Student Teachers' Thinking about Knowledge, Learning and Learners in India

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Abstract

Prospective teachers enter classrooms that are not very different from those that they have attended as students. During their School Experience Programme (SEP), they often behave like their teachers did. The nature of the beliefs that students bring to teacher education needs to be explored to understand the direction that they may take once the student teachers are placed as regular teachers. The thinking and beliefs of preservice teachers should be a focus of dialogue in teacher education programmes. Teachers need to reflect on and evaluate their own thinking and beliefs and at times the metaphors they use in their classrooms. They need to begin to assess their own practice and to reflect upon how these influence their perceptions and decisions within their own classrooms. Keeping in view the 'text book culture' prevalent in India this paper explores and analyses the thinking of teachers about 'knowledge', 'learning' and 'learners' and its implications in the Indian scenario.

1. Introduction

Teacher knowledge and thinking are a key to effective teaching. Understanding teacher knowledge, teacher thinking and teacher beliefs can help us understand teacher behaviour in classroom. In the context of EFA, Education for All, especially in India, a lot of emphasis needs to be placed upon the teacher and her importance and role in improving student retention and student achievement. Research in the area provides ample evidence that teacher thinking influences teachers' perceptions, which, in turn, form teacher beliefs that affect their classroom performance. Learning from the researches and experiences of other countries where work has been done in this area is necessary to improve school education worldwide, especially in countries with low literacy rates.

The development and influence of beliefs in teacher education has been a topic of increasing interest for researchers in recent years. Most of these studies, however, have either been conducted in US or UK. In India however, not much work has been done in this area. The National Curriculum Framework - NCF 2005 presents a fresh vision and a new discourse on key contemporary issues and

preparing 'empowered teachers', with a focus on addressing the growing demands of quality education being one of them [36]. Curriculum Framework for Teacher Education', (Draft), 2006, too in its vision of a teacher views a teacher as "a facilitator who encourages learners to reflect, analyze and interpret in the process of knowledge construction" and views teaching as a process that "enables learners construct knowledge." [36a]. The recent trend in curriculum reform towards constructivist related approaches to teaching learning would now therefore require teachers to reconceptualize their roles, develop new teaching learning strategies and do away with the old, 'seemingly effective' practices [36a].

2. Literature Review

It has been seen that "Excellent teachers base their actions in the classroom on a system of beliefs that help them to choose logically between various possible actions. Beliefs are formed from personal experiences, education, and values. They are a major determinant of behavior as teachers respond to questions and make classroom decisions" [40]. Ashton and Webb discovered that teacher efficacy was related to several professional and academic outcomes, and they suggested that the study of preservice teachers' developing efficacy beliefs might offer insights into related conceptions and future perspectives and practices. Many preservice teachers believe that they already possess the attributes or characteristics that are most important for successful teaching and that they may not have to face the problems faced by most classroom teachers. As part of this "unrealistic optimism," they also believe they will be better teachers than their peers. They emphasize and overvalue affective aspects of teaching and undervalue cognitive/academic ones [2]. Teachers learn through experience how to act like a teacher, developing skills such as 'omniscience' and 'orchestration' [50]. King describes ways in which teachers stood, spoke, and look around class. [24]

The results of a study "Student Teachers' Beliefs and a Changing Teacher Role", by Moira Von Wright, showed that when student teachers enter the teacher preparation programmes, they tend to carry with them explicit expectations that strongly reflect the values of what is considered pedagogically

correct [34]. These beliefs direct the students' behaviour in the classroom. Changing demands on the teacher role bring about expectations on a shift in thinking about teaching and learning. As learners, student teachers bring to the teacher education programme certain basic beliefs, attitudes, and skills, which however need not be in keeping with the requirements for becoming an effective teacher. It is known that beliefs are tough and very resistant to change, so, understanding the nature and impact of the beliefs or theories that students bring to teacher education is essential to understand. In a Government of India document it is assumed that teachers can easily set aside their own biases, beliefs and assumptions about children/learners, knowledge and learning and follow meticulously what they have been 'taught' through methodology courses. Most teacher education programmes fail to empower the teacher as an agent of change as they do not provide spaces for student teachers to reflect on their own experiences and assumptions as part of classroom discourse and enquiry [36]. The framework further elaborates that educators must "bring into the teacher education curriculum and discourse, teacher trainees own assumptions about children, beliefs about knowledge and processes of learning". Preservice teachers' beliefs may be defined as the attitudes and values about teaching, students, and the education process that students bring to teacher education. Some researchers have called these beliefs entering perspectives or preconceptions. "Review of research literature in teachers' beliefs and thinking has found a myriad of labels or interpretative terms conceptualizing key features of teachers' thinking or beliefs about their professional practice. Included amongst these terms are 'teacher conceptions', 'teacher perspectives', 'constructs', 'understandings', 'teachers thinking', 'attitudes', 'beliefs' and 'values', 'metaphors', 'images', 'pedagogical content knowledge', 'practical knowledge', 'implicit theories', 'personal theories', and 'principles of' [8]

