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APPLICATION OF MAXIMS OF TEACHING IN TEACHER EDUCATION PROGRAMME WITH SPECIAL REFERENCE TO INDIAN TEACHER EDUCATION SCENARIO

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Abstract

The sole purpose of psychological principles of teaching is to make the process of teaching-learning interesting and maximize learning. These principles are better known as maxims of teaching and have always stood the test of time. Though these maxims are universally accepted in macrocosm of education, these are an integral part of teacher education programme wherein the teacher educators are mandatorily required to acquaint and equip the prospective teachers with the essentials and techniques of pragmatic use of teaching maxims in real life classroom situations. It is, however, a matter of pity that these maxims are either partially or totally neglected in the current scenario of Indian teacher education programme. The teacher educators don't themselves employ these maxims in their teaching, let alone their knowledge, comprehension and application on the part of prospective teachers. The present paper throws light on the psychological principles of teaching better known as maxims of teaching and their practical application in the field of teacher education programme besides giving valuable suggestions pertaining to developing favorable attitude of teachers, teacher educators and prospective teachers towards these maxims.

Keywords: *Maxims, Prospective teachers, Teacher education, Teacher educators,*

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Introduction

"Teaching is defined as an interactive process primarily involving classroom talk which takes place between teacher and pupil and occurs during certain definable activity."

-Edmund Amidon

"Teaching process is designed and performed to produce change in student behavior."

-Clarke

"Teaching is an intimate contact between a more mature personality and a less mature one which is designed to further the education of the latter."

-Morrison

"Teaching is concerned with the activities which are concerned with the guidance or direction of learning of others."

-Ryan

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Teaching is considered a part of learning. The culmination of all teaching processes really worth the name is learning. Teaching is an external enterprise while learning is a mental activity. The primary motive of use of maxims of teaching is the enhancement of quality of learning. Teaching maxims play an important role in making learning stable and permanent. According to **Bernard,** *"In teaching-learning process, teachers and students encourage learning."* In fact, teaching is a task and learning is an achievement. Learning objectives can be realized by properly organizing teaching skillfully, effectively and carefully.

Maxims of teaching

The role of the teacher is considered main in the classroom. He is responsible for creating such an ambience as gives rise to maximum learning activities and various experiences may be achieved. But, practically, it is not as convenient as it looks. However talented, scholarly and able a teacher may be, he would be considered unsuccessful if he or she is unable to transfer learning to students. Teaching is an art which encompasses the following:

- Mastery over subject
- Scientific knowledge of teaching style for transfer of knowledge to pupils

In order to achieve this objective, teacher's subject knowledge is not the only factor which is required. In addition to this, the teacher should know some maxims with the help of which the teacher may present the subject matter before the students effectively as well as efficiently. The meaning of maxims of teaching is very simple. *Those general ideas and methods of doing the work which prove helpful in the task of teaching are termed as* ***maxims of teaching***. These maxims have been formulated by the psychologists, educationists, pedagogues and preceptors on the basis of their experiences. These maxims are reliable and are universally applicable. Different maxims of teaching are applied in different teaching situations on the basis of well-planned strategy and logic. Maxims of teaching act as the springboard which catalyzes the momentum of teaching-learning process and thus helps the teacher in achieving the pre-determined objectives of education besides providing contentment to both the learners as well as the teacher.

A glimpse of prominent maxims of teaching

1. From Known to Unknown - This maxim states that the new knowledge to be given to pupils must be logically linked with their previous knowledge. This maxim facilitates learning process and economizes the efforts of the teacher and the taught. It won't be an exaggeration to say that this maxim is an indispensable part of teaching-learning process. This is a natural method of learning. In practical life situations too, we follow this maxim in

