

Training of Teachers – Search for Appropriate Instructional Strategy

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Presently the training of teachers, both prospective and practicing, is very weak. One of the main factors contributing to this situation is that teachers are trained in a way that students in schools are taught. This is based on the premise that learning behaviour of both adults and students is the same. This is an erroneous assumption. There are researches which now reflect that children and adults learn in fundamentally different ways. There are now two sciences – Pedagogy and Andragogy. The former is the art and science of helping children to learn and the latter stands for art and science of helping adults to learn. Malcolm Knowles, an American practitioner and theorist of adult education is the pioneer of andragogy.

For an effective training of both prospective and practicing teachers, andragogy needs to be used, failing which the human and material resources invested would not result in expected dividends. Adults' training

needs to be based on six principles. Teacher educators should adhere to these principles while training teachers. One of these principles is that training of teachers should be problem-centered rather than subject centered. This is based on the fact that adults possess vast knowledge and experience when they come to the training situation. They want to invest these experiences in the teaching-learning process. Further, adults want to work in groups in order to solve problems or to learn something new. If they are subjected to lecturing, they hardly take interest in the learning experiences.

Further like children, adults also learn in number of ways rather than in one way. Howard Gardner has mentioned that human beings learn in eight different ways since there are eight intelligences rather than one general intelligence (g). Adults also need physical comfort in the learning situation. The relationship between

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an adult learner and adult trainer has to be different from that of a student and teacher in a school. Adult trainer needs to be very courteous and friendly to the adult learner.

1. How Do Human Beings Learn?

How does an individual learn, nobody is certain? This is because the learning process is invisible. It is possible to assess the learning, that is, the learning achievement of an individual. In the pre-service teacher education programmes, prospective teachers are exposed to learning theories such as trial and error, operant conditioning, learning through insight, constructivism and ‘sit and get’ approach. Learning theories describe how the information is perceived, processed and retained by an individual learner. Prospective teachers are equipped with different instructional strategies, methods, approaches and techniques constituting pedagogy – the art and science of helping children to learn.

2. Do Children and Adults Learn in the Same Way?

Earlier, it was visualised that children and adults learn in the same way. As a consequence, pedagogical methods, approaches and techniques which were used for helping children to learn, have been or are even being used presently in the training of prospective and in-service teachers. Practising teachers undergoing professional development programmes often report overtly that pedagogic techniques used

by resource persons for transacting the training content are not suitable at all. As a result, the quality of learning experiences in the professional development programmes is affected adversely. It is now recognized that adults and children do not learn in the same way. There is no learning theory appropriate to all ages. There is, therefore, a need to search for an appropriate theory for teaching adults.

3. Children and Adults Learn in Fundamentally Different Ways

Presently, there is thinking among scholars and educational researchers that children and adults learn in fundamentally different ways. The ways in which adults learn has been an area of interest to scholars and educators. This is because, once the way in which adults learn is determined, the quality of training of pre-service and in-service teachers can be improved upon substantially. It would be possible to optimise teachers’ (both pre-service and in-service) learning potential. Malcom Knowles has done a lot of work in the area as to how adults learn. If we look into the history as to when the theory of adult learning was developed, we find that andragogy as a study of adult learning originated in Europe in 1950s and was then pioneered as a theory and model of adult learning from the 1970s by Malcolm Knowles – an American practitioner and theorist of adult education, who defined andragogy as “the art and science of helping adults to learn” (Zmeyov, 1998; Fidishun, 2000).

4. Principles of Adult Learning

Malcom Knowles identified six principles of adult learning.

- Adults are self-directed;
- Adult learn through collegial problem solving;
- Learning is facilitated when new information is connected to the vast background of knowledge and experience that adult learner brings to the learning situation;
- Information is received and processed in more than one way;
- Trainees are provided ample opportunities to reflect on gained experiences; and
- Experiential learning.

4.1 Adults are Self-directed

Adult learners resist learning when they feel others are imposing ideas/ action(s) on them (Fidishun, 2000). A teacher educator in a college of education should not impose information on their learners. She/ he should rather foster among them internal motivation to learn. She/ he should encourage them to use resources such as library, journals and internet. According to Knowles, while children are dependent, adults see themselves as self-directing. Children have questions which they want to be answered by someone else. On the contrary, adults perceive themselves as capable of answering a part of their questions. Children expect to be told as to what they need to do; adults have their own notions and viewpoints as to what they want

to do and learn. Children put a low value on their experience.

4.2 Learning through Collegial Problem Solving

According to Knowles, adult learning occurs through problem solving. Most of the adults engage in learning activities with the hope of solving a problem rather than with the intention of learning a particular subject. The training of both pre-service and in-service teachers must therefore, be problem-centered rather than subject centered.

Knowles further mentions that adults learn most effectively when engaged collaboratively with peers. Therefore, collaboration is the key for effective training of both pre-service and in-service teachers. Adults learning styles need to be recognised. Teaching/training strategies of adults must match their learning style.

