

# PERCEPTION OF PROSPECTIVE TEACHERS OF TEACHER EDUCATION INSTITUTIONS TOWARDS COGNITION

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## ABSTRACT:

Teacher and his education are very significant aspects of any nation. The education gives a new shape to the individual and the nation as well. As an integral component of the educational system, teacher education is intimately connected with society and is conditioned by the ethos, culture and character of a nation. Education is a process which has impact on all aspects of life from infancy to old age. Education is an essential human virtue. Without Education, man is splendid slave, reasoning savage and it is education which helps to humanize him. Perception is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli. Through the perceptual process, we gain information about the properties and elements of the environment that are critical to our survival. The perceptual process is a sequence of steps that begins with the environment and leads to our perception of a stimulus and action in response to the stimulus. Steps in the perceptual process are the environmental stimulus, the attended stimulus, the image on the retina, transduction, neural processing, perception, recognition and action. Teacher education refers to the policies and procedure designed to equip prospective teachers with the knowledge, attitudes, behaviours and skills they require to perform their tasks effectively in the classroom, school and wider community. Although ideally it should be conceived of, and organized as, a seamless continuum, The term cognition (Latin: *Cognoscere*, "to know", "to conceptualize" or "to recognize") refers to a faculty for the processing of information, applying knowledge, and changing preferences. Cognition, or cognitive processes, can be natural or artificial, conscious or unconscious. Study of perception of prospective teachers of teacher education institutions towards cognition will be useful and applicable in the field of educational training, learning and teaching. All the teacher education institutions are for the purpose of the preparation of teachers on the basis of the rules and regulations made by the National Council for Teacher Education NCTE.

**Keywords:** *Percept*: A mental representation of a stimulus, *sequentially*: selection of stimuli in the environment, organization of that information, and interpretation of those stimuli, *Perception*: The organization, identification, and interpretation of sensory information, *Cognition*: The process by which knowledge and understanding is developed in the mind.

## INTRODUCTION:

Education is a process which has impact on all aspects of life from infancy to old age. Education is an essential human virtue. Without Education, man is splendid slave, reasoning savage and it is education which helps to humanize him. Man becomes "man" through education. Education implies experience, insight and adjustment on the part of man as he is stimulated towards growth and development. Education is enlightenment and empowerment of behaviour. It

develops Cognitive, Affective and Conative aspects of an individual. Education sharpens the Cognitive abilities of human beings. Cognition is the scientific term for the process of thought. Usage of the term varies in different disciplines, for example in psychology and cognitive science; it usually refers to an information processing view of an individual's psychological functions. Other interpretations of the meaning of cognition link are to the development of concepts, individual minds, groups, and organizations.

Perception is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli. Through the perceptual process, we gain information about the properties and elements of the environment that are critical to our survival. Perception is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli. Through the perceptual process, we gain information about the properties and elements of the environment that are critical to our survival. Perception not only creates our experience of the world around us; it allows us to act within our environment. All the teacher education institutions are for the purpose of the preparation of teachers on the basis of the rules and regulations made by the National Council for Teacher Education NCTE. Therefore all faculty members of teacher education are expected to have teaching skills and pedagogical skills by means of which trainees are systematically trained. Entire curriculum of teacher training is based on systematic and gradual development system.

Perception includes the five senses; touch, sight, sound, smell, and taste. It also includes what is known as proprioception, a set of senses involving the ability to detect changes in body positions and movements. It also involves the cognitive processes required to process information, such as recognizing the face of a friend or detecting a familiar scent. Learn more about how we go from detecting stimuli in the environment to actually taking action based on that information.

### HOW IT WORKS :

The perceptual process is a sequence of steps that begins with the environment and leads to our perception of a stimulus and action in response to the stimulus. It occurs continuously, but you do not spend a great deal of time thinking about the actual process that occurs when you perceive the many stimuli that surround you at any given moment. For example, the process of transforming the light that falls on your retinas into an actual visual image happens unconsciously and automatically. The subtle changes in pressure against your skin that allow you to feel objects occur without a single thought. Perception acts as a filter that allows us to exist and interpret the world without becoming overwhelmed by the abundance of stimuli.