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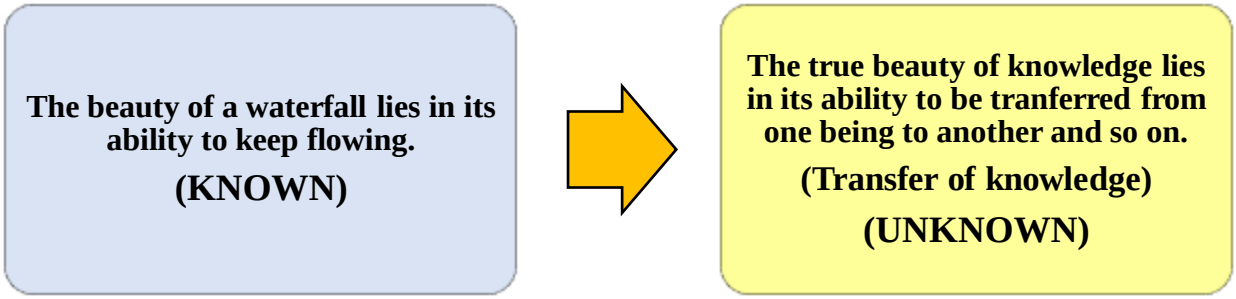
that we interpret new things we perceive on the basis of similar things perceived earlier by us. This roughly corresponds to Analogy and is also the heart and soul of *Analytical method of teaching*. This maxim is the part and parcel of *set induction skill* (lesson introduction skill). This maxim can be made use of in following:

Some applications of 'From Known to Unknown' in Teacher Education

- Lesson Introduction skill
- Teaching of Pedagogy
- Assessment of Personality
- Pedagogical analysis of lessons
- Pedagogical analysis of text books
- Flander's Interaction analysis
- Teaching the basics of Normal Probability Curve

It can also be employed in instillation of *moral values* in prospective teachers. Let's take a look at a very famous thought in the figure below:



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Q1. Name some eminent Greek philosophers.

A1. Socrates, Plato, Aristotle, etc.

(The teacher educator writes the following quotes on board (or projects the following quotes) and asks the requisite questions that follow these quotes.)

"Knowledge is the food of the soul."

(Quote by Plato)

"All men by nature desire knowledge."

(Quote by Aristotle)

"Prefer knowledge to wealth, for the one is transitory, the other perpetual."

(Quote by Socrates)

Q2. What has been described as the food of the soul by Plato?

A2. Knowledge.

Q3. According to Aristotle, what do all men desire by nature?

A3. Knowledge.

Q4. What is being described as perpetual by Socrates?

A4. Knowledge.

Now the teacher educator can ask the following problematic question(s):

Q5. What do we call a person who has an incessant desire for gaining knowledge?

OR

What do you understand by the word 'Philosophy'?

Statement of aim - So, dear pupil-teachers, today we shall study about Philosophy and its basics.

(The above sample questions are not exclusive. The teacher educator may frame logical and valid questions as per his or her own choice. For example, in place of Greek philosophers, the teacher educator may also refer to eminent Indian Philosophers or teachers like Chanakya, Swami Vivekananda, etc.)

In *The Bhagvad Gita,* **Lord Krishna** enlightens **Arjuna** by employing this very maxim.

This maxim is frequently used by pupil-teachers during their pre-service training in their lessons to be delivered by them in their teaching subjects. The skill of Lesson Introduction is based on this very maxim.

2. From Simple to Complex - This maxim states that difficulty should follow ease in teaching. Alternatively, the teacher should start with simple thing and proceed to difficult one in a logical, systematic and step wise manner. The skillful application of this maxim proves to be advantageous in teaching of all subjects.

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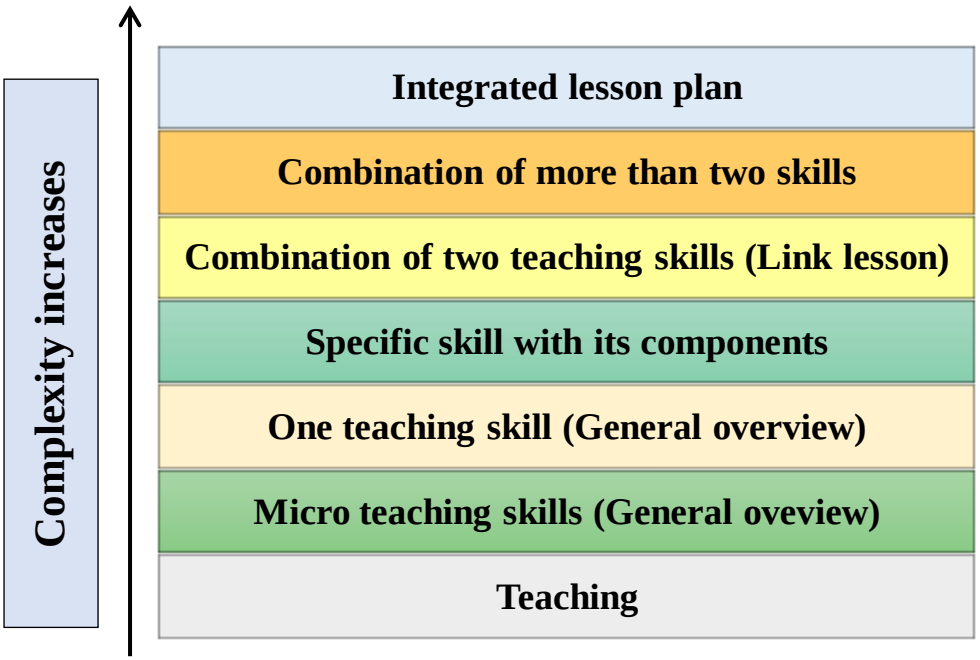

