher grow along right track.

Modification of teacher behavior in simulated laboratory has been developed by Cruickshank (1968). The aim of his teaching problem laboratory experience was to give opportunity for the participant student teachers to assume role of the teacher and to solve critical teaching problems what one participant identified. Similar, simulation game is an artificial, condensed representation of reality of teaching. Governing the conduct of the game are rules limiting or prescribing the actions of the players (student teacher). Simulation game in teacher behavior modification has now been geared with electronic media of several kinds in our present inter net age.

The story of modification does not end here. Modification of teaching behavior is a continuous process not limited to initial teacher education programme. It may be school continuous programme especially on the cooperative learning culture. It may

be some kind of self-learning mode of either in traditional print or e-learning or d-learning format. It may be either formal or informal. It depends upon the teacher and his / her urge for capacity building for becoming professionally grown up and perfectly committed to learn always. That is his / her teaching behavior modification must be driven by the motive-learning to learn.

Behavior modification may come by attending and participating seminar, workshop, discussion group, refresher course, orientation course, team teaching, subject group, doing action research, professional association and gaining further knowledge through formal course work. Modern day's clinical supervision technique may also be useful. These are some of the available avenues for modification of teaching behavior. Research studies do not say exactly which one is most effective. Effectiveness depends upon many variables linked to the teacher as a person, his / her as a teacher, and his / her urge for modifying professionalism. You may reflect on the above discussion and develop your meaning and framework how we can modify teaching behaviour for providing, and sustaining quality learning for our learners.

Putting all the above stated avenues for modification of teacher behavior in a single list we may furnish the following strategies :

1. Simulated Social Skill Teaching (SSST)

2. Micro-Teaching

3. Programmed Instruction

4. Interaction Analysis

5. Training Group.

In all the systems action-learning format with feedback is the commonality.

Backgrounds of Teacher Modification

It is well documented that trainee teachers bring with them a wealth of initial knowledge, but about their subject, and about the teaching of that subject. This is gained from their own experience, which can very influential, and from other personal experiences (e.g. Leinhardt 1988). Whilst different researchers have attempted to categorise this knowledge in different ways (e.g. Schulman (1986), Carpenter (1988), Banks et al (1999), Prestage and Perks (2001)), it is generally agreed that this initial

knowledge is unlikely to be the most useful or reliable when it has to form a base for classroom decisions (Calderhead (1991)). Trainee teachers may also possess conceptions about general teaching issues (for example, about pupils, about social and emotional issues, etc.) that will take precedence over these subject related beliefs, particularly when they are required to act in the classroom (Thompson 1984).

One of the roles of the teacher educator is not only to harness and shift these different forms of knowledge, but also to ensure that any changes are reflected in the trainee's practice. Difficulties abound. New experiences and received theories may only contribute to learner knowledge and not be transformed into teacher knowledge (Prestage and Perks (2001), Aubrey (1997)). It is well recognized that teachers can espouse particular knowledge and beliefs, yet still employ classroom practices that sit at odds with these (e.g. Woods(1979)). Shifts in knowledge do not necessarily result in shifts in practice; even if one desires it, it is far from easy to implement new ways of working in the classroom.

Maintaining a Pragmatic Outlook :

It is essential for teacher education to link theory with practice, but also practice with theory during school-based training. A one way modification is being practised for modifying teachers are not relevant for their actual improvement. We should have an attempt to work directly with the behaviour of our trainees, as well as with more cognitive issues, and in this respect other qualities also have to improve for modification of teachers behaviours.

Historically, teacher educators have worked with trainees on their subject knowledge, their generic pedagogical skills, and their pedagogic subject knowledge. National initiatives and a strong partnership with local schools have ensured some continuity between work in University and work in the classroom. This has been supported by a number of tasks and activities that trainees undertake in schools and then University sessions. The theory / practice divide remains an issue, however, as does the impact that university work has on classroom practice. This, together with concerns about the variability of school teaching and training, led us to consider new practices in our training. There had always been aspects of role-play in the course, but

this was now taken further with the introduction of what we have termed 'scripted lessons'.

Initially these were lessons scripted by teachers working on the training course, and were considered in some respects to be 'an ideal'. These lessons would be demonstrated by the teachers and then rehearsed in University, using other trainees as 'the class'. Trainees then took the lessons into schools before returning to University to discuss their experience.

The lessons are an attempt to merge theory and practice, to link Institutions work and school based training, and hopefully to affect the practice of mentors and other teachers. It is interesting that we now see them as 'model lessons' in the sense that they are a scaled down representation of a larger whole, but not in the sense that they are an 'ideal'. On the contrary, possible flaws in the lessons are highlighted and discussed in order to address particular pedagogic difficulties. They are also designed with a number of other issues in mind.

1. Theory-heaviness

Oonk (2001) describes a study designed so that "student teachers can integrate the larger theoretical ideas with their practical knowledge by reflecting on (theory-heavy) practical situations". The theoretical aspects of our scripted lessons are considered later, but briefly we consider them to be 'theory heavy' in a number of ways :

- They highlight and address known pupil difficulties and misconceptions. Scripted lessons expose these, and force trainees to confront them.
- They consider issues relating to how pupils learn; e.g. justifications, use of contexts and models, etc.
- Thy consider research into more general teaching strategies; e.g. Questioning techniques, 'wait time', etc.
- They exemplify a particular style of teaching; e.g. conflict, etc.

2. Exposing beliefs and 'knowledge' :

Effective whole class teaching "necessitates working publicly with pupils' beliefs and difficulties" and that the public exposure of partial conceptions or

misconceptions allows all learners greater insights into their specific subjects (Andrews et al (1999)). Once again, if this is true for pupils learning of mathematics, then it may also be useful for trainees' learning of teaching. Calderhead (1991) suggests that, if we are to harness and influence trainees' conceptions o teaching, these conceptions must be "made explicit, subjected to critical evaluation, and examined in the light of other areas of knowledge that are valued in teacher education".

3. Coverage of generic issues and teaching skills :

The implementation of these lessons covers a wide range of generic teaching skills. These include preparing oneself to teach, issues of body language and classroom 'presence', the questioning of and listening and responding to pupils, the assessment of pupil learning, and the reflection on and evaluation of the given lesson. Having all trainees implementing a common set lessons gives us a shared language and context within which to work on these issues.

Modification of Teacher Behaviour : Some Relevant Questions

Can new teachers learn, for instance, to cross disciplinary lines, explore essential questions, become generalists in the "KNOWLEDGE SOCIETY", and guide student-workers if their university professors (who typically lecture to their classes in discipline-bound courses) have not modeled that very behavior ? Can a certification system accustomed to counting credits deal with a school change philosophy that questions the very concept of a "course unit" ? How will a hierarchical power structure cope with bottom-up change ?

University-school connections by focusing not on teacher education but simply on shared conversations about school renewal are exposed as follows – "For five years teachers and university people met in elementary, middle-school, and high school groups to seriously discuss, as equal partners, new ideas in teaching and learning". Lynne Miller says, "The Partnership provided a third culture, neither university nor school, and eventually we started talking together about new forms of teacher education".

"Teachers tell us that it enhances their own professional development to have our interns in their classrooms, engaged with them in questions about teaching and learning", Miller says that the courses we offer to interns are also open to school faculty, so they can conveniently acquire quality improvement. They are treated as professionals, what they know is valued, and their opinions are taken seriously. They help make our admissions decisions; in several instances we have counseled students out of the program after schools have advised us they would not make good teachers.

The more developed schools become in their thinking about teaching and learning, Miller observes, the more impatient they get with university structures and norms, from course requirements to assessment methods. "University don't construct things so knowledge can happen outside of courses", she asserts. "That doesn't ring true for people in the field. Teachers at schools far along in change are raising questions that really push the boundaries. To answer them the university has to start shedding its skin, and it's not about to do it. That's where the battle is going to be".

Yet these important tensions are not meant to be resolved. Miller argues, but rather managed. "You don't want to turn everything over to schools, any more than you want the university to be the way it used to be", she says. "But if you're really going to change you might need, for example, to start having courses and faculty appointments approved by a joint committee of university and school-based members, rather than having complete university control the way it is now".

Let Us Check Our Progress

1. Explain assumptions of modification of teacher behaviour.

2. Indicate prevalent models of modification of teacher behaviour.

3. Select a research problem on modification of teacher behaviour.

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7/8.3.6.5 : SCHOOL EFFECTIVENESS

Concept

According to Haddad et al (1990, p.3) empirical evidence suggests that in both developed and developing countries, educational investment has been one of the most

important factors contributing to economic growth; that expenditures on education contribute positively to labour productivity; that the economic payoff to spending on education – from both a private and public standpoint – is high, in absolute terms and compared to their investments; and that health and reduced fertility at all levels of economic development. It is argued that improving access to and the quality of basic education is a priority in almost every low-income and middle-income country, and point out that, in many countries, particular attention has to be paid to girls' education. The state of recent research on the effect of schools on learning provides clear evidence that variations in the characteristics of schools are associated with variations in student outcomes. This is probably a glaring problem now in our country.