About teacher knowledge too according to some of the teachers' knowledge is tacit, embodied in practice, in patterns as the way a teacher begins and ends lessons [48]. Examining teacher knowledge in great detail Orton refers to it as two problems, the first one the 'Tacit problem and the tacit problem' seems to be a form of knowledge that reflects that a teacher can do something in the classroom to enable students to learn and the second, which may be called the "situated problem," is that teacher knowledge that is deeply dependent on particular times, places, and contexts, and lacks the general character of knowledge in mathematics, physics, or even psychology [42].

Shulman articulated a framework for teacher knowledge base that included knowledge of content, context, general pedagogy, curriculum, learners,

educational ends and pedagogical content knowledge [44] and suggested seven types of knowledge that are essential for excellent teaching. These types are (1) content knowledge; (2) general pedagogical knowledge; (3) curriculum knowledge; (4) pedagogical content knowledge; (5) knowledge of learners and their characteristics; (6) knowledge of education contexts; and (7) knowledge of education ends, purposes, and values.[45] [46].

Teacher thinking research too assumes that teacher behaviour is guided by teacher thinking i.e. thinking determines how a teacher will behave in class. Teaching also actually is a process that involves not only transmission of the so called 'content' or subject matter but also teachers' own personal experiences which actually play an important role in determining teacher action. "One might describe teacher discourses, narratives, actions or utterances, which somehow imply, embody or otherwise constitute 'teacher knowledge'." [33].

The types of knowledge teachers may develop beliefs about include Content knowledge i.e. subject matter knowledge, Pedagogical knowledge i.e. how to teach, how to create an effective learning experience for students and Pedagogical content knowledge

Teachers' thinking as we have seen impacts students' learning. Teaching so that the students are able to comprehend relies on teachers' ability to see subject matter that caters to the individual needs of diverse students in the classroom. The teachers' knowledge may depend on various factors such as their qualification whether undergraduate, graduate or post-graduate, on how they as students were taught the subject, and their conceptual understanding of the discipline and the like. It actually also depends upon the teacher preparation programme that they have undergone. Teachers need to understand both the subject and also how students comprehend the subject. Whatever students learn depends on the teachers' decisions that he or she takes during the classroom discourse.

The book by Levin represents the results of a 15-year study based on case studies of the development of four teachers' pedagogical thinking [4]. It illustrates how teachers' thinking develops over time based on their personal and professional life experiences. The case studies show how each person's pedagogical thoughts and actions are developed over time and show how each teacher's thinking is reflected in the classroom. Levin's book reviews the cases to examine such issues as whether teachers lose what they learned during teacher education, how teachers' pedagogical understanding grows and changes over time, and what other theories of teacher development have to say about teachers' lives [4]. Hativa provides an overview of the issue that focuses on teacher thinking, beliefs, and knowledge in higher education. Results of

Hativa's study conclude that teachers do not store information about teaching as narratives but can construct such narratives when necessary [37].

In another study, Spanish researchers compared the types of metaphors for teaching and learning generated by experienced and preservice teachers. Analysis of the metaphors indicated that few teachers conceived of teaching and learning as a social process. Behaviourist metaphors predominated among experienced teachers, while preservice teachers had a high number of metaphors related to cognitive/constructivist ideas. Muchmore using life history, ethnographic, and narrative approaches, the researcher explored the history and evolution of Anna's beliefs about literacy and how those beliefs were related to her teaching practices throughout her career. Anna's story was situated within the larger context of a self-study. The researcher conducted 10 formal interviews with Anna; held dozens of informal conversations with her over 5 years; made over 50 visits to her classroom; spoke with people familiar with her about her teaching practices and thinking about literacy; and examined copies of professional documents. The researcher highlighted: what was relevant, true, necessary and ethical in his account of Anna; the value of friendship; problems with informed consent; the importance of doing no harm; the benefits of anonymity; and sharing the risk. [35]

Mattheoudakis focuses on a longitudinal study that aims to investigate pre-service EFL teacher beliefs about learning and teaching in Greece. The study attempts to track possible changes in those beliefs during a 3-year teacher education program and explores the impact of teaching practice, in particular, on student teachers' beliefs. The results indicate that while there is a gradual and sometimes significant development in student teachers' beliefs during the program, student teachers' engagement in the teaching practice seems to have a low impact on the development of their beliefs [31].