FIGURE 1: APPLICATION OF *'FROM SIMPLE TO COMPLEX'* IN TEACHING LESSON PLANThe maxim *'From Simple to Complex'* in association with another maxim *'From Psychological to Logical'* can work wonders for research scholars too as it is not necessary that each and every student who undertakes research work is well acquainted with the essentials of research methodology. Workshops (based on this maxim) should be organized for research scholars so that they get well acquainted with the basics of research. It has been observed that student find 'Formulation of Research design' and 'Statistical interpretation of data' a Herculean task, especially those who are from Arts background or those who are not comfortable with mathematics or data analysis. It is here when this maxim can prove to be boon for such students as well as others too.

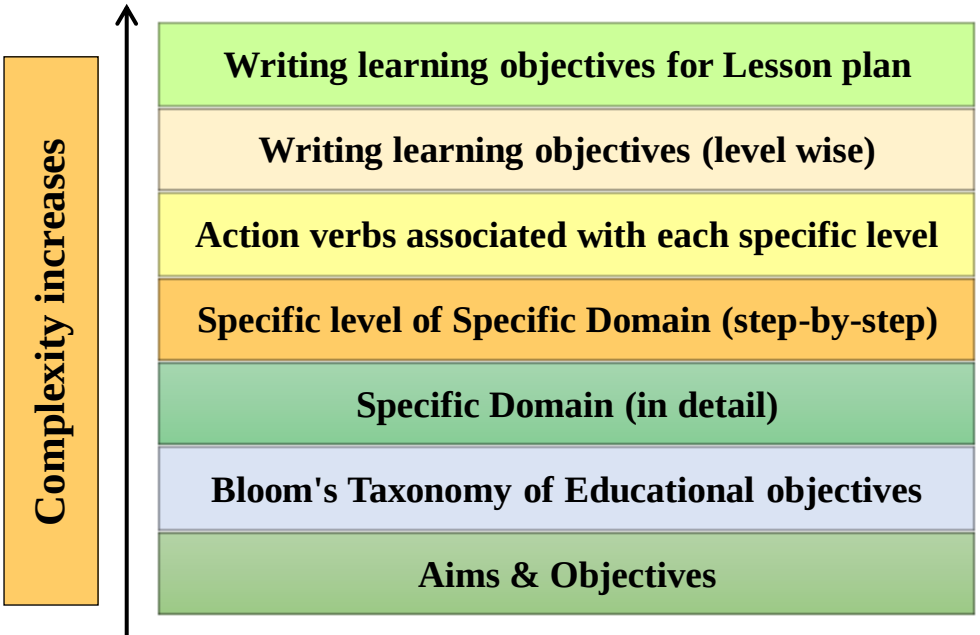

FIGURE 2: APPLICATION OF *'FROM SIMPLE TO COMPLEX'* (BLOOM'S TAXONOMY)