### Steps in the Perceptual Process-

- a) The Environmental Stimulus
- b) The Attended Stimulus
- c) The Image on the Retina
- d) Transduction
- e) Neural Processing
- f) Perception
- g) Recognition
- h) Action

### IMPACT OF PERCEPTION:

In order to see the impact of perception, it can be helpful to look at how the process works. This varies somewhat for every sense. In the case of visual perception:

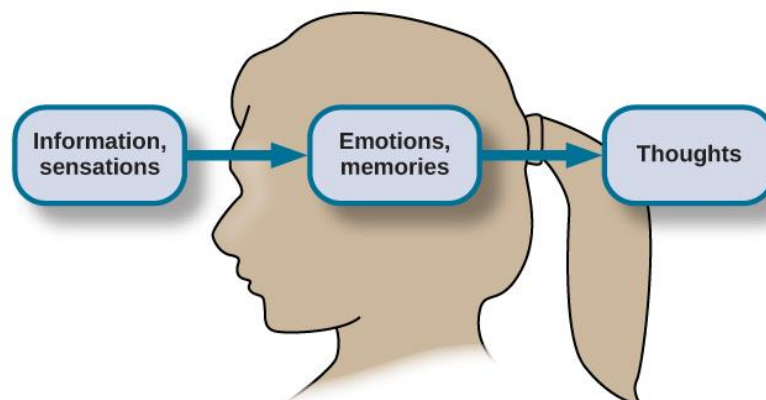
- 1) **The environmental stimulus:** The world is full of stimuli that can attract attention through various senses. The environmental stimulus is everything in the environment that has the potential to be perceived.
- 2) **The attended stimulus:** The attended stimulus is the specific object in the environment on which attention is focused.
- 3) **The image on the retina:** This involves light actually passing through the cornea and pupil and onto the lens of the eye. The cornea helps focus the light as it enters the eye, and the iris of the eye controls the size of the pupils in order to determine how much light to let in. The cornea and lens act together to project an inverted image onto the retina.
- 4) **Transduction:** The image on the retina is then transformed into electrical signals in a process known as transduction. This allows the visual messages to be transmitted to the brain to be interpreted.
- 5) **Neural processing:** The electrical signals then undergo neural processing. The path followed by a particular signal depends on what type of signal it is (i.e. an auditory signal or a visual signal).
- 6) **Perception:** In this step of the process, you perceive the stimulus object in the environment. It is at this point that you become consciously aware of the stimulus.
- 7) **Recognition:** Perception doesn't just involve becoming consciously aware of the stimuli. It is also necessary for the brain to categorize

and interpret what you are sensing. The ability to interpret and give meaning to the object is the next step, known as recognition.

- 8) **Action:** The action phase of perception involves some type of motor activity that occurs in response to the perceived and

recognized stimulus. This might involve a major action, like running toward a person in distress, or something as subtle as blinking your eyes in response to a puff of dust blowing through the air.

Fig.1



The perceptual process allows you to experience the world around you and interact with it in ways that are both appropriate and meaningful.

### TEACHER EDUCATION:

Teacher education refers to the policies and procedure designed to equip prospective teachers with the knowledge, attitudes, behaviours and skills they require to perform their tasks effectively in the classroom, school and wider community. Although ideally it should be conceived of, and organized as, a seamless continuum. Teacher Education is a discipline which educates the progressive generations on what has gone by, where we are, where we want to go, and what we like to create, observing healthy, meaningful and long life. Teacher education is often divided into these stages which are below:

- a) Initial teacher training/education: A pre-service course before entering the classroom as a fully responsible teacher.
- b) Induction: The process of providing training and support during the first few years of teaching or the first year in a particular school.
- c) Continuing professional development (CPD): An in-service process for practicing teachers.