Upadhyay examines the use of students' lived experiences in an urban elementary science classroom [5]. Students bring different funds of knowledge that are accumulated through their lived experiences into the classroom, and the author examines what those funds of knowledge mean to an elementary science teacher working in an urban school. In Hashweh's study a new conceptualization-teacher pedagogical construction is offered to address some of the problems associated with PCK [13]. Seven assertions that comprise the new conceptualization are presented, explained and defended in this study. PCK represents personal and private knowledge; PCK is a collection of basic units called teacher pedagogical constructions; teacher pedagogical constructions result mainly from planning, but also from interactive and post-active phases of teaching; pedagogical constructions result

from an inventive process that is influenced by the interaction of knowledge and beliefs from different categories; pedagogical constructions constitute both a generalized event-based and a story-based kind of memory; pedagogical constructions are topic specific; and pedagogical constructions are labeled in multiple interesting ways that connect from to other categories and subcategories of teacher knowledge and beliefs.

Prospective teachers enter classrooms that are not very different from those that they have attended as students. During their School Experience Programme (SEP), the student teachers can relate to, to their own experiences while in school and often behave like their teachers did. As a result the preconceptions remain largely unaffected by the teacher education programme that they undergo. Accommodating new information and adjusting existing beliefs under these familiar circumstances becomes impossible for the student teachers. It is also possible that some beliefs that prospective teachers hold are both a hindrance to their effectiveness in the classroom and damaging to their students. It is not important that all teachers have same beliefs, but beliefs such as "children are just empty vessels" or some teachers may feel "whatever I do to teach this class doesn't make any difference" or "my students have low IQ" need to be positively taken care of. The nature and development of the beliefs that students bring to teacher education should be explored to better understand the direction they are taking. It has been said that we need to be interested in the beliefs of preservice teachers because they must be a focus of dialogue in teacher education programmes. Keys to quality teaching lie in the minds of individual teachers. Teachers need to reflect on and evaluate their own beliefs, values, and the metaphors they use in their work. Teachers should begin to examine their own actions and what and why they are doing it and also reflect upon how these influence their perceptions and decisions within the classroom.

According to Zembylas 2005 teachers may develop beliefs about the Learner and the learning process. Teacher beliefs or teacher thinking as research shows are important components of teacher knowledge. Teacher knowledge basically involves content knowledge, teaching strategies and knowledge about learners and the learning process derived from the social context. Teachers' conceptions of teaching, and broad approaches to teaching are both commonly found to range from teaching as information transmission, through to teaching as supporting students' own knowledge constructions [33].

Various researches in educational psychology have described learners, and therefore learners too are classified in various ways based on how they learn and also at times on their abilities. It is clear from researches that no two individuals can learn in

the same way as another. Learners have their own 'learning styles' actually 'preferred learning styles'. Students have different *learning styles*—characteristic strengths and preferences in the ways they take in and process information. Some students tend to focus on facts, data, and algorithms; others are more comfortable with theories and mathematical models. Some respond strongly to visual forms of information, like pictures, diagrams, and schematics; others get more from verbal forms—written and spoken explanations. Some prefer to learn actively and interactively; others function more introspectively and individually [41].

The NCTE document describing learners and learning reports that "Children process information, acquire knowledge and learn in a cultural context, and their personalities and mental make-up are influenced by cultural factors." [36]. There are differences in the levels of aspiration and perception of children coming from a metropolis and of those from a tribal background. They may interpret the same event or concept differently according to their socio-cultural backgrounds. Cultural specificity therefore needs to be utilized to improve children's learning. Since there is no uniform process of learning and forming concepts, acquisition of values, morality and character and personality development, there is a need for teachers and educators to understand how cultural traditions and factors outside the school affect pedagogical practices. To ignore these factors can adversely affect educational and learning outcomes". It further goes on to say that, Current research emphasizes a more dynamic, process-oriented approach to learner characteristics. [36]. Panda in his paper analysed 'current research trends' in Psychology based on 'Learner Characteristics' and discussed these researches under the subheads such as Cognitive Growth and Processes; Correlates of Achievement; Values and Moral Development; Attitudes, Interests, and Aspirations; Intelligence; Motivation; Personality and Self-Concept [21].

3. The Study

Assuming that teacher thinking or beliefs are subject to varying degrees of change throughout the life of a teacher and also during the teacher education programme our interest in the area was guided by the literature on teacher beliefs and on our observation over the years in teacher preparation programme, that many students had perceptions or strongly held beliefs about various aspects of education, such as about knowledge, learners, the learning process, education, about teachers, about the curriculum and the like. These beliefs many a times emerged when the student teachers taught or discussed or took any decision regarding the process of learning during their SEP. If we believe these beliefs to be as strongly held and resistant to change then these must

surely be our focus of reflection, discussion and action.

Major questions, that guided our research are that if student teachers enter the teacher education programme with pre-existing beliefs, as the review of literature in most western studies and our observation in the Indian scenario reveal, would it not be interesting to explore the beliefs of Indian prospective teachers' about Knowledge, Learning and Learners, which are the most important and key elements in a teacher's life. Whether these beliefs, once identified, change or remain the same after the prospective teachers take up teaching as a profession, needs to be explored. Also, what implications does this thinking have for teacher preparation programmes needs to be studied for the improvement of the future of teacher education programmes in India?