Haddad et al (1990, p.50) quote several sources to confirm that there are some consistent general findings from the research. Variation in school inputs, such as teacher experience, teacher motivation, teacher effectiveness, teacher pupil ratio, leadership styles of school leaders, the presence of textbooks, homework, and time spent in school during the year do contribute accounted for. In this context the role of the teachers can not be ignored and school inputs (qualitative) may be improved with the recruitment and development of teachers as effective professionals.

Effectiveness and Efficiency

Bacchus (1991) identifies three major thrusts in efforts to improve the quality of basic education : (1) raising the academic performance of students in the various subjects offered in schools with the currently available resources; (2) providing children with education that is most likely to help them improve the quality of their lives when they become adults; (3) increasing the rate of school enrollment by providing more school places and reducing the inequalities which currently exist between the sexes and between different regions in a country.

According to Lockheed & Hanushek (1988, p.22),

Efficiency refers to a ratio between inputs and outputs. A more efficient system obtains more output for a given set of resource inputs, or achieves comparable levels of output for fewer inputs, other things equal. The output of education refers to that portion of student growth or development that can reasonably be attributed to specific

educational experiences.

However, whatever precise definitions are adopted, it is clear that there are various policy options for attempting to improve the output-input ratios, for example

1. achieving existing output levels for cheaper or fewer inputs (e.g. by selecting low-cost building alternatives)

2. increasing outputs for the same inputs (e.g. by reducing absenteeism)

3. reallocating existing resources to new inputs which increase outputs (e.g. perhaps by spending less on teacher training and more on textbooks)

It must be kept in mind that efficiency is not the only criterion for policy-makers, who must take account of a range of social, political, economic and educational considerations in arriving at judgments as to priorities for objectives and methods of achieving them. Nevertheless as Lockheed & Hanushek (1988, p. 21) point out when there are limited resources – as there always are – those resources should be used to promote society's objectives as fully as possible.

They identify three important constraints on improving internal efficiency : (a) inadequate knowledge about internal effectiveness, (b) inadequate knowledge about costs in inputs, and (c) difficulty in obtaining appropriate information. Evidence on which to base decision-making is limited by these constraints.

Quality in Education

The Efficiency and Effectiveness dilemma in schooling may be visualized in two whats-quality and objectives / purposes. The concept of quality in education is not easy to define. Hawes & Stephens (1990) believe that quality is characterized by three interrelated and inter-dependent strands : (i) efficiency in meeting its goals; (ii) relevance to human and environmental conditions and needs; and (iii) "something more" that is the exploration of new ideas, the pursuit of excellence and the encouragement of creativity. If this is accepted, there might be debate about the relative importance of each strand, about what the goals should be, and about what is meant by "relevance". In particular one major goal might be equity, and it can be argued that equity considerations should be part of a broad view of effective

schooling.

Practice, here is a danger of over-emphasis on efficiency and on the use of quantitative indicators. Tipple (1990) points out the tendency to restrict on what can be measured, and argues that 'the measurable thus assumes unwanted importance'. Wilcox (1990, p. 39) warns that Performance indicators will seldom if ever tell an unambiguous tale. Quality of educational experience will always be an elusive entity which evades precise delineation. Wilcox suggests a range of possible indicators, including client satisfaction (using questionnaire) and qualitative indicators bases on observation advisors or inspectors in addition to achievement scores. The notion of 'value added' is important in making comparisons of assessment test results. In other words, the effectiveness of a school depends not just on the final results of the students, but on what improvements in performance have been achieved by those students while at the school.

Singh quotes Throsby & Gannicott (1990) that the following statements encapsulate the state of thinking on quality in education :

- trained teachers make a difference
- class size is not relevant
- the provision of instructional materials is one of the most cost-effective ways of raising the quality of education.
- education is most effective if initial instruction uses the mother tongue
- lavish buildings and equipment will not raise quality
- curriculum reform will not necessarily raise educational quality
- healthy well-fed children learn better
- amount of learning time affects educational outcomes
- quality depends on good decentralised education management

Research Data from Developing Countries

Heyneman & Loxley (1983) studied science achievement in 16 developing and 13 industrialized countries, and found that :

"Children who attend primary school in countries with low per capita incomes have learned substantially less after similar amounts of time in school than have pupils

in high income countries. At the same time, the lower the income of the country, the weaker the influence of pupils' social status on achievement. Conversely, in low-income countries, the effect of school and teacher quality on academic achievement in primary school is comparatively greater. From these data, which are more representative of the world's population of school children than those used in previous studies, it is possible to conclude that the predominant influence on student learning, is the quality of the schools and teachers to which children are exposed". (p. 1162).

Fuller (1987) considered more than 50 empirical studies. Some of Fuller's specific conclusions are worth quoting here. Based on the percentage of studies showing positive effects, he found that effective parameters influencing school achievement are length of the instructional programme, pupil feeding programmes, school library activity, years of teacher training. textbooks and instructional materials. Ineffective parameters are pupil grade repetition, reduced class size, teachers' salaries and science laboratories. For example, "in most situations, lowering class size with the intent of raising achievement is not an efficient strategy".

In the area of materials, Fuller concludes that "A good deal of evidence now suggests that material factors in schools – such as more textbooks or writing materials – exercise more influence on achievement in the Third World than in industrialized countries". (Fuller, 1987, p. 287).

He finds that the influence of textbooks appears to be stronger within rural schools and among students from lower income families, but that very little research has been conducted on how, and he conditions under which, textbooks shape achievement.

Schiefelbein & Simmons (1981, pp. 10 –12) found that –

(i) Larger class size was associated with higher performance, or did not affect it, in 9 out of 14 studies.

(ii) Higher expenditure per student was not associated with higher student achievement in 5 out of 8 studies.

(iii) Availability of textbooks was associated with student achievements 7 out of 10 studies.

(iv) The setting of homework was related to higher student achievement in 6 out of 8

studies.

Under the heading "student traits", they found that :

(v) SES was significant in 10 out of 13 studies.

(vi) Malnutrition, body weight and health were significant in 8 out of 11 studies (but note that this is highly correlated with SES).

(vii) The more repeating the lower the score in 7 out o 8 studies.

(viii) Kindergarten attendance was related to achievement 6 or 12 years later, in 3 out of 4 studies.

In a more wide-ranging study including case studies of effective schools in eight countries, Levin & Lockheed (1991) argue that flexibility appears to be key to effectiveness, and point out the importance of material inputs on achievement in economically improvised countries. Resources sufficient to provide even the most rudimentary conditions for success often are lacking. They argue that creating effective schools in developing countries requires three elements : basic inputs, facilitating conditions and the will to change.

The necessary inputs are

- a well-developed curriculum in terms of both scope and sequence;
- sufficient instructional materials for students;
- adequate time for teaching and learning;
- teaching practices that encourage active student learning.
  The facilitating conditions are
- community involvement
- school-based professionalism (which includes the crucial role of the principal in school effectiveness, teacher collegiality and commitment, and autonomy balanced with accountability);
- flexibility in curriculum and organization;
- the will to act includes vision and decentralization.

Hadded et al (1990) give an extensive summary of empirical research findings. A particular interesting aspect of the summary is that concerned with factors,

especially school management. They said :

"We know that well-manage, effective schools share several characteristics : they display and orderly environment, emphasize achievement, set high expectations for student achievement, and are run by teachers or principals who expend an enormous amount of effort to produce effective teaching and encourage pupils to learn, no matter what their family background or gender. Few schools in developing countries display these features" Hadded al, 1990, p. 57).

Research Data from Developed Countries

A recent summary of research findings from industrialized countries is given in Riddell & Brown (1991). At the primary level, Peter Mortimore reports that it is important to take account of differences in student intake. Even when differences in intake have been taken into account, some schools are more likely than others to lead to good outcomes. Whilst attainment is influenced heavily by home background, progress is more likely to be influenced by schooling. Schools may be effective at different things, but schools effective for one group of pupils are also likely to be effective for others. Mortimore lists specific factors noted in a number of different studies which make primary schools effective.

(a) Leadership.

(b) Management of pupils.

(c) Management of teachers.

(d) Pupil care.

(e) School environment.

(f) School climate.

At secondary level, David Reynolds summarises the findings of Rutter et al (1979) as follows :

'Irrelevant' factors were : -

• the school's average class sizes

• the formal organisation of the academic system of the schools (e.g. having mixed ability of streamed ability grouping arrangements) or the schools' pastrol system i.e., aving form tutor or house based pupil welfare arrangements);

- school locational arrangements (e.g. being splitg site or not);

- the school's sizes;

- the ages and physical characteristics of the schools' buildings.