### BASIC PRINCIPLES OF TEACHER EDUCATION:

Our collective commitment to the development of exemplary teacher education programs is unwavering. Central to our deliberations about the direction of teacher education has been the adoption and enactment in all our teacher education programs of a set of six principles that define, in comprehensive ways, our conceptual framework for teacher education. The six principles are shared below. Accompanying each is an elaboration composed of three parts: a statement about why the principle is important, a statement about implications of the principle for our teacher education programs, and a statement about what the principle implies for teacher candidate expectations.

#### 1. Knowledge:

Effective teachers possess a well-grounded knowledge of the content areas that are central to their teaching. They also have an in depth comprehension of the forms of knowledge embodied in the traditional disciplines, of the interdisciplinary nature of inquiry, and of the multiple forms of understanding that individual students bring to the classroom. Thus, all our teacher

education programs help teacher candidates acquire practical wisdom that integrates forms of understanding, skilled action in and outside classrooms, and a particular sensitivity to the diversity of students. Teacher candidates are expected to be well grounded in student development, the content areas that are central to their teaching, and assessment strategies. Our teacher education programs help students acquire a “practical wisdom” that integrates-

- Multiple forms of understanding
- Skilled action in & outside classrooms
- A particular sensitivity to the diversity of students
- Our teacher candidates are well-grounded
- Content Areas central to their teaching
- Student development
- Assessment strategies
- Educational research
- Leading technology

## 2. Meaningful Experience:

Teachers are expected to be thoughtful, reflective, caring practitioners in actual educational settings. Teacher education programs must maintain or create experiences in schools and on campus so that instructors can assist candidates in developing and assessing this professional expertise. Thus, all our teacher education programs include early and continuous engagement-through direct immersion or simulation-with the multiple realities of children, teaching, and schools. Teacher candidates are expected to create and nurture a positive physical, social, and academic learning environment.

Our teacher education programs ...

- Assist candidates in developing and assessing their effectiveness in actual educational settings.
- Include early and continuous engagement with the multiple realities of children, teaching, and schools.

Our teacher candidates ...

- Act as thoughtful, reflective, caring practitioners while participating in their field experiences.
- Create and nurture a positive, physical, social and academic learning environment.

## C. Personalized Learning:

Good teachers build on their students' interests, orientation to learning, and hopes. Similarly, teacher education programs should offer teacher candidates opportunities to individualize and personalize their preparation as teachers. Thus, all our teacher education programs give teacher candidates a significant measure of control over how, when, and where their learning takes place, thus enabling their interests and values to shape major portions of their work. Teacher candidates are expected to understand students' ability levels, interests, and learning styles. They should demonstrate instruction that reflects the diversity among all learners. Our teacher education programs ...

- Give candidates a significant measure of control over how, when, and where their learning takes place
- Enable candidates' interests and values to shape major portions of their work

Our teacher candidates ...

- Understand students' ability levels, interests, and learning styles
- Plan and implement instruction that reflects the diversity among learners.

## 3. Community:

Effective teacher preparation requires that participants develop a sense of community through engagement in shared activities and issues. The longevity of relationships required to establish community has several advantages for all its members. It brings coherence to programs, fosters an appreciation of the power of cooperative effort, and encourages a dialogue that promotes the continual rejuvenation of teacher education. Thus, all our teacher education programs foster a sense of community among their teacher candidates, among faculty members, between faculty members and candidates, and between the university and the schools. Teacher candidates are expected to understand and to be involved in their academic learning community. They should build and develop relationships within the school, corporation, and community.

Our teacher education programs foster a sense of community ...

- Among teacher candidates
- Between faculty members and candidates
- Among faculty members
- Between the university and the schools

Our teacher candidates ...

- Understand and participate in their academic learning community
- Build and develop relationships within the school, corporation, and community

#### 4. Critical Reflection:

Effective teachers reflect critically on the moral, political, social, and economic dimensions of education. This requires an understanding of the multiple contexts in which schools function, an appreciation of diverse perspectives on educational issues, and a commitment to democratic forms of interaction. Thus, all our teacher education programs encourage students to develop their own social and educational visions that are connected to critically reflective practice. Teacher candidates are expected to reflect continuously on all aspects of their teaching experience to identify ways for improvement as individuals, as a part of the school community, and as part of the teaching profession.