In the present study, multiple methodologies are being utilized under the qualitative research paradigm that helps by searching for contained meanings, beliefs and thoughts of prospective teachers. With a follow-up of these students into their first year of teaching it is possible to study the personal theories or beliefs of these teachers and see how they change. A non-random purposive sample is used in the study as generalizing to population is not a major concern here. The concern here is describing prospective teachers' personal theories or their beliefs about Knowledge, Learning and Learners. The generalization or description may not apply to an individual teacher but will definitely help us to understand the content and nature of teachers' personal theories or their beliefs, of both, in-service and preservice teachers and, also, the potential impact on and implication of these teacher personal theories or beliefs on the teacher education programmes.

4. Tools

Reflective Fastwrites (OMBT): The student teachers are asked to write on 'My Being a Teacher' and what it means to them right at the beginning of the teacher education programme. These are given as assignments to the student teachers right in the beginning i.e. after about a month into the teacher preparation programme

OMBT-1: In addition to the general information OMBT-1 (On My Being a Teacher) comprised 9 open ended questions on knowledge, learning and learners. OMBT-1 was administered after about 7 months into the teacher education programme.

Reflective Journal: The students, at the end of the programme write in their 'Portfolios' a reflective write-up, reflecting upon their journey throughout the teacher preparation programme. Prospective

teachers wrote this assignment reflecting upon their experiences in the 'Practice Teaching School' and at the Department of Education where they had their own classes.

Reflective Diaries: Student teachers in the B.Ed. programme, as a part of the curriculum, are required to maintain diaries with the record of the happenings of each day during teaching practice. The students are asked to reflect upon appropriate and inappropriate practices while teaching in school during teaching practice.

OMBT-2 (Interview): In addition to the general information OMBT-2 comprises questions on their beliefs about goals of Education, and how they may be met, their hopes, for their students, knowledge and those skills that are useful, the role of the teacher in gaining that knowledge and skills, teaching of values, class environment and assessment in addition to items about knowledge, learning and learners. OMBT-2 was administered as an interview schedule to the followed up teachers into their first year of teaching in their jobs.

5. Participants and Sample

64 reflective fast writes 'On My Being a Teacher' (OMBT) were collected wherein the new student teachers described their own experiences or about teaching and learning. The teacher education programme of the University of Delhi is a one year post graduate course leading to a degree in Education i.e. B.Ed. that enables a Bachelors degree holder in Science or Arts (B.Sc/B.A.) student to teach up to secondary level and a Masters degree holder in Science or Arts (M.Sc/M.A) student to teach up to senior secondary level of school education as a regular teacher after the completion of the training. The participants were enrolled in the programme in the July of 2007 and would pass out in May 2008. These prospective teachers can teach Science and Home Science as two major subjects of school education. During September 2007, these students were administered a questionnaire OMBT-1, that was piloted on a group of 5 students drawn from the same population of 64 students. In March 2008 the prospective teachers wrote reflective journal in their portfolio 'On My Being a Teacher', reflecting upon their journey throughout the programme; a journey that made them into 'teachers' from 'teachers to be'. The student teacher's Reflective Diaries that is also one of the assignments of this programme were also analyzed.

In-depth interviews using semi-structured interview schedules of 16 student teachers followed into their first year of teaching (from the 64 that were administered the questionnaire) were conducted and

audio recorded. The gathered interviews were inductively analyzed.

6. Findings

The picture that emerges from this study on analysing the received questionnaires suggests that prospective teachers have actually reflected upon their own experiences as students. "Lortie, in his classic book *schoolteacher*, coined the term 'the apprenticeship of observation', which describes the fact that a trainee has been an apprentice to teaching for most of his/her life before training begins, and therefore has 'set' opinions about what good teaching is". Studies on pre-service teachers' beliefs about learning indicate that they are related to learning outcomes [9].

The qualitative analysis/content analysis of responses from the administered questionnaires is as follows:

Learning is...

On answering about how they would describe 'learning' most of the students felt that learning was a 'continuous process' and that learning happened when students gave a 'positive feedback'. A negligible number however felt that 'learning could be 'understanding' or application of concepts'.

Types of Learners...

About different types of learners that one comes across most of the students defined learners in terms of how 'fast' or 'slow' students learned, describing them as slow, fast and medium learners! Another group of students categorized learners based on 'how' students learn i.e. by lectures, by books etc and some even grouped learners as extrovert, introvert, active or passive! Other definitions that emerged were more based on the learner behaviour; describing learners could be 'distractive', 'attentive', 'hesitant' and 'practical'. It was however felt that learners could be 'different' from each other in terms of 'language', 'values and morals', 'learning ways', 'cultural background' and 'thinking patterns'. Some even described the differences because of 'IQ', 'physical appearance' and 'personality'.