The factors that were linked with effectiveness could be grouped under the following broad heading :

(i) the pupil control system, with effective schools using rewards, praise, encouragement and appreciation more than punishments; (ii) the school environment for pupils with effective schools providing good working conditions for pupils and for their teachers, being responsive to pupil needs and also providing buildings that were well cared for and well decorated; (iii) the involvement of pupils, with effective schools giving ample opportunities for pupils to take positions of responsibility and to participate in the running of the schools and in the educational activities within the classrooms; (iv) the academic development of pupils, with effective schools making positive use of homework, setting clear and explicit academic goals, and with the teachers in these effective schools having high expectations, of and positive views of, the capabilities of their pupils; (v) the behaviour of teachers, with effective schools providing good models of behaviour through teachers exhibiting good time keeping and a clearly apparent willingness to deal with pupil's personal and social problems; (vi) management in the classroom, with effective schools possessing teachers who prepared lessons in advance, who kept the attention of the whole class, who management to maintain discipline in an unobtrusive way, who focused upon the rewarding of good behaviour and who were able to take swift action to deal with any disruption by pupils; and (vii) the management structure, with effective schools combining firm leadership by the head teacher with a decision making process in which all teachers felt that their views were represented.

Fuller (1987) is among those who make this point. He argues that –

"we should not just focus on the effects of material, such as textbook availability of overall school expenditure levels, but ask how material ingredients actually are mobilized and organized within schools and classrooms.

It could be that significant progress would be make in Third World school

effectiveness by greater attention to some or all of the process variables such as classroom management, school climate, and institutional leadership......... It is true that there is relatively little research evidence on the effects of process variables on schools in developing countries, and it could be argued that school effectiveness research findings from industrialized countries are invalid in a Third World context. The opposing view is that there are enough similarities among schools worldwide to suggest that researches, planners and policy-makers in developing countries should at the very least be aware of these findings. The meta-analysis is particularly uses for this purpose, and there is an increasing volume of published work at this level (see Kulik & Kulik, 1989)...."

End Note

The above citations of research findings commonly show that effective school are the nation's dream. Many factors and issues are involved in the functioning of effective schools of which teacher-relevant factors are not negligible. Therefore, in teacher preparation all these issues and concerns must be dealt in effectively. A good teacher education programme intends to prepare classroom embedded in real schools. Hence, researching on school effectiveness is an important field of the total filed of teacher education.

Modern Views and Position

Jaap Scheerens (2000) of the International Institute of Educational Planning, UNESCO, aptly puts, "School effectiveness refers to the performance of the organizational unit called 'school'. The performance of the school can be expressed as the output of the school, which in turn is measured in terms of the average achievement of the pupils at the end of period of formal schooling". This researcher again in his Review of School and Instructional Effectiveness Research (2004) has presented a host of research evidence that has helped a lot to the international community. He has observed that the earlier researches on school effectiveness have focused on more or less on five factors.

1. strong educational leadership;

2. emphasis on the acquiring of basic skills;

3. an orderly and secure environment;

4. high expectation of pupil attainment; and

5. frequent assessment of pupil progress.

This is known as five-factor model of school effectiveness. However, effective school research has been largely carried out in primary schools. In more recent contributions to effective schools research became more integrated with education production function and instructional effectiveness research, in the sense that a mixture of antecedent conditions was included. Scheerens and Bosker (1997) make a summary of the main components of thirteen general factors as presented in the Table 1. These thirteen components may be a platform for school effectiveness research in our country. Secondly, to what extent the presage and process variables of teaching are contributing to school effectiveness measure may be a guiding light for teacher education renewal.

Table 1. Components of fourteen effectiveness-enhancing factors

Factors	Components
Achievement, orientation, high expectations	clear focus on the mastering of basic subjects high expectations (school level) high expectation (teacher level)
Educational leadership	general leadership skills school leader as information provider orchestrator or participative decision making school leader as coordinator meta-controller of classrooom process time educational / administrative leadership counselor and quality controller of classroom teachers initiator and facilitator of staff professionalization
Consensus and	type and frequency of meetings and consultations contents of cooperation satisfaction about cooperation importance attributed to cooperation

Factors	Components
	indicators of successful cooperation
Curriculum quality / opportunity to learn	the way curricular priorities are set
	choice of methods and text books
	application of methods and text books
	opportunity to learn
	satisfaction with the curriculum
School climate	orderly atmosphere
	the importance given to an orderly climate
	rules and regulations
	punishment and rewarding
	absenteeism and drop out
	good conduct and behaviour of pupils
	satisfaction with orderly school climate
	climate in terms of effectiveness orientation and good internal relationship
	priorities in an effectiveness-enhancing school climate
	perceptions on effectiveness-enhancing conditions
	relationships between pupils
	relationships between teacher and pupils
	relationships between staff
	relationships : the role of the head teacher engagement of pupils
	appraisal of roles and tasks
	job appraisal in terms of facilities, conditions of labour, task load and
	general satisfaction
	facilities and building
Evaluative potential	evaluation emphasis
	monitoring pupils' progress

Factors	Components
	use of pupil monitoring systems
	school process evaluation
	use of evaluation results
	keeping records on pupils' performance
	satisfaction with evaluation activities
Parental involvement	emphasis on parental involvement in school policy
	contracts with parents
	satisfaction with parental involvement
Classroom climate	relationship within the classroom
	order
	work attitude
	satisfaction
Effective learning time	importance of effective learning
	time
	monitoring of absenteeism
	time at classroom level
	classroom management
	homework

Let Us Check Our Progress

1. What do you mean by 'school effectiveness' ?

2. List down at least five factors school effectiveness research which are potential for renewing teacher training.

3. How can you make a rural primary school more effective in terms if pupil attainment ?

7/8.3.6.6 : LEARNING STYLE

"A learning style as the manner in which a learner takes in and processes information or an individuals preferred and consistent set of behaviors or approaches to learning". (Felder, 1996; Greenagel)

"different ways in which children and adults think and learn" (Litzinger & Osif, 1992).

"Perceiving the way we absorb information around us, and processing – how we understand the information that is absorbed". (Ally & Fahy 2002).

In a multiple set up of teaching and learning in India, it is essential to know student in a better way. It is the learning style which understand the learners for their achievements in a particular situation. The following model will help to elaborate the process strategies to reflect learning styles :

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Vermunt's Model of Learning Styles (1998)
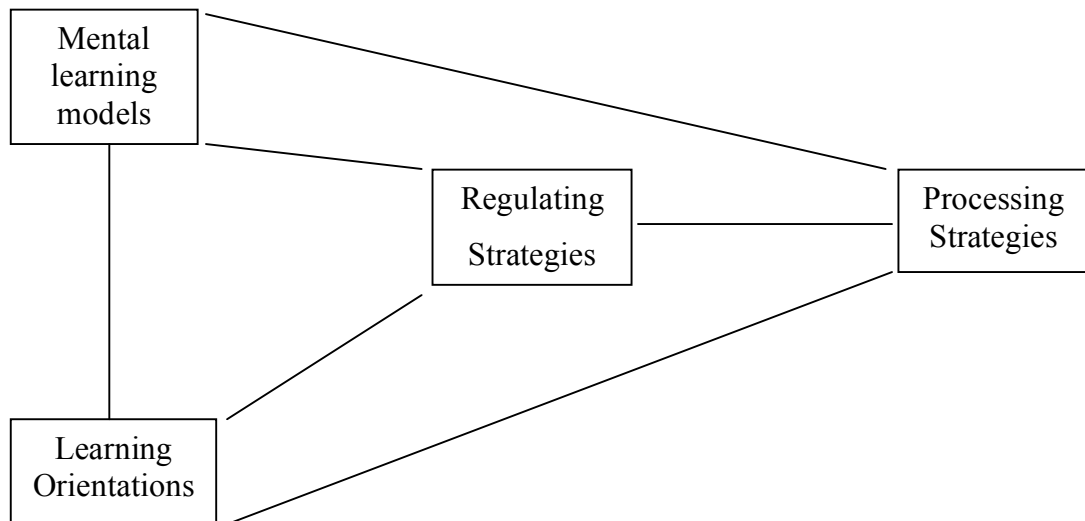
(Source : Price and Richardson, 2003)

Fig. 2 : Vermunt's Model of Learning Styles

Families of Learning Styles :

Table : Learning Styles Families (Coffield, et al 2004)

Learning styles and preferences are largely constitutionally based including the four modalities :	Leaning styles reflect deep-seated features of the cognitive structure including patterns of ability	Learning styles are one component of a relatively stable personality type	Learning styles are flexibly stable learning preferences	Move on from learning styles to learning approaches strategies orientations and conceptions of learning
Dunn and Dunn Gregore Bartien Belts Gordon Marks Paivio Richardson Sheehan Torrance	**Riding** Broverman Cooper Gardener et al. Guilford Holzman & Klein Hudson Hunt Kagan Kogan Messick Pettigrew Witkin	**Apter Jackson Myers-Briggs** Epstein & Meier Harrisson-Banson Miller	**Affinson & Hayes Hermann Honey & Mumford Kolb** Felder & Silverman Hermanssem, Wierstre, de Jong & Thijssen Kaufmann Mirton McCarthy	**Entwistle Sternberg Vermunt** Biggs Conti & Kolody Grasha-Riechmann, Hill Marron & Saijo McKerney & Keen Pask, Pintrich, Smith, Garcis & McCeachie Schmock, Weinstein, Zimmerman & Paimer Whetton & Cameron

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Influential Models of Learning Styles

Coffield et al. 2004 provided most influential models and instruments of learning styles and their accompanying literatures, with a particular focus on validity, reliability and practical application. The main models chosen for detailed study are ass follows :

- Allinson and Hayes 'Cognitive Style Index (CSI).
- Dunn and Dunn's model and instruments of learning styles.
- Entwistle's Approaches and Study Skills Inventory for Students (ASSIST).
- Gregore's Mind Styles Model and Style Defmerator (GSD).
- Herrmann's Brain Dominance Instrument (HBDI).