Our teacher education programs ...

- Encourage candidates to develop social and educational visions that are connected to critically reflective practice
  - Foster candidates' appreciation of diverse perspectives on educational issues
- Our teacher candidates ...
- Reflect continuously on all aspects of their educational and teaching experiences
  - Identify avenues for improvement as individuals, as part of the school community, and as part of the teaching profession.

#### 5. Growth:

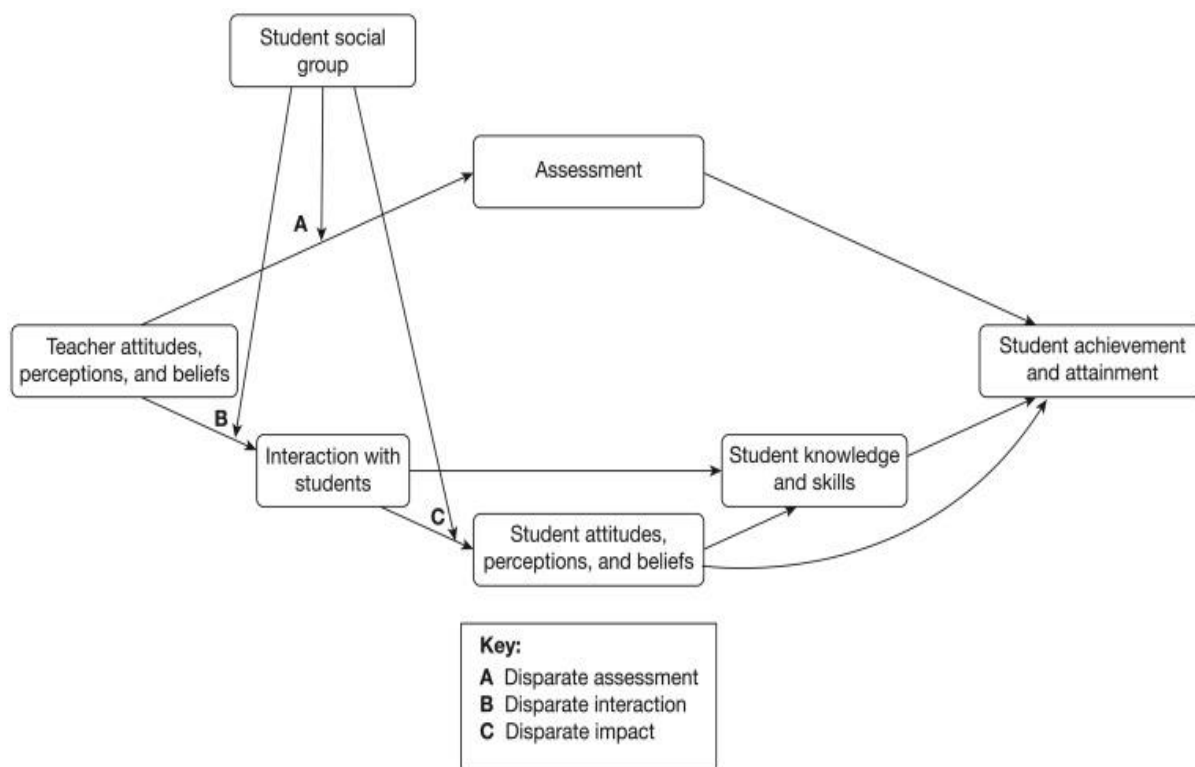
Teachers are more than technicians or purveyors of information. Accordingly, they must be committed to lifelong intellectual, personal, and professional growth. Because both faculty and teacher candidates must continually develop these habits of mind, teacher education programs must stimulate the exploration and development of the full range of human capabilities. Thus, all our teacher education programs foster intellectual curiosity and encourage an appreciation of learning through the sustained analysis of ideas, values, and practices; and through intuition, imagination, and aesthetic experience. Teacher candidates are expected to develop a philosophy of teaching and learning. This philosophy and continuous professional growth should include values, commitments, and professional development.