Teachers...

The teachers on one hand were described mainly as 'strict' or 'friendly', 'approachable', 'patient', 'impartial', 'good communicators', 'kind' and even 'idealistic' all of which are personality traits that the prospective students can relate to.

Teacher's Role...

Teachers' major role according to the prospective teachers was 'giving knowledge', knowledge as the 'subject' knowledge or what we in the Indian context describe as 'text book culture'; 'to educate', 'clear concepts'. Other 'roles' defined were more in the social context where the teacher is often described as 'role model', 'one who tells about right and wrong' and understands children. Teacher's role as a transmitter of knowledge is quite evident from the responses.

Teaching Strategies...

On 'effective' teaching strategies that need to be used in schools the prospective teachers felt that the use of teaching aids like graphic aids etc, which tops the list, doing practical and experimentation with interaction helps students learn best. Some however felt that using group discussion, play drama and 'books' helped students learn better. Very few students felt that relating to real life situations, examples, trips, activities and the like were 'effective' which actually reflect and suggest the discourse in their own classrooms in schools. It is however confirmed that the idea of lecturing was not thought to be one of the effective strategies that needed to be used as they themselves felt that learning only happened once a teacher used teaching aids etc.!

Effective Learning Environment...

Basic conditions for 'learning' to take place according to the student teachers comprised a 'good motivating environment', an 'effective teacher' and 'resources'. Therefore the 'environment' mainly concerns with 'getting' students ready for learning and not 'learning' per se. Once the students are 'ready' and 'motivated' to learn the 'learning process' or actually the 'instruction' may largely be conducted in the same manner because 'learning' is said to have happened if students 'give' positive responses or 'correct' responses.

How teachers teach?

Teachers according to the prospective teachers teach mainly as how they themselves were taught when they were in school often getting 'affected' by their own values, region, religion and the like actually suggesting that a teacher would be severe or strict if she as a student was treated in that manner implying the cascade effect in teacher behaviour. According to them teachers also have a 'good mood' or a 'bad mood' and therefore behave with students accordingly.

Findings from the Reflective Writings

We find that the analysis from the reflective diaries of these student teachers relate absolutely to the research findings. The reflective writings reveal the 'Image' of a teacher as a 'knowledge giver' the one who carries the 'light' of learning and 'gives' students' knowledge. Knowledge in its description here is understood to be the 'content stated in the 'prescribed' textbook'. According to the prospective teachers this is 'the very knowledge' that needs to be tested, meaning, the 'reproduction' of which needs to be tested and the knowledge that will 'mould' the 'personality of the learner' for which the teachers should feel responsible. The role of the teacher looking at teacher reflections largely remains that of someone who still possesses the 'stage' in front of the class, a position that feels and seems 'secure' but the one that makes 'teaching', easy and not 'learning' 'joyful'. Accessories like teaching aids however may be used for support because they make 'learning effective'. The qualities that a 'teacher' needs to possess according to the prospective teachers are, leadership qualities, to 'lead' and for students to follow? and, knowledge, i.e. 'subject or content' knowledge. It is however also important that a teacher has the right values and morals to 'impart' to her students, according to the prospective teachers.

After looking at the analysis of the responses from the prospective teachers regarding knowledge, learning and learners, it becomes imperative that the prospective teachers are followed through the programme and into their professions to see how these beliefs change or do not change?

Analysing the data collected from the interviews from the 16 student teachers that had been working as regular teachers in schools for about 4-7 months after completing their teacher preparation programme reveals the following:

Knowledge

Knowledge according to prospective teachers is explained or defined as something gained from the environment and applied for a betterment of self or others", it is a power, they say, that liberates a person mentally, socially and economically. It is also expressed as something that can be taught by someone or books. Something a person acquires by experience. It is a belief that includes specific and isolated facts of information or is just simply knowledge of facts for information; maybe called, 'proficiency acquired' by people, it can be factual. The student teachers felt that Knowledge is ever growing, the more you gain it the more you feel that you have looking at it for the first time. Knowledge is also expertise and skills acquired by experience. Knowledge helps in inculcation of moral values and in a person's vocation too. Acquiring knowledge,

however is not the only goal of education, giving knowledge is a never-ending process. Knowledge is to share, it should not only be bookish but should be enriching, providing creativity with a lot to think, understand, inquire, experience. Grasping knowledge or information helps in removing ignorance.

Knowledge, according to respondents may also be a theoretical and practical understanding of a subject. It can be defined as the skills acquired through experience or education. It may be theoretical or practical knowledge in a particular area. It can be an awareness of familiarity of the surroundings.

"A teacher should have a magnetic persona" (because of knowledge) and should share a bond with students."