- Honey and Mumford's Learning Styles Questionnaire (LSQ).
- Jackson's Learning Stles Profiler (LSP).
- Kolb's Learning Style Inventory (LSI).
- Myers-Briggs Type Indicator (MBTI).
- Riding's Cognitive Styles Analysis (CSA).
- Sternberg's Thinking Styles Inventory (TSI).
- Vermunt's Inventory of Learning Styles (ILS).

It is suggested that learners have a preferred mode in which they will most effectively develop learning. For many their first introduction to learning styles was via the Honey and Mumford model based on Kolb's work.

Kolb, Stitt-Gohdes 2001, Brown 2003 mentioned following points to correlate objectives of educations and learning styles :

1. Any student whose learning style does not match the teacher's learning style, especially if the teacher is inflexible in style or unaware of style differences.
2. Any student whose learning style does not match the orientation of the curriculum.
3. Any student who does not match the class profile (the set of predominant learning styles amongst any given group of students).
4. Any student who is misplaced in the educational system from a mismatch between the student's learning style and the style of the placement test" (Leaver cited by Stiff-Ghodes, 2001).

Burns et al (1998) consider the preference of high academic achievers, reaching the conclusion that "learning style preference differences within an academic achievement group may be as great as the differences between the groups" and "all style preferences may be equally appropriate". More interestingly there is some evidence for an association of learning style preference with subject discipline in Higher Education (Nulty and Barrett, 1996).

A serious criticism of the reporting on the individual testing and development of methods and items is the lack of consideration of the socio-economic and cultural context from the literature (Coffield et al, 2004a).

Learning Style preference in the classroom

Felder and Solomon, 2005 and Intel, 2005 have identified ideas for accommodating and encouraging a wide variety of learning style preferences in the classroom. These are summarized in the tables below :

Visual	
Can be helped by planning learning that	*Can help their own learning by*
Uses diagrams, video, graphics, pictures and models.	Using visual tools to help them summaries what they need to learn. Trying mind mapping as a means to re-author and record material to be learnt.
Auditory	
Can be helped by planning learning that	*Can help their own learning by*
Uses lectures, storytelling, music, and questioning.	Summarising what they need to learn in an audible form (recordings).
Kinaesthetic	
Can be helped by planning learning that	*Can help their own learning by*
Involves role-play, acting and physical modeling	Moving around as they learn and Working through problems whimsically (shuffling papers or cards). Using exercise time to mentally review what they have been studying.
Serialist / Left Brain	
Can be helped by planning learning that	*Can help their own learning by*
Uses stepped activities or algorithms to solve problems.	Looking at problems as a series of steps or as a flow diagram.
Holist / Right Brain	
Can be helped by planning learning that	*Can help their own learning by*
Clearly shows the big picture, what we are trying to achieve.	A top down approach to problems, starting with the desired outcome.

Active learners	
Can be helped by planning learning that Involves discussion or explanation to others	*Can help their own learning by* Working in groups to support others. Putting ideas into their own words.
Reflective learners	
Can be helped by planning learning that Gives them an opportunity to think before they have to do something with information.	Can help their own learning by Putting time into study periods to reflect upon the learning and what questions might be asked.
Extrovert	
Can be helped by planning learning that Involves team and group work.	*Can help their own learning by* Putting together small a small group to study together.
Introvert	
Can be helped by planning learning that Involves individual work.	*Can help their own learning by* Setting up a quiet pace for them to do their studying in.
Sensing	
Can be helped by planning learning that Considers details and facts. Provides material than can be learnt directly.	Can help their own learning by Placing new knowledge into real world contexts they may have experienced themselves.
Intuitive	
Can be helped by planning learning that Involves discovery, exploration or experiment. Being offered a variety	Can help their own learning by Re-representing things to be learnt as a pattern of interconnections of strategies.
Thinking	
Can be helped by planning learning that Is objective and rational	Can help their own learning by Looking for the rules that govern the situation they are considering.

Feeling	
Can be helped by planning learning that Is placed into an emotional or human context.	Can help their own learning by Considering how the material to be learnt affects them or other people.
Judging Can be helped by planning learning that Has a clear task with deadlines.	Can help their own learning by Careful time management, setting themselves personal deadlines. Using Gant charts and dealing with learning as a sequence of projects.
Perceiving Can be helped by planning learning that Enables individual strategy for discovering	Can help their own learning by looking for other ways in which solutions or ideas.

Everyone learns in all these styles; however there is typically one (or possibly two) preferred or stronger style(s). In order to begin to teach more effectively, we need to know what it means to be a visual, auditory or kinesthetic learner. The following are brief descriptions of some of the learning styles.

Conditions for Learning Styles in Learning

Visual Learners

- Visual learners learn best by seeing information.
- Visual learners often have poor auditory skills and weak verbal abilities.
- Visual learners often have difficulty blending sounds and discriminating short vowel sounds.
- Visual learners are often poor spellers.
- Visual learners easily remember information presented in pictures, charts or diagrams.
- Visual learners can make "movies in their minds" of information they are reading. Their movies are often vivid and detailed.

- Visual learners often pay close attention to the body language of others (facial expressions, eyes, stance, etc.). Be aware of your body language and use it to emphasize important points you wish to make during class.
- Use videos and overheads as part of your lectures.
- Visual learners may tune out spoken directions.

Auditory Learners

- Auditory learners learn best by hearing information. They can usually remember information more accurately when it has been explained to them orally.
- Auditory learners can remember quite accurately details of information they hear during conversations or lectures. (Don't be annoyed if the student isn't taking notes from your lectures).
- Auditory learners have strong language skills, which include a well-developed vocabulary and an appreciation for words.
- Strong language skills often lead to strong oral communication skills. They are usually talented at giving speeches, oral reports, and articulating their ideas.
- Auditory learners may find learning a foreign language to be relatively easy. They also may have musical talents.
- Auditory learners tend to have poor visual skills, so graphs, maps and charts may present a challenge to the auditory learner. They do best with oral directions and assignments.
- Auditory learners often reverse words, for example : from, for, form and was, saw.
- Auditory learners tend to have poor handwriting and small motor skills.

Kinesthetic or Tactile Learners

- Kinesthetic learners learn best by moving their bodies, activating their large or small muscles as they learn. They are "hands-on learners" or "doers" who actually concentrate better and learn more easily when movement is involved.
- Kinesthetic learners often wiggle, tap their feel or more their legs when they sit. Many were labeled "hyperactive" as children.

- Kinesthetic learners work well with their hands. They may be good at art, sculpting, working with various tools, learning in lab situations or learning by computer.

- Kinesthetic learners need to take notes and highlight important information. They are using their small muscles to remember information.

- Kinesthetic learners need information broken into steps; like a systematic process : step 1, step 2, and step 3. They can remember historical dates, mathematical equations, and scientific information if it is presented in a sequential manner.

- Kinesthetic learners may have difficulty learning abstract symbols like letters and numbers.

Now that it is identified and learned about learning styles, that can incorporate that information into which tutoring covers suggested aids that address learning styles and tutoring strategies for each learning style.

Learning Styles and Teaching Aids

Visual	Auditory	Kinesthetic / Tactile
Guided imagery	Tapes / CD	Having student pace or walk during lessons
Color codes	Film and television	Items to "play with" like Koosh ball, play-dough
Study cards	Music	Having student physically "act out" a lesson
Photographic pictures	Verbal directions	Role playing
Film and television	Rhymes / poems	
Charts and graphs	Reading aloud	
Maps	Repeating things orally	
Demonstrations	Rhythmic sounds	Having students trace a word with their finger
Drawings	Having discussions Sounding out words Saying words in syllable	Having student take notes Giving student breaks to get up, stretch etc.