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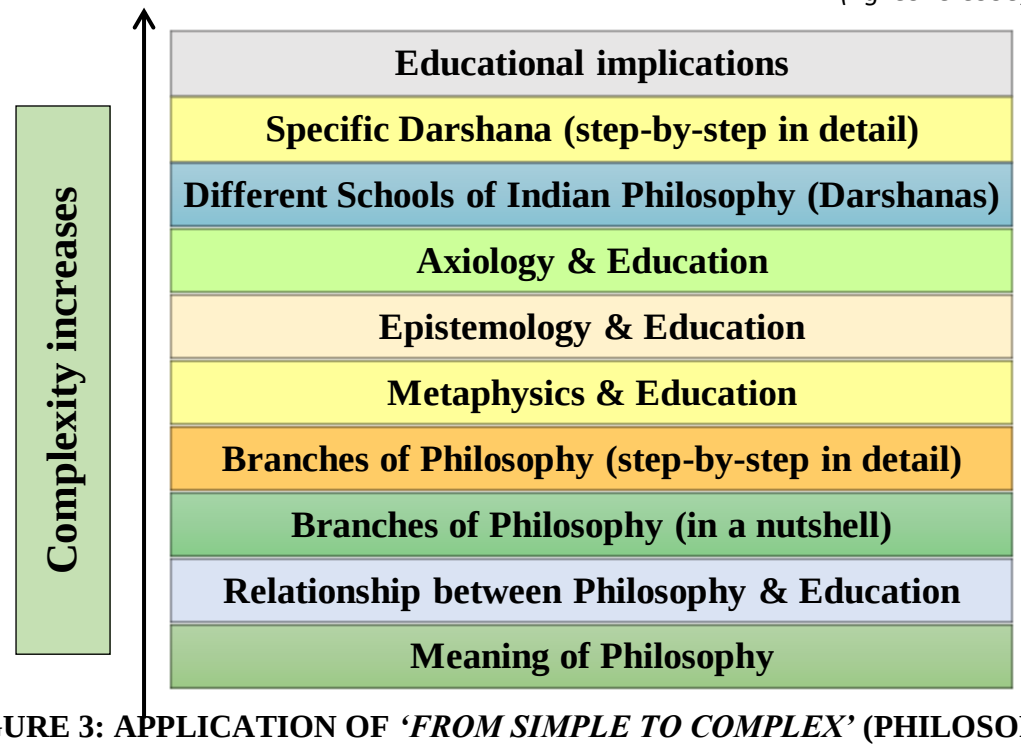

FIGURE 3: APPLICATION OF *'FROM SIMPLE TO COMPLEX'* (PHILOSOPHY)

If teachers start with complicated problem, it is possible that 70-80% of students may not be able to understand and answer it. Therefore they will lose their heart, confidence and interest in study. Teacher has to be careful in deciding about simpler part too. What is simple in teacher's view is not necessarily simple for students. It can be vice-versa too. Thus, keeping in view students ability, attitude, potentiality and interest, simple tasks should be fixed. This maxim should also be coupled with another maxims viz. *'From Whole to Part','From Analysis to Synthesis'* and other maxims as per the felt need.

***From 'Whole to Part', 'From Simple to Complex', 'From Analysis to Synthesis'*:**

Test (Introduction)
Different types of tests (General overview)
Specific test and its subtypes (in detail) with merits and demerits

Measurement (Introduction)
Measurement in Education
Scales of Measurement (General overview)
Specific scale in detail
Applications of different scales

Evaluation (Introduction)
Evaluation in Education
Types of Evaluation (General overview)
Specific type of Evaluation (in detail)
Interrelationship between Test, Measurement and Evaluation (From Analysis to Synthesis)

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3. From Concrete to Abstract

Abstract and concrete are classifications that denote whether a term describes an object with a physical referent or one with no physical referents. An abstract object is an object which does not exist at any particular time or place, but rather exists as a type of thing, i.e., an idea, or abstraction. In general, tangible entities are grouped under concrete objects while intangible entities are grouped under abstract objects. This maxim, however, sometimes can't be employed in certain situations. For example, such concepts as personality, intelligence, learning, knowledge, attitude, thinking, etc. are abstract in that these can't be touched or seen directly i.e. these are intangible. (For example, we cannot show or display the intelligence of an individual in a concrete form before the students as intelligence is an abstract concept). The teacher educators should tell the pupil-teachers that the aforementioned concepts are abstract in nature and can't be seen or touched directly but can be assessed (and not physically measured) with the help of actions or behaviors of the subject. For example, taxonomy of educational objectives (propounded by Bloom et. al.) helps us in assessing the teaching objectives at the end of a lesson. Attitude (abstract) can be known with the help of rating scales or point scales or checklist (although indirectly and not directly). Projective techniques viz. *Ink blot tests, TAT (Thematic Apperception Test), Child Apperception Test*, etc. are concrete entities that can be used to assess the personality of an individual on an indirect basis (abstract form). What is being emphasized here is that the teacher must ponder over the following questions:

1. Is the maxim (in question) feasible for the topic to be taught?

2. Where could the maxim be logically employed?

3. How can the maxim be employed?

The above questions hold good for all the other maxims of teaching also. In fact, the degree of effectiveness and success of teaching maxim(s) depends on teacher's knack of applying the maxim(s). At times, it is the **'Rule of thumb'** that determines the strategy of employing maxims in teaching.Application of this maxim helps the learners understand the materials more easily. Some power of imagination also develops in them.