Learning

Learning is defined as experiencing something (on your own). Learning depends upon prior experience of learners and their intellectual ability and presentation of materials. It is an ongoing, continuous process. It is when students acquire knowledge with understanding and practice.

'It is not "mugging".' *"Learning should be active, and not rote".*

"Learning is the best of all wealth, it is easy to carry, thieves cannot steal it, neither fire nor water can destroy it and far from decreasing, it increases with giving."

Some teachers however describe learning as a cognitive or mental activity. It is a process for a learner to gain knowledge. It is like as if a person has positive and negative points, so one should absorb the positive and leave the rest.

"Learning is followed by knowledge."

Learning may be described by the teachers as

"Acquisition and development of behavior including skills, knowledge, understanding, values and wisdom."

"It is a product of experience and goals of education."

"Learning leads to change. It is application of existing knowledge to changing situation and during the process new knowledge keeps building, such learning leads to the development of new capacity, it is skills, knowledge, understanding and preferences."

Teacher's responses reveal the impact of more time spent by them in school as regular teachers with more time to interact as compared to while they were student teachers and visited school only on alternate days, three days a week or for a block but for not

more than 10 days adding up to a maximum of 30 days in the whole programme!

One of the respondents says,

"Family environment, also, affects learning to a certain extent. This reminds me of a student who even though had a very sharp mind, but was not producing results; in fact was deteriorating. A meeting with his parents brought out the reason of his low performance. He could not accept the fact that his parent's attention had to be divided now between him and their new born baby. This made him go into a shell and it did affect his learning."

It is very clear that the student teachers now had ample experience after about 6 months in the schools as regular teachers and could relate to the socio-cultural and even personal problems that students encountered while learning in school. This however is not so when they visited as practicing teachers.

Learners

Learners are of two kinds active and passive. All students are learners.

"Learners are students that can be 'moulded' in any shape a teacher wants through her teaching."

"Children are like 'wax', it is all in teacher's hands how you can mould them".

Learners also keep learning, even unconsciously and may be described as *"all those who yearn to learn new things."* All learners learn by formal and informal ways, are always keen on learning.

"Learners are the ones who do experiments with their cognition and other abilities using their skills."

Teachers feel that the one who learns can also make mistakes. Learners have a keen interest in learning new things.

"Learners should be like is sponge – ready to absorb as much as possible."

"Learners are also like "vessels" which are of full of knowledge, but they need a teacher or a person who can help them to stir their thinking."

It is interesting to see how these new teachers, within a few months of their working as regular teachers start using metaphors. The use of metaphors is not seen in the case of practicing teachers. Learners according to the teachers can be defined as all those who acquire knowledge, values, skills through various ways in different situations to bring about a change in attitude and behavior.

"Learner should completely indulge themselves in learning and should go up to the grassroots in order to learn."

Learners are diverse, differ in nature, they may be slow and fast”.

“Learners are what educators produce.”

According to the teachers diverse learners are students that are unable to learn, grasp and retain information.

“There were 3 students in my class whose grasping power was poor. They were given extra attention during my free periods and every step (in maths particularly) was further broken into sub steps so as to dismiss all possibilities of confusion. Sometimes examples from their daily lives were lifted to make things clearer”

One of the teacher goes on to say, *“when I entered my class for the first time, I was ignorant of the potentials, strengths and weaknesses of every student; and being a fresher in this field it took a little time to know each student so that justice could be done with them as a teacher. Therefore initially my classes went noisy and students were restless. Then with each passing day, as I came to know every child, I tried bringing in variety to my class in order to cater to the diversity. Using concrete objects like maps (Social Studies), colourful cartoon charts on mathematical concepts, combining my verbal explanation with writing on the board and constantly repeating what I’m writing with modulated voice.”*

“...half the class was absent....students were obedient, listening to each word, involving themselves, asking questions, clearing doubts. The class went well.”

Kinds of ‘Useful’ Knowledge

According to the teachers useful knowledge helps students to become independent. Knowledge gained from daily experiences and environment is considered useful knowledge. It comprises academic, day-to-day issues, skills in the field of choices, and interest and ability. It is also knowledge gained through exploration and practical experiences. Useful knowledge helps them in attaining morality in solving real-life problems in their professional life.

“Useful knowledge comprises knowledge and skills that generate new ideas in the minds of children, fulfils their dreams.”

“It is not only bookish but curricular plus general world knowledge. It is scholastic and co-scholastic, knowledge students can relate to.”

Useful knowledge enables students to take care of themselves, it is related to their day-to-day life, for earning in a livelihood so that students become successful and responsible and they should be aware of their rights and duties. Useful knowledge enables

students to achieve all their goals that they set for themselves and helps them to do their day-to-day activities.

How to gain Useful Knowledge?