Tutoring Strategies for To Correlate Learning Style & Objectives of Learning

Visual Learners

1. Use overhead transparencies.
2. Use flash cards for key concepts.
3. Allow time for students to write down notes.
4. Use as many visuals as possible : pictures, diagrams, charts, etc.
5. Use demonstrations whenever possible.
6. Write out all key phrases, words, terms, etc.
7. Create outlines for lessons, leaving blanks for student to complete.
8. Encourage student to chart out information using maps, diagrams, etc.
9. Have student copy problems and examples.
10. Present lesson objective at the beginning of lesson and summary at the end.
11. Provide additional worksheets for later practice and reinforcement.
12. Write on blackboard when presenting key concepts, etc.
13. Encourage students to keep a notebook / folder of all written work for each lesson / unit.

Tutoring Strategies for Auditory Learners

1. Always present material orally.
2. Encourage discussion.
3. Use a tape recorder to tape session for student review.
4. Have student read aloud.
5. Ask for oral response to oral questions.
6. Ask student to repeat directions, key concepts, etc.
7. Ask student to summarize main points.
8. Try to maintain eye contact.
9. Encourage student to think out loud.
10. Vary the tone and intensity of your voice.
11. Plan sessions that are organized in sequential order.
12. Give directions orally with only two or three steps at a time.
13. Have taped materials available for reference.
14. Encourage student to speak answers aloud before writing.

Tutoring Strategies for Tactile / Kinesthetic Learners

1. Have student try out a problem on a chalkboard or lab center.
2. Encourage student to make their own flashcards.
3. Give demonstrations while allowing student to perform, step by step.
4. Plan ways for the student to manipulate the materials.
5. Use concrete examples to help the student use the skills gained.
6. Involve the student in the planning of the tutoring session.
7. Use association techniques to link new learning with past experiences.
8. Allow student to stand, move, etc. during session.

Learning Style Profiles According to Gardner :

Learning Style	Preferences	Approach
LINGUISTIC LEARNERS	Likes to : Read, write and tell stories	Provides written to materials and read the learner.
	Is good at : memorizing and create things, daydream, look at pictures/ slides, watch movies and play with machines.	Listen to the learners materials. Provide opportunities to visit art galleries theatres and museums
	Learns best by : visualizing	Introduce the learner to dreaming, using the mind's digital media, graphics eye and working with colours software and multimedia / pictures authoring tools. Provide graphical games such as Pictionary, Pharach and the Sim series.

Learning Style	Preferences	Approach
Bodily / Kinesthetic Learner	Likes to : move around, touch and talk and use body language.	Encourage the learner to take part in dancing, acting or sport activities.
	Is good at : physical activities and crafts.	Provides a variety of manipulatives for experimentation.
	Learners best by : touching, moving, interacting with space and processing knowledge through bodily sensations.	Play games such as charades.
Musical Learner	Likes to : play musical instruments, sing, drum.	Provide spoken instructions (recorded, synthesized speech) as an alternative to next alone.
	Likes the sounds of the human voice.	Encourages the learners.
	Is good at : Listening, discriminating environmental other sounds.	to take part in musical activities.
	Learn best by : listening, especially if things are set to music or to a boat.	Provide music composition software.
Interpersonal Learner	Likes to : have lots of friends, talk to people and join groups.	Provide opportunities for paired and group work.
	Is good at : understanding people, leading others, organizing and mediating conflicts.	Encourages discussion and problems solving activity. Provide access to online discussion forums

Learning Style	Preferences	Approach
Interpersonal Learner	Likes to : work alone and pursue own interests.	Give the learner time to work and experiment alone.
	Is good at : understanding self, focusing inward on feelings / dreams, following instincts, pursuing interests / goats and being original.	Invite the learner to share what they on their own with the class something for the whole to enjoy.
	Learns best by : working alone, individualized projects, self-paced instruction and having own space.	Encourages the learner to keep a diary or journal.

The above analysis of learning styles gives the teachers the message that the student differ in learning styles and hence the teachers should adjust their teaching styles accordingly to maximize student learning. This message also gives us the line of direction in modern day's teacher education. Research studies in this area in our country is just in the beginning stage. The teacher education must look forward this new field so that we may supply more effective teachers to our classrooms when inclusive culture and equity are being positioned in our education policy.

Let Us Check Our Progress

1. Explain importance of learning style in teacher education.
2. What would be the main feature of instructional design when the majority of the learners are visual ? – Give reasons.
3. What would be the teaching aids for teaching of the auditory learners ?

7/8.3.6.7 : COGNITIVE STYLE

Introduction :

Cognitive style is seen as an individual's preferred and habitual approach to organizing and representing information.

Riding and Cheema (1991) found over 30 labels and, after reviewing the descriptions, correlations between them, methods of assessment, and effect on process, these 'primary elements' of personal psychology interact with cognitive style to influence the formation of attitudes, skills, understanding and a general level of competencies realized in the learning process.

Cognitive Style and Learning Strategy :

Personal style describes the way in which a person habitually approaches or responds to the learning task. It comprises two fundamental aspects : first, cognitive style, which reflects the way in which the individual person thinks; second, learning strategy, which reflects those processes which are used by the learner to respond to the demands of a learning activity.

A person's cognitive style is probably an in-built and automatic way of responding to information and situations. It is probably present at birth or at any rate is fixed early on in life and is thought to be deeply pervasive, affecting a wide range of individual functioning. A person's cognitive style s a relatively fixed aspect of learning performance and influences a person's general attainment or achievement in learning situation.

Style and education – a practical example

The implications of cognitive style for the educator and trainer are far-reaching, but to date conspicuously underdeveloped in working practice. Hamblin (1981) commented that constructive teaching of study skills, with the aim of raising the level of achievement should not be regarded as a search for a single correct 'way to do it'. Nor should 'study skills' or 'learning how to learn' be left to random chance, individual adaptiveness, or a haphazard management of pedagogy. Hamblin advised

that teachers' work is about encouraging pupils to engage in a long-term process of building a style of learning which is meaningful and productive. Pastoral care embodies the ethic of a profound respect for individuality. To try to impose a learning style is the pedagogic respect for individuality. To try to impose a learning style is the pedagogic equivalent of imposing a false self upon someone – an act which is inevitably as destructive in the long run. (Hamblin 1981 : 21).

The importance of understanding cognitive style should be self-evident. Yet, it is equally evident that generally, its inclusion in approaches to pedagogy is patchy and inconsistent. There is an obvious need for more research and development in the field of individual differences, styles of learning and pedagogy. The aim of such activity should be to gain a better and more fully developed understanding of individual differences in learning, teaching and training. Such an understanding will, it is hoped, lead to a consistent and appropriate inclusion of cognitive and learning styles in pedagogical practice.

Some experts grouped into two principal cognitive style dimensions; the wholist-analytic and the verbal-imagery style dimensions. A further review by Rayner and Riding (1997) supported this conclusion.

The cognitive style dimensions

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                    ┌─────────────────────┐
                    │  WHOLIST-ANALYTIC   │
                    │     DIMENSION       │
                    └─────────────────────┘