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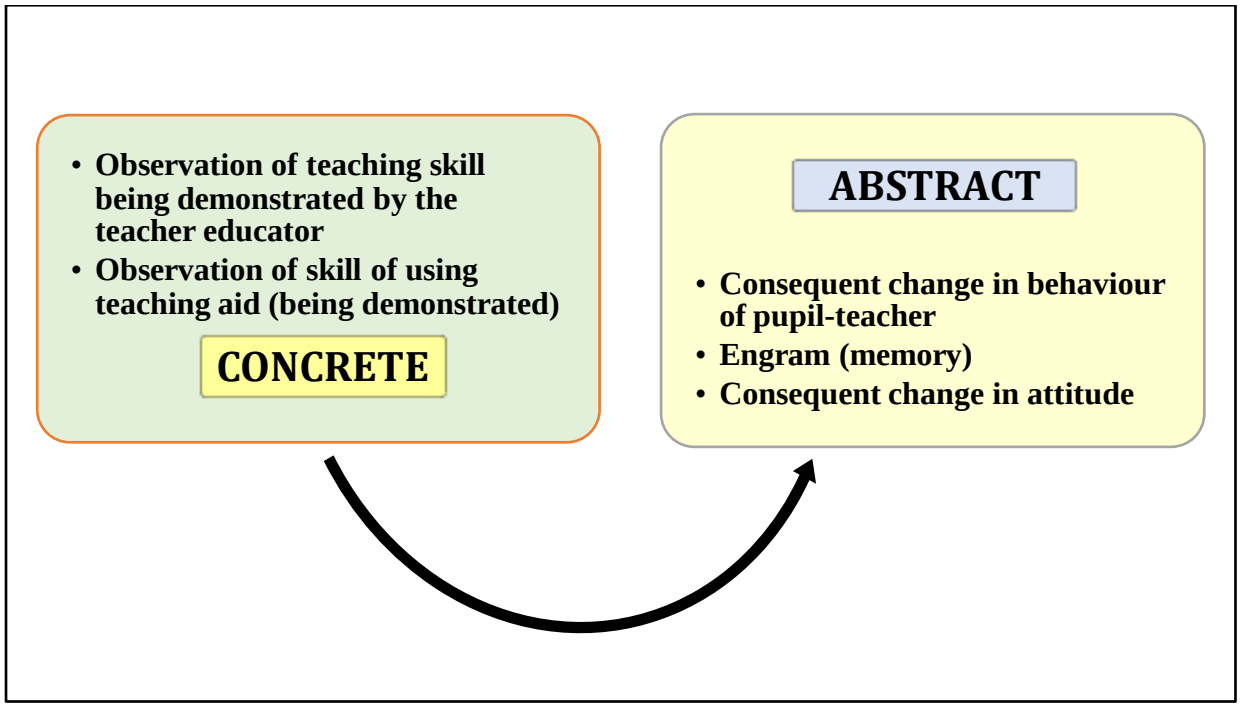
An able and skilled teacher educator can employ this maxim of teaching in the following:

- Live demonstration of different teaching skills before pupil-teachers
- Such concepts as MS-Office basics (using projection method)
- Making use of appealing and apt teaching aids as and when required
- Demonstration of apparatus and instruments used in Psychology laboratory, Science laboratory, Mathematics laboratory, ICT laboratory, Art and craft laboratory, etc.
- Various activities based on Psychomotor domain
- Illustration of complex topics
- Teaching of such teaching skills as Demonstration / Illustration / Blackboard writing / Stimulus variation, etc.
- Preparation of Objective type tests (different types of objective question)
- Preparation of Test Blue print (preferably projection method viz. Power Point presentation)



The teacher-educator ought to make the prospective-teachers realize the significance of this very maxim in teaching-learning process as in need and significance of using different types of teaching aids, need and significance of live / virtual demonstration, need and significance of visual illustration (LCD projection, multimedia, charts, pictures, specimens, models, science kit, mathematics kit, etc.), need and significance of laboratory visit and work, need and significance of direct experience.

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