Useful knowledge may be gained through teachers, parents and society. Students should gain this knowledge by being aware in class, taking interest in activities, by being keen to acquire new skills, by participation and practice, exploration, hands-on experience, and by learning on their own. Knowledge may be gained by exploring, putting ideas that go into practice, by reading, talking to eminent and knowledgeable people, with the help of regular guidance, encouragement and facilities of the school. All knowledge can be gained if students make effort and explore all options.

“The teacher’s role is very important as a teacher is the ‘best person’ who knows where the child’s interest lies and can help the child choose a field that he or she wants to opt for.”

The teacher is a facilitator, a guide, to encourage students to participate and give them opportunities to gain useful knowledge.

“A teacher provides a bright, lighted pathway so that students do not have any fear.”

“A teacher should not act as a ‘provider’.”

Teachers should supervise to make students aware of their dreams and allow them to cross hurdles to the road of success.

“Teachers should have more time to interact with the students even though they are busy in completing the syllabus. Rather than simply providing students with information a teacher should train them to acquire knowledge.

“A teacher is also a role model for students.”

Broad Goals of Education

Following are the broad goals of Education:

“Enabling students to get practical life experiences imparting useful knowledge for professional and personal areas. Developing in the child some positive attitudes values and principles enable students to be scientific.”

Other goals comprised, developing a balanced personality and social consciousness, building a character. Helping children to think rationally, applying knowledge.

“Making every individual an intellectual personality, ideal person.”

"Students should be 'devotees' to their life, career etc. for overall development." Build character; nurture all the dimensions of human development."

One of the important goals of education is to help students to develop a responsible attitude. When education is related to his daily life, a student leads a well informed, open-minded, independent and economically secure life.

"Give knowledge; enhance skills and abilities. Develop in students a 'sense of right' in relation to the surrounding world."

"Skills necessary for Life are,
"Empowering individuals and preparing them to deal with complexity, diversity, and change. Providing students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. Helping students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings."

Goals can be met by...

Goals can be met by practical education, reflective education, Teacher as the medium, when a child explores the world by proper planning and management of teaching skills, by giving equal opportunities to all, enabling students to think critically, by providing basic and higher education- Providing and sharing knowledge.

"Teachers, parents and school should all be concerned about meeting goals."

Creating opportunities and providing sufficient funds to develop student's personality and enable them to face problems and face life.

"Education with which a child can correlate his today and beautify his tomorrow."

Guiding students appropriately and providing adequate opportunities.

Learning takes place in classroom ...

"When students participate in tests, quiz, games etc, when students are able to repeat in related contexts; if students take active participation in class activities and discussions and show interest and discuss."

"When 80% of my students raise their hands in response to questions"

Teachers now feel that knowledge is constructed and not given, imparted or carried over!

"When they add their part of knowledge to activities and sharing of knowledge takes place"

Other responses included--when students ask questions, by their facial expression and applications, when they respond during the recapitalization at the end of the lesson. When students co-relate concepts, topics to daily life and give examples in class. Students' attentiveness in class. When they present or express their views during class discussions. There is interaction among students. One of the teachers said, *"The pitch of student's voice during orals."*

Factors that affect Learning

According to the teachers there are many factors that affect learning these may be- age, Environment, Personal experience/ factors, IQ level, intellectual ability, Explanation by the teacher, Past experience, previous knowledge, Heredity, Social and emotional constraints, Interest, Motivation, Learner Ability, Classroom setup, Peer group, Teacher's persona, Ability of teachers, Resources available, Atmosphere, Peer competition, Attitudes of teachers, Teachers command over a subject, Method of teaching, Reward and punishment, teacher's concern about rote learning, Concepts being taught, student health, parental support, family background, attention span, Environment, Teaching styles and aids and the like.

A teacher describes an effective environment for learning and says-

"Pin drop silence with everyone's concentration on the board, 'minds ticking', students bombarding the teacher with 'if' and 'but' questions, their readiness in accepting practice questions and finally a written test."

Hopes for Students

For teachers all students are not same; they have different hopes for different students. Some feel that their students should achieve their goals effectively and that there should be holistic development of each student.

"I have formed some kind of emotional bond with certain students and I am high on hope for them even if they are not doing well. My students should achieve the objectives which I had set up for them."

I want them to make their hopes and their dreams come true. Some hopes and dreams that the teachers have for their students are expressed as....

"If children fulfill their teachers and parents' dreams they will not be able to do anything by the own will."

"They should be able to understand themselves and their surroundings, education is not the only aim, their relationship with others is equally important, they should become good and successful human beings and achieve best in life."

"My students should be capable in all spheres – scholastic and co-scholastic, achieve best understanding of the subject being taught to them, have their own individual, independent and rational thinking. I want them to become a person who is able to impart knowledge to others"

"Able to take their own decisions, be aware of their rights and duties. My students should learn everything they may require."

Hopes of teachers for their students also comprise bringing out the best in them, to concentrate on their strengths and weakness and give them a sense of direction so that they can achieve their goals.