                           Analtyic
                              │
                              │
┌──────────────────┐         │
│ VERBAL-IMAGERY   │  Verbaliser ──────────────── Imager
│   DIMENSION      │         │
└──────────────────┘         │
                              │
                           Wholist
```

Fig. 3 : Dimensions of Cognitive Style

The two basic dimensions of cognitive style

- The wholist-analytic style dimension of whether an individual tends to organize information into wholes or parts.
- The verbal-imagery style dimension of whether an individual is inclined to represent information during thinking verbally or in mental pictures.

The assessment of cognitive style

The valid and efficient assessment of a construct is obviously required before its usefulness can be established; valid in that it needs actually to measure what it claims to measure, and efficient in that it can be assessed in a reasonably short time by a simple practical method.

The approach to style assessment developed in this book avoids using introspective self-report measures of style because they have inherent weaknesses. These include individuals' possible inability to accurately and objectively report their behavior, unwillingness to make the necessary effort to respond accurately, bias due to the pressure of social desirability in making responses, and inclination to contrive their responses.

The approach used by Riding (1991a) was to assess performance on simple tasks that might then be representative of processing generally, with the intention of measuring an individual's position on both the wholist-analytic and the verbal-imagery dimensions. A simple computer-presented method of assessing an individual's position on these two dimensions, the Cognitive Styles Analysis (Riding 1991a) was developed.

A significant point here is that both dimensions are assessed by simple cognitive processing tasks which are likely to reflect the underlying cognitive processing natural to the individual, and which reflect the way in which the individual habitually organizes information and represents it during thinking.

Style as independent of other constructs

Reference has already been made to a problem regarding style research; that of various investigators using different labels for what turned out to be the same style.

This problem can also arise between notions that appear to be different. For the construct of cognitive style to be useful, the style dimensions must be shown to be separate from intelligence, different from personality, and un-related to gender.

Intelligence

Cognitive style affects learning performance, but then so does intelligence. Are they facets of the same variable ? When performance on measures of intelligence is compared with style the correlation between tests of intelligence and style are very low, in fact approaching zero.

The distinction between style and ability is important. What are the characteristics of style that distinguish it from ability ? Both style and ability will affect performance on a given task. The basic distinction between them is that performance on all tasks will improve as ability increases, whereas the effect of style on performance for an individual will be either positive or negative, depending on the nature of the task. It follows from this that, for an individual at one end of a style dimension, a task of a type they find difficult will be found easier by someone at the other of the dimension, and vice versa. For instance, if the dimension were the verbal-imagery style, then verbalizes would find pictorial tasks more difficult than would imagers, but they would find highly verbal tasks easier than would imagers. In other words, in terms of style, a person is both good and poor at tasks depending on the nature of the task, whiled for intelligence, they are either good or poor.

Personality

While the cognitive style dimensions affect behaviors which are similar to those generally included within personality, each has a very low correlation with tests of the basic personality dimensions, such as introversion-extraversion and stability-neuroticism. Given the distinctly different tasks used to assess the wholist-analytic and the verbal-imagery dimensions, and the lack of correlation between then, cognitive style seems to be at least as fundamental as personality, while it appears to be different in its source and action.

Gender

Numerous differences in behavior and performance have been found between males and females. However, studies have generally shown no style differences related to gender.

The conclusion is that cognitive style is distinctly separate from intelligence, personality and gender.

Cognitive style as distinct from learning strategies

It is useful to distinguish between style and strategy. Style probably has a physiological basis and is fairly fixed for the individual. By contrast, strategies are ways that may be learned and developed to cope with situations and tasks, and particularly methods of utilizing styles to make the best of situations for which the styles are not ideally suited. Within the literature, the term 'learning style' is sometimes used to refer to what here is considered to be learning strategies. A useful distinction has been by Curry (1983).

Style should be related to observed behaviors

A very important aspect of the validity of style is that it should be related to observed behaviors. Further, these relationships should be large enough to have practical significance.

- **Learning performance :** Imagers almost double their learning performance if they are presented with the same information as text-plus-illustration compared to just text, while verbalizes are not affected.

- **Learning preference :** Given a choice of learning material, verbalizers will chose the textual version, and imagers will choose a version with illustrations.

- **Subject attainment :** Studies from the UK, Canada and Kuwait have found that between the ages of 11 and 14 years the wholist-verbalisers have the lowest attainment in mathematics.

- **Social behavior :** Wholists are more assertive and analytics are more verbalisers are more active while imagers are more modest.

To be useful, a construct must have potential practical applications. This is the case with cognitive style in the areas of education and training, occupational guidance, career development and team building, and counseling and personal development.

This then, in outline, is the thesis of the book. It is for the reader to decide how convincing is the evidence. Although much of the emphasis will be on the Cognitive Styles Analysis approach, because the authors feel that evidence supports the view that it is currently the most satisfactory one, other approaches and models will also be considered.

The concept of individual differences and cognitive style

In view of the fact that there are several antecedents of style research, it is helpful to trace the development of a style construct from its various beginnings. An early interest in cognitive style as a construct is associated with the work of several areas of psychology. Some writers, for example, have approached style from an organizing perspective of 'differential psychology' (Jonassen and Grabowski 1993; Messick 1996), while others have been cognitive psychologists interested in the processes and abilities in cognition (Furnham 1995; Grigerenko and Sternberg 1995; Riding 1997).

Vernon (1973) claimed that primary antecedents of style can be traced back to a description of personality in classical Greek literature. Messick (1996 : 638) also suggested this same origin for style. The idea that 'different individuals have contrasting personalities that differentially influence their mode of cognition and behavioral expression', he explained, could be traced back to ancient classifications of temperament and physique. The typology to which he referred was an early model of human personality created by Hippocrates. This typology consisted of four personality types : the melancholic, the sanguine, the phlegmatic and the choleric.

Over the last one hundred years, various traditions of psychology have contributed to the emerging field of cognitive style. Allport (1937), in work which developed the idea of 'life-styles', was probably the first researcher to deliberately use the 'style' construct in association with cognition. For a working definition in the

present context, cognitive style is understood to be an individual's preferred and habitual approach to organizing and representing information.

The development of a theory of cognitive style

There have been several streams of work contributing to the development of cognitive style. A contemporary theory of style appears to flow from four areas of psychology :

- perception
- cognitive controls and cognitive process
- mental imagery
- personality constructs

Research into this construct took place over a thirty-year period leading to an awareness that competence at disembedding shapes and objects was strongly associated with competence at disembedding in other non-perceptual, problem-solving tasks. This resulted in the construct being broadened to encompass both perceptual and intellectual activities and was referred to as the 'global-articulated dimension'. Later, with additional evidence of self-consistency, extending to the areas of body concept, sense of self, and controls and defences, the construct became even more comprehensive and was and labeled as 'psychological differentiation' (Witkin et al. 1962; Witkin 1964; Witkin et al. 1971; Witkin and Goodenough 1981).

Thus the concept cognitive style has been an important area of research for explaining the total variance of student learning outcomes as well as exploring individual difference in them. Therefore, understanding cognitive styles of the learners is a vital task of a professional teachers in order to facilitate learners in organizing information embedded in learning materials.

Research in this area is found scattered. Especially, in our own country this is very very scanty.

Let Us Check Our Progress

1. What is cognitive style ?

2. Why is cognitive style important to the teachers ? – Explain

3. Cite some research done in this area.

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7/8.3.6.8 : IMPLEMENTATION OF CURRICULA OF TEACHER EDUCATION

It has always been the aim of education to broaden and deepen our understanding of ourselves and our world. The disciplines of knowledge contain what we would know about ourselves and our world. However, a curriculum based on disciplines of knowledge can influence from two basic dimensions :