4.3 Learning is facilitated when new information is connected to the vast background of knowledge and experience that adult learner brings to the learning situation

Adults bring with them vast background of knowledge and experience. The knowledge possessed by an adult is a valuable asset to the learning environment. But a group of adults is more heterogeneous than a group of young students. Adults want their teacher to connect new information to what they already know. Adults want to invest their

knowledge and experience into the teaching-learning process. They therefore, like to be given opportunities to use their existing foundation of knowledge and experiences gained from life experience, and apply it to their new learning experiences.

On the other hand, teachers' earlier experiences are also a double edged sword. It can be rich resource or an impenetrable defence against new learning. Trainers therefore, need to focus on goals, to use effective questioning and counselling skills and to maintain a facilitative relationship with learners. Otherwise, learners may use their experience in defensive ways.

4.4 Information is received and processed in more than one way

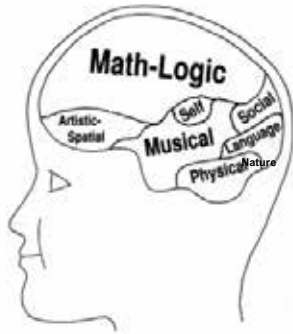
All over the world, teachers teach in such a way that students, who are endowed with highly developed linguistic and logical mathematical intelligences learn the best. Those who are endowed with less developed linguistic and logical intelligences do not learn properly. These students are often labelled as 'learning disabled'. This is based on the premise that students learn in one way only.

Earlier intelligence was believed to be a unitary concept (g) as advocated by Binet (1914). Now psychologists believe that a human being is bestowed with eight intelligences (8gs) instead of one general intelligence 'g'. 'Human

beings therefore, possess eight distinct units of mental functioning. Gardner labels these units as intelligences. They spring from different areas of the brain' (Gardner, 1983). Based on these units, there are eight pathways to learning. As such, human beings learn in eight different ways rather than in one way. This is based on the theory of multiple intelligences developed in 1983 by Howard Gardner – Professor of Education, Harvard University in USA. Gardner highlights that these intelligences are Linguistic, Logical Mathematical, Spatial, Bodily Kinesthetic, Musical, Interpersonal, Intrapersonal Intelligence and Naturalist.

5. Eight Pathways to Learning

Everyone is born with all the eight intelligences. But all these are not equally developed in an individual. This means that different individuals may be strong in two or three different intelligences and weak in other intelligences. Given below are sketches of brains of two different persons. 'This manifests clearly that each person's brain is different' (Huggins and Others, 1997). Sketch-1 manifests that the person is strong in Logical Mathematical and Musical intelligences and weak in other intelligences. Similarly Sketch-2 manifests that the person is strong in Spatial Logical Mathematical and Social (Interpersonal) intelligences and weak in other intelligences.



Sketch - 1

Gardner claims that these eight intelligences rarely operate independently. Rather these intelligences are used concurrently and typically complement each other as individuals solve problems. For undertaking operations, a surgeon requires at least three highly developed intelligences– Bodily kinesthetic, Spatial and Interpersonal to undertake the operations. Similarly a dancer uses three highly developed intelligences–Bodily kinesthetic, Musical and Interpersonal.

Each individual has different set of developed intelligences. Thus an individual has unique set of intellectual strengths and weaknesses. This is commonly referred to as learning style of an individual. Different strong intelligences of an individual determine his/her learning style. Therefore, individuals with many learning styles are in a learning situation. These sets of intelligences determine how easy or difficult it is for an individual to learn new information when it is presented in a particular manner.



Sketch - 2

According to Gardner, there are eight potential pathways to learning. Students do not learn only through traditional linguistic or logical ways of instruction. They also learn through pictures, music, physical experience, social experience, self-reflection and experience in the natural world.

6. Trainees Must be Provided Ample Opportunities to Reflect on their Experiences

During the period of training, trainees need to be provided adequate time to reflect on the gained experiences. Each day in the beginning, trainees need to be asked as to what they learnt on the previous day. Reflection throws the light on our experiences, back into minds to consider what the experience was and what it meant. It facilitates internalisation of the experiences. There should be a cycle of experience and reflection. The continuous interplay between the learner and what is being learnt by him/her hardly needs any emphasis.

7. Experiential Learning

Experiential learning means learning through experience. Experiential learning can be defined as a process whereby knowledge is created through transformation of experience. According to the theory of experiential learning, teachers need to be provided tasks and assignments and engaged in activities through which they should gain the necessary knowledge.

Implications of Andragogy for Training of Teachers

- Training of both pre-service and in-service teachers needs to be based on the principles of andragogy and not on pedagogic principles. Andragogic techniques include discussion, field experiences, simulation exercises and problem solving.
- Andragogy needs to be included in the curricula of M. Ed. and M. Phil. courses;
- Skill building is an important aspect of teacher education programme. Training that provides practice, feedback, and reinforcement is more effective in skill building than training that does not provide these opportunities;
- An adult learner needs physical comfort in the learning situation;
- Early activities in a training programme need to allow maximum participation by learners so that they can invest their experiences and values in the learning process; and
- At the school level, the relationship between a teacher and her/his students is that of a dominant teacher and the dependent learner. Such a relationship is not workable between an adult learner and the adult trainer. The adult trainer is required to be friendly and courteous to the adult learner.

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