Our teacher education programs ...

- Promote learning through inquiry
- Foster intellectual curiosity
- Encourage an appreciation of learning through intuition, imagination, and aesthetic experience

Our teacher candidates ...

- Develop a philosophy of teaching and learning
- Commit themselves to lifelong intellectual, personal, and professional growth



Trends in Cognitive Sciences

### TEACHER EDUCATORS:

A teacher educator (also called a teacher trainer) is a person who helps other people to acquire the knowledge, competences and attitudes they require to be effective teachers. Several individual teacher educators are usually involved in the initial or on-going education of each teacher; often each specialises in teaching about a different aspect of teaching (e.g. educational ethics, philosophy of education, sociology of education, curriculum, pedagogy, subject-specific teaching methods etc.).

Not every culture has a concept that precisely matches the English term 'teacher educator'. Even where the concept exists, the range of roles that is covered by the term varies significantly from country to country. In some traditions, the term 'teacher trainer' may be used instead of 'teacher educator'.

A teacher educator may be narrowly defined as a higher education professional whose principle activity is the preparation of beginning teachers in universities and other institutions of teacher education, such as teacher colleges. A broader definition might include any professional whose work contributes in some way to the initial education or the continuing professional development of school and other teachers.

Even within a single educational system, teacher educators may be employed in different roles by different kinds of organisation.

In the European context, for example, people who could be considered to be teacher educators include:

- i) Higher Education academics with a responsibility
- ii) For Teacher Education as such,
- iii) For Teaching a subject (such as chemistry or mathematics) to students who will later become teachers;
- iv) For Research into teaching,
- v) For Subject studies or
- vi) For didactics;
- vii) Teachers in schools who supervise student teachers during periods of teaching practice;
- viii) School teachers or school managers responsible for inducting new teachers during their first year of teaching; or
- ix) Those in charge of school teaching staff's continuous professional development.

Teacher educators may therefore work in many different contexts including (universities, schools, private sector training organisations or trade unions) and their working time may be fully, or only partly, dedicated to the preparation of teachers.

**COGNITION:**

The term cognition (Latin: Cognoscere, "to know", "to conceptualize" or "to recognize") refers to a faculty for the processing of information, applying knowledge, and changing preferences. Cognition, or cognitive processes, can be natural or artificial, conscious or unconscious. These processes are analysed from different perspectives within different contexts, notably in the fields of linguistics, anaesthesia, neurology, psychology, philosophy, anthropology, systemic and computer science. In general Cognition refers to the mental functions and mental processes. Cognition is a term referring to the mental processes involved in gaining knowledge and comprehension. These cognitive processes include thinking, knowing, remembering, judging, and problem-solving. These are higher-level functions of the brain and encompass language, imagination, perception, and planning. Cognitive is the field of psychology that investigates how people think and the processes involved in cognition.

**Types of Cognitive Processes-**

There are many different types of cognitive processes are as follows-

**Attention:** Attention is a cognitive process that allows people to focus on a specific stimulus in the environment.

**Language:** Language and language development are cognitive processes that involve the ability to understand and express thoughts through spoken and written words. It allows us to communicate with others and plays an important role in thought.