a) It focuses on collecting or mastering information (facts, principles and skills) within a subject or discipline without understanding the relevance of these in solving real-life problems. Students are often puzzled about why they learn certain subjects, certain topic which seem irrelevant to them. During implementation the explanation given is that these are prescribed, which is not very convincing to them.

b) It takes the shape of disciplines or subjects which are the areas of specialization of academicians developed for their own interests and purposes. At best this body of knowledge is limited and narrow. Each one of these academicians have their own answers to the fundamental question posed by Herbert Spencer (1859), "What knowledge is of most worth ?"

Knowledge integrates with life and life themes. This life-related knowledge has meaning and is more likely to be learned in practicing Teacher Education. Learning is a continuous integration of knowledge. Learning experiences deepen and broaden our understanding of ourselves and our world. The focus is on life as it is lived now rather than on preparation for some later life or later level of schooling. As a result of learning, there must be qualitative improvement of life and living.

Curriculum implementation believes that education should deal with the problems, issues and concerns posed by life at personal and transpersonal or global levels in an effective way. As such, Curriculum Integration transcends subject area and disciplinary identifications. The focus is on integrative activities that use knowledge without compartmentalizing it into subjects or disciplines. In Curriculum

the schedule revolves around projects and activities rather than subjects. Disciplines of knowledge are used as resources. The subject area and disciplinary distinctions are maintained around a unifying theme but gradually the borders merge with each other, this is possible only through collaborative effort.

Types of Implementation in Teacher Education :

Underlying Principles

The Teacher Education Curriculum should aim at providing the candidates with necessary knowledge and understanding about the demands of society, the process of learning the needs of the learner, the nature of teaching, evaluation procedures and the nuances of school and classroom management. What is emphasis here is the integration of the curriculum in terms of :

- Knowledge, attitudes and skills,
- Theory and practice
- Content, transaction and evaluation.
- In-school and out-of-school activities.

At the conceptual level, the different components of a teacher education course can be integrated around themes. This is the first level of integration. This can be depicted as in Fig. 4.
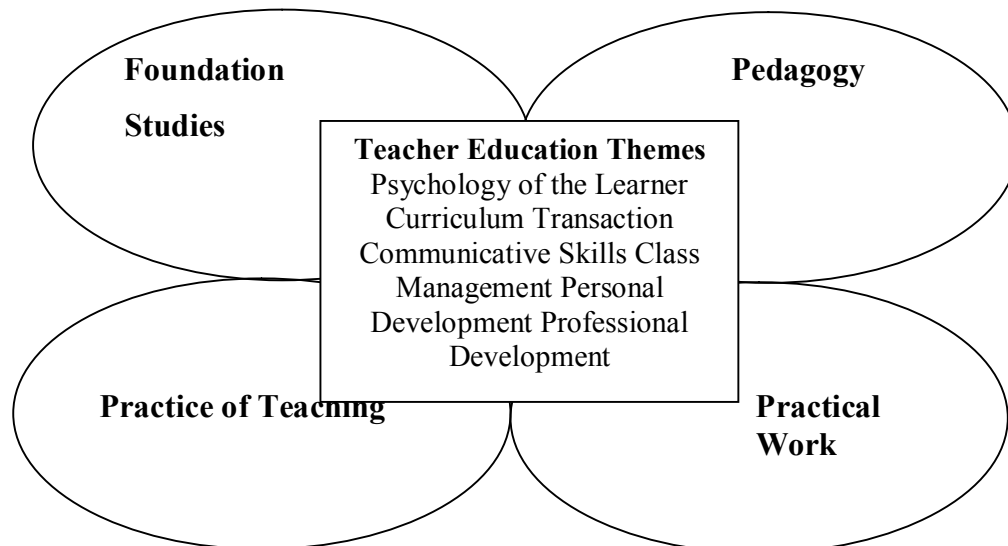

Fig. 4 : Integration of Teacher Education Curriculum

The second level is the integration of objectives, content strategies and evaluation while framing the syllabus in a unit of a particular course.

The third level of integration pertains to the inter-relationship between theory and practice. For example, if a teacher exposes teacher trainees to the models of teaching the natural sequence would be lesson plans and practice teaching sessions using the various models of teaching. Similarly, certain topics in Educational Psychology like motivation, teaming etc. could lead on to action researches in the classrooms teaching intern-I ship, in the methodology of teaching various school subjects, theory followed by practice should be the routine procedure. This theory-practice approach can be extended to most areas in the Teacher Education Curriculum. This aspect is expanded in greater details below :
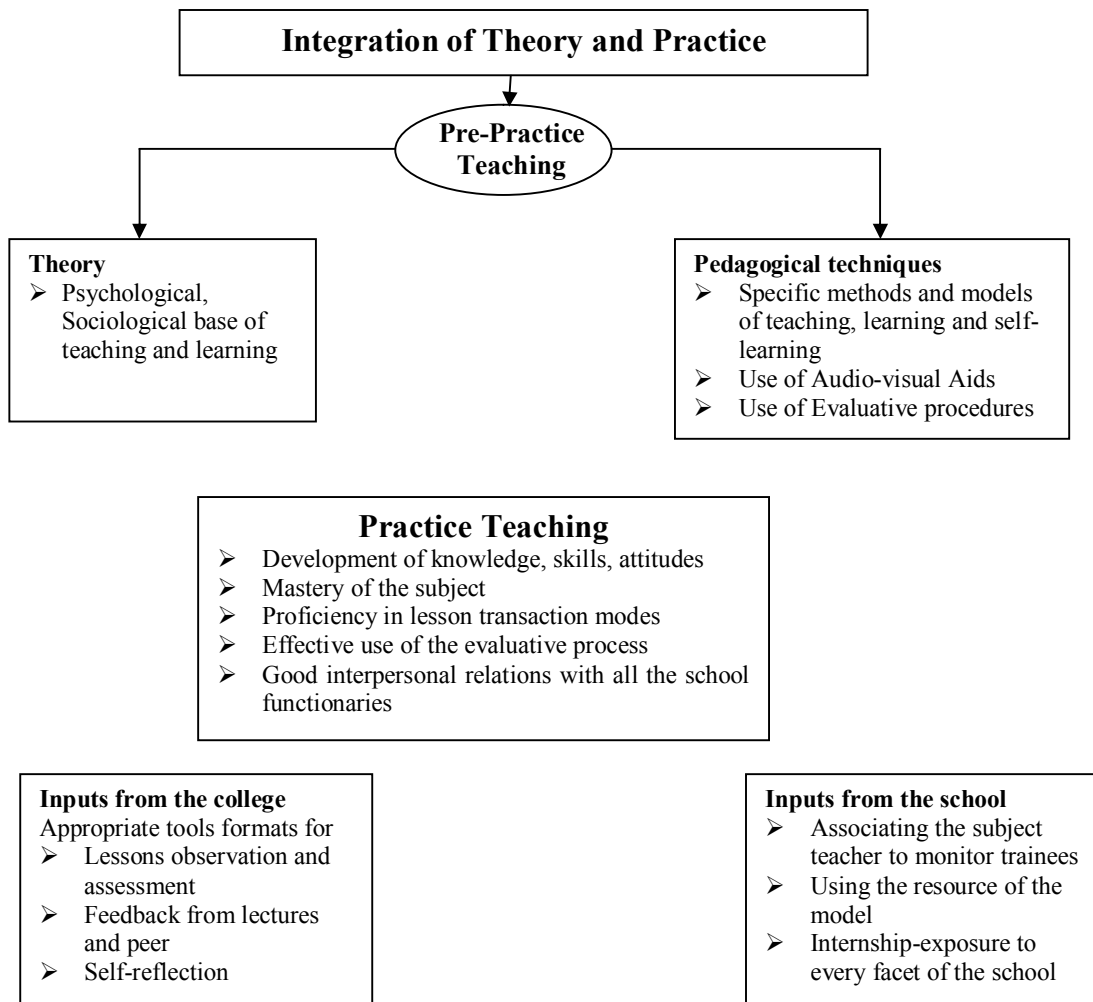
Integration of Theory and Practice

Pre-Practice Teaching

Theory
➢ Psychological, Sociological base of teaching and learning

Pedagogical techniques
➢ Specific methods and models of teaching, learning and self-learning
➢ Use of Audio-visual Aids
➢ Use of Evaluative procedures

Practice Teaching
➢ Development of knowledge, skills, attitudes
➢ Mastery of the subject
➢ Proficiency in lesson transaction modes
➢ Effective use of the evaluative process
➢ Good interpersonal relations with all the school functionaries

Inputs from the college
Appropriate tools formats for
➢ Lessons observation and assessment
➢ Feedback from lectures and peer
➢ Self-reflection

Inputs from the school
➢ Associating the subject teacher to monitor trainees
➢ Using the resource of the model
➢ Internship-exposure to every facet of the school

Fig. 5 : Framework for Integration of Theory and Practice.

Some Issues

Any sudden and abrupt departure from the prevailing practices would only destabilize the existing programme and may prove counter-productive in the matter of implementing a good teacher education curriculum. The implementation strategies must be friendly with the men / women behind such exercise as well as they must look forward to progressive development in respect of infrastructure available, teacher educators, State policies and planning formats and also acceptable to the students teachers. Every forward movement in this context must be decision supported by data. Hence, researching on implementing strategies is a new motto to be taken into granted by all concerned with teacher education management and implementation. A collaborative deal must loom large there.

"Subject to certain provisions of the constitution, education is in the concurrent list and its administration is the responsibility of the states. Effective steps have also been taken for decentralization. There are statutory bodies for the maintenance and coordination of standards like the University Grants Commission, the National Accreditation Assessment Council and National Council for Teacher Education etc. The ministers of education assisted by secretaries from Indian Administrative Services are responsible for the administration of education. The bureaucracy plays a dominant role in the formulation of educational policies and their implementation. There are advisory bodies with expert members on education but still the process needs democratization to achieve people's cooperation".

Imposition of a rigid and uniform system of educational management ignoring the regional variation and diversity of Indian society may not be conducive for achieving the goals of teacher education. In the context of Indian realities, consultative policy planning and its decentralized implementation is sure to be more acceptable and productive. Institutional autonomy for experimentation in teacher education should be assured but proper steps for blending autonomy with accountability needs to be taken, and transparency should be reflected in all its activities and programmes. The system of educational management needs to be more dynamic and forward looking to realize the objectives mentioned below.

Objectives of Teacher Education Management

1. To ensure continuous and ongoing professional growth of teachers and teacher educators.

2. To provide and ensure freedom to institutions to teacher education, to experiment with innovative ideas and practices.

3. To advocate the case that, a certain percentage of the budget for teacher education research and development may be earmarked.

4. To advance for certain of a separate cadre for teacher education in the state.

5. To establish linkage between education and manpower planning.

6. To curtail wastage and non-academic expenditure in teacher education and to ensure optimal and profitable utilization of resources available for teacher education.

7. To improve the quality of teacher education by making it more functional at all levels and for all stages.

8. To provide and use ICT facilities.

9. To create collaborative links between agencies for the renewal of curriculum, preparation of syllabus, production of text books and other reading materials teacher aids and media support.

10. To promote international collaboration by way of frequent exchange of ideas, personal, and research findings.

Strategies

To ensure coordination between various programme and various agencies of teacher education a high level task force consisting of representatives of state apex bodies, experts, teacher association, representative teacher educators and university representatives and be constituted in each state for preparing plans of teacher education and evolving and effective machinery for collaboration between school education and teacher education. Such a proposal has been conceived in the shape of state council of teacher education. The body will prepare an operational road map of programs avoiding duplication and repetitions. The unproductive and expenditure on non-academic aspects to be curtailed. The decision making process should be speedy.

Budgetary provisions for teacher education should be substantially increased and money should be separately earmarked for research and development. Private institutions, whether aided or self-financing should be brought under state audit and scrutiny. There is the need for strict manpower planning in teacher education, and to stop its commercialization.

An effectively managed educational system needs farsighted educational administrators and planners. Educational administration and planning needs specialized knowledge (and there is shortage of such persons to assist the state in these areas). It is therefore, advisable that institutes of educational planning and administration may be set up in each state.

Every change creates new problems for the management as the old mechanisms without modifications cannot meet the requirement of the new changes. It is true, even in the case of education also. So the management system including the personal involved needs a new perceptive vision to adjust with the new situations. Educational changes are part of social change. Transformation at the both levels should occur simultaneously. Since the curriculum frame recommends more democratization of the education system, democratic inputs are more necessary in its management for which the training of the present educational managers and administrators is necessary. There is a need to appoint educational advisors and state institute of educational management in every state. Education officers need to receive in-service education. Reconsideration of the management structures at various levels should also receive priority in the light of the changes suggested in this curriculum framework. The management itself should make constant evaluation of its effectiveness and quality.