"Every child differs in capacity, potential and talent therefore they should achieve the highest level of their potential"

"The most important achievement, however for me as a teacher remains that my student develop generosity and to develop the ability to think, question and reason out things and apply them in real world setting."

What values are worth teaching?

Values that teachers consciously or unconsciously promote are:

Positive values, sharing, respecting others, honesty, taking care of environment, certain values and principles, value that help in promoting social awareness, Ethical values like not answering back to teachers and the like.

"We should accept and change with the changing world accepting the modernization with open arms but at the same time keeping our values and culture rooted. Also, Democratic values, brotherhood."

"My students should be known for knowledge, manners and values, Brotherhood and equality and grow up to be just and trust worthy individuals"

"Different teachings of the religions of the world. God is one. No fighting, keeping classes clean. A child needs to know and should be able to assess what needs to be done and when."

"Students believe in each and every word of their teachers. It is our duty to impart such values in them."

Teachers feel that Education is for students' own development and future so that they become ideal citizens for their own bright future. Education teaches students to respect their elders and each other, lead a respectable life. Values shape students'

behavior, because of a fast paced life of parents they don't have time for the children *"so it is the duty of the teacher, who is the 'second mother' of the child."*

Teachers believe that values and culture are something every Indian takes pride in. Teachers are role models for their students. They are the ones who propagate new ideas and children learn a lot in school.

"Our class is our temple. Teachers should teach what needs to be done when and values should be inculcated at a tender age."

Class Environment Conducive to Learning.....

"Friendly, easy for teachers and students to connect with each other. Comfortable for students, Free from burden, involved, constructivist, one where a child answers freely and is able to learn by participation. An environment that enables them to explore and experience but under teachers' guidance."

The responses show that the teachers now are able to understand that the environment that they earlier described as 'pin drop silence.....'; 'minds ticking.....'; 'eyes on the black board.....', are not the answers to effective teaching to take place. In fact they are able to confirm that an effective environment needs to be attractive, comfortable, and physically safe, not crowded, a happy and cheerful environment with love, compassion and bonding with children. An environment that gives new ideas. Warm, progressive, positive, interactive, positive and stimulating, where students do not feel afraid or threatened; feel free to express themselves without any hesitation of being right or wrong. Students are free to learn in their own way along with teachers' effort.

7. Conclusion

One can therefore conclude, that though the student teachers come to teacher preparation programmes with preconceived notions about different aspects of 'education' and essentially what good teaching is and how it can be achieved. The learning at teacher preparation colleges does have a positive and effective impact Preservice teachers continue to develop their thinking and beliefs about various aspects of education even after they have completed the training programme and rather are able to confirm and accept their already conceived beliefs and theories rather than doing away with them or changing them entirely. One reason for this could be that the teacher preparation programme (B.Ed.) is effectively only for a period of not more than nine months with only 30 days of teaching practice which may be in a 10 day block, 3 days a

week or on alternate days in the beginning of the programme and at times with the problems like non cooperation from the schools and enforcement of regarding what, how much and how the 'content' should be imparted/taught, it becomes for practicing teachers an uphill task and a dilemma between theory and practice. Most teacher preparation programmes in India also rarely allow for reflective thinking as a result the students proceed with their earlier beliefs and later when these students go in for teaching as regular teachers, it becomes imperative for them to fall into line with what the usual practice is of what, how and why of teaching in that particular school. These new teachers, fresh from teacher education programmes, equipped with the 'very best' in training, actually lose what they had learnt. '.....there exists a possibility that the pre-service teachers may revert towards traditional teaching practice after their graduation' [9]. The rarely used metaphors and similes too while in training, are now commonly seen.

Teachers are responsible to a large extent of what happens in Education, it is important to study the factors that unconsciously influence teachers' behaviour and thus, influence students, whether negatively or positively. With the recent changes in practice and improvement in school practices our focus needs to be more on 'how teachers think' and 'how teachers' thinking affects classroom practices'. Teacher education programmes too can aim at enabling prospective teachers to reflect upon their own thought processes. The nature and development of the beliefs that students bring to teacher education should be explored. It has been said that we ought to be interested in the beliefs of preservice teachers not because we wish these future teachers to have similar, appropriate ideas or beliefs or thinking, but because that they must be a focus of the dialogue in teacher education programmes. More research needs to be carried out in India in the area of teacher thinking especially its impact on student learning and its implications for teacher preparation programme. Students in teacher education programmes must be given opportunities to reflect upon their actions. These reflections by the student teachers can be used to challenge preservice teachers' thinking and to expand their view about the nature and duration of the teaching-learning process. The teacher education programmes in India too deserve to be given a serious thought both in theory and practice to enable to produce a reflective group of teachers. More attention thus needs to be paid teacher thinking and its relationship to effective teaching in order to improve classroom practices and reduce student dropout.

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