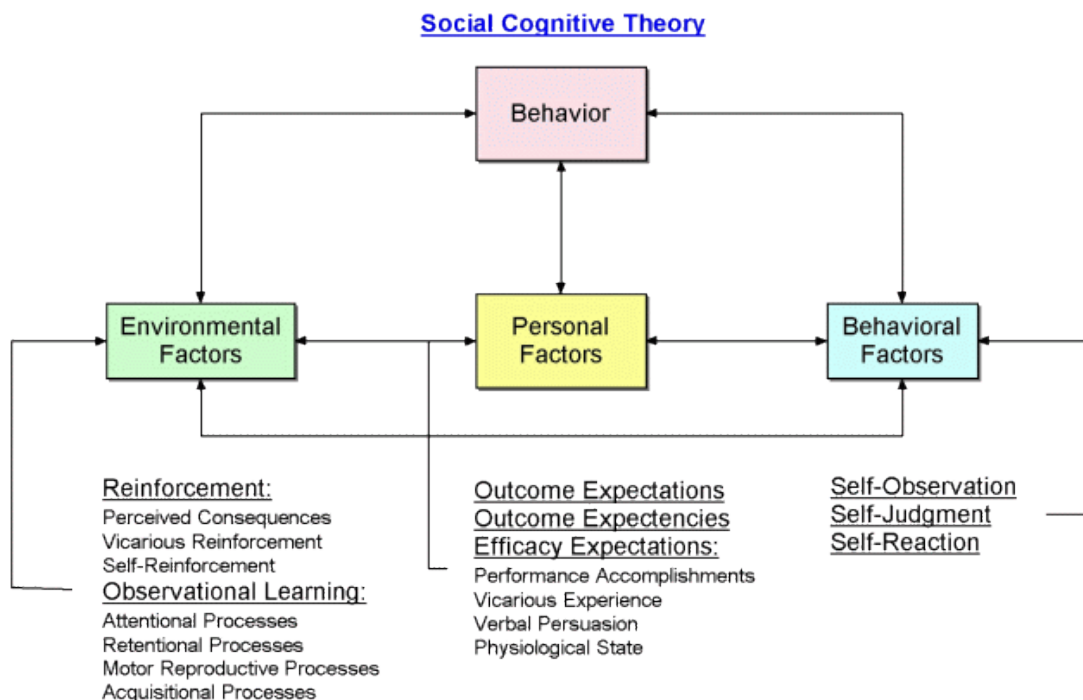
**Learning:** Learning requires cognitive processes involved in taking in new things, synthesizing information, and integrating it with prior knowledge.

**Memory:** Memory is an important cognitive process that allows people to encode, store, and retrieve information. It is a critical component in the learning process and allows people to retain knowledge about the world and their personal histories.

**Perception:** Perception is a cognitive process that allows people to take in information through their senses (sensation) and then utilize this information to respond and interact with the world.

**Thought:** Thought is an essential part of every cognitive process. It allows people to engage in decision-making, problem-solving, and higher reasoning.

Fig.2





**EDUCATIONAL SIGNIFICANCE OF THE STUDY:**

Study of perception of prospective teachers of teacher education institutions towards cognition will be useful and applicable in the field of educational training, learning and teaching. That will build up more cognitive level among prospective teachers along with the stockholders of educational institutions, like learner and trainers. Experts of apex bodies of education will also find a way to decide about the framework of assessment of cognitive level and improvement in the perception of prospective teachers for intellectuality and scholastics. The output based on primitive level of cognition and higher level of cognition can be the base for identification of divide of cognition on the basis of perception. The study will benefit all learners to be more conscious towards perception and cognition that will enable their applicability and creation of products useful for the society and organisations like teacher education institutions. That will further lead the Institutions toward quality improvement among all learners and teachers in education. In the teacher training, specially Bachelor of Education that's B.Ed., NCTE has given two year of course for training of students for making them teachers at Secondary School Education and Higher Secondary School Education.

All the learners are given pedagogical knowledge because they are expected to have bachelor degree with conceptualization in the contents of bachelor course in a particular subject like Hindi-English languages, social science and science subjects.

**CONCLUSION:-**

Study of perception of prospective teachers of teacher education institutions towards cognition will be useful and applicable in the field of educational training, learning and teaching. That will build up more cognitive level among prospective teachers along with the stockholders of educational institutions, like learner and trainers. Experts of apex bodies of education will also find a way to decide about the framework of assessment of cognitive level and improvement in the perception of prospective teachers for intellectuality and scholastics. The output based on primitive level of cognition and higher level of cognition can be the base for identification of divide of cognition on the basis of perception. The study will benefit all learners to be more conscious towards perception and cognition that will enable their applicability and creation of products useful for the society and organisations like teacher education institutions. That will further lead the Institutions toward quality improvement among all learners and teachers in education.

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