For a very long time the education of teachers was imprisoned in a single linear model which produced only one type of teachers as there was little difference in their education. The educational administrators and planners did not think of experimenting with alternative models of teacher preparation. Recently, certain efforts have been made in this direction by a few states and universities. Unless the institutions of teacher education address themselves to task-oriented teacher education they would not be able to provide specialized as well as comprehensive programme of teacher education. The nation needs general teachers, subject specialists, experts in

management, planning, finance and administration, teachers for counseling and guidance, physical and aesthetic education, etc. Only multiple, flexible and integrated models can shoulder this responsibility. The educational administrators and universities therefore, must take initiative in starting alternative models / programmes of teacher education. While developing various models of teacher preparation, the following general objectives need to be kept in mind.

1. To produce professionally more competent and performance oriented teachers and teacher educators.

2. To make teacher education broad based so as to meet the requirements of specialized areas.

3. To prepare teachers and their educators for transacting the curriculum content of integrated subjects.

4. To empower teachers and their educators to integrate physical education, yogic education, aesthetic education for life skills, value transmission etc. with general education of teachers.

5. To meet the requirements of regional specificities within the main stream of teacher education.

6. To adopt interdisciplinary approach in the preparation of teachers and teacher educators.

7. To orient the teachers and teacher educators to handle the challenged children in the inclusive environment.

Suggested Modalities for Implementing Curriculum Framework 2005

Some of the crucial management tasks would be :

1. To develop a robust Management Information System for teacher education to document institution, courses and teacher requirements state-wise. It should also have statistics about untrained teachers on the job, unemployed trained teachers and subject-wise deficiency and supply of teachers at elementary, secondary and senior secondary level.

2. To develop 5-year detailed road map to utilize EDUSAT facilities for preprimary, primary, elementary, secondary, senior secondary teachers so that

their subject competence and pedagogical competence could be upgraded.

3. To develop 5-year detailed road map to provide continuing professional support to teacher education at all levels.

4. To secure a dedicated budget for research and development for teacher education.

5. To initiate accreditation of institutions keeping in view process indicators.

For effectively managing the system and to implement the recommendations of this Curriculum Framework 2005 institutions should be given a time frame. Professional support should be extended to shift from one system to another. Seminars and workshops, etc. may be organized to clarify various issues. The NCTE may ensure the implementation of the proposed idols of teacher education at various levels besides working out the detailed syllabus. Study and resource material may be prepared for clarifying concepts like pedagogical analysis, culture specific pedagogy, ICT and their educational implications.

Following operational steps, besides others may be considered for smooth implementation of Curriculum Framework 2005.

1. Meeting with Directors of SCERTs / SIE Heads of CTEs / IASEs Deans of Education Faculty of Universities to discuss administrative and academic matters.

2. Development of support materials that may be used by DIETs, CITes, IASEs in transacting Curriculum Framework 2005 including preparation of audio and video programmes.

3. Networking institutions so that E-learning on some of the aspects of Curriculum Framework 2005 may offered.

4. Organizing regional workshops for key trainers (trainer of trainees) followed by state level workshops.

5. Benchmarking best practices of some institutions and disseminating them among all teacher education institutions both at elementary and secondary level.

Role of the States

NCTE Curriculum is an official curriculum for teacher education in this

country. A close and effective collaboration among ministries, government department of education, NCERT, NCTE, Universities, SCERTs, IASEs, CTEs, DIETs, concerned academic boards, teacher associations, etc. only build favorable climate for effective implementation of it. Besides, NAAC will also be the quality manager.

However, much responsibility lies of the States and SCERTs as these are near to the teacher education institutions in the matter of academic management of teacher education in the State. Improvement in standard of teacher education may require additional inputs in terms of money, materials, and manpower. Arrangements for these will have to be made and priorities of implementation will have to be determined and delivered to the institution level.

Role of the Universities and IASEs

The main tasks are to carry on continuous research on teacher education curriculum, implementation strategies and delivery models. Teacher education, is a dynamic process and application oriented. Any theoretical conceptualization may not ensure quality.

The draft NCTE Curriculum Framework–2005 asserts, "Research and development are mutually supporting concepts. It applies to teacher education also. Large number of researches has been undertaken in this field during the last few decades. More coordinated and intensive research efforts are needed in teacher education. Whereas NCERT and UGC provide funds for all areas in educational research, NCTE may have the provision to fund research projects especially on teacher education. If this function is to be discharged seriously, NCTE needs to be allocated separate funds for teacher education research support".

Next, implementation strategy may be of multiple forms. The whole curriculum implementation may involve teacher education institutions-based, school-based, distance mode, workshop mode, seminar-discussion-mode or any innovative one. It is not proved which one is more effective. New research is therefore suggested along this end. At the end, the quality of teacher education depends largely on some institutional level factors and issues concerning how the teacher educators,

understand, interpret, and are committed to implement the curriculum in full spectrum involving all types of learning activities to be exercised with stipulated time in-action. Any dilution in making the programmes to run with professional honesty will definitely make the programme in ineffective whatever be the quality of the curriculum.

Let Us Check Our Progress

1. What do you mean by implementation strategies for teacher education curriculum ?

2. Suggest two innovative strategies for this implementation.

3. Mention role of universities for evolving state-of-the art implementation strategies.

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7/8.3.6.9 : LET US SUM UP

This Unit has given us six areas of research in teacher education. These six areas of research may be looked to touch upon three complicated but most important aspects of today's teacher education which are said to be catalyst for quality learning of students. School effectiveness is the most generalized concept which embraces directly teacher effectiveness and indirectly learning styles and cognitive style. The global concept school effectiveness and its sub-ordinate concept teacher effectiveness are the contesting ground for the researchers as in modern age delivery of quality learning to all is a global campaign. Therefore, teacher education must take into account the idea how to build effective school fitted with effective teachers. We have made an elaborate study of these grounds. Secondly, this Unit also gave us another understanding about the avenues for modification of teacher behavior so that teachers' properly constructed behaviors are developed in teacher education programme. There are also many ways and methods. But the contemporary research can not tell definitely what method or strategy is the best. Thirdly, we have been acquainted with another area which is related to management of teacher education, particularly how to implement any curriculum renewal advancement most effectively. Common data of knowledge are that a good curriculum can not give guarantee to a good teacher education programme. There are many 'if's and 'but's in this matter. Because is it the

teacher educators who actually implement the curriculum and to what extent they are competent as well as committed to do it.

In fine, we have got some valuable insights for engaging ourselves in research in those vital fields of teacher education.

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7/8.3.6.10 : SUGGESTED READINGS

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7/8.3.6.11 : ASSIGNMENTS

1. Make a brief discussion on teaching effectiveness and analyze research data for developing a model of teaching effectiveness.
2. Discuss briefly different enhancing factors of teaching effectiveness.
3. Suggests some activities of the effective teachers.
4. Discuss various strategies for modification of teacher behavior so that effective teachers can be prepared and supplied in our education system.
5. Critically discuss the concept of school effectiveness. Analyze the various factors that improve effectiveness of our schools.

6. Explain with the help of research findings that school effectiveness and students performance are interrelated.

7. Show your acquaintance with "Leaning Styles" from different conceptual frames.

8. Discuss how learning style is related to effective teaching taking into account individual differences among students.

9. Critically discuss cognitive style and explain with suitable illustrations how it is related to teacher education and teaching in the classroom.

10. What are the usual difficulties in implementing teacher education curriculum ? Discuss in this context, suggestions advocated by NCTE.

11. Suggests any other areas which need future research for improving quality teacher education programmes in our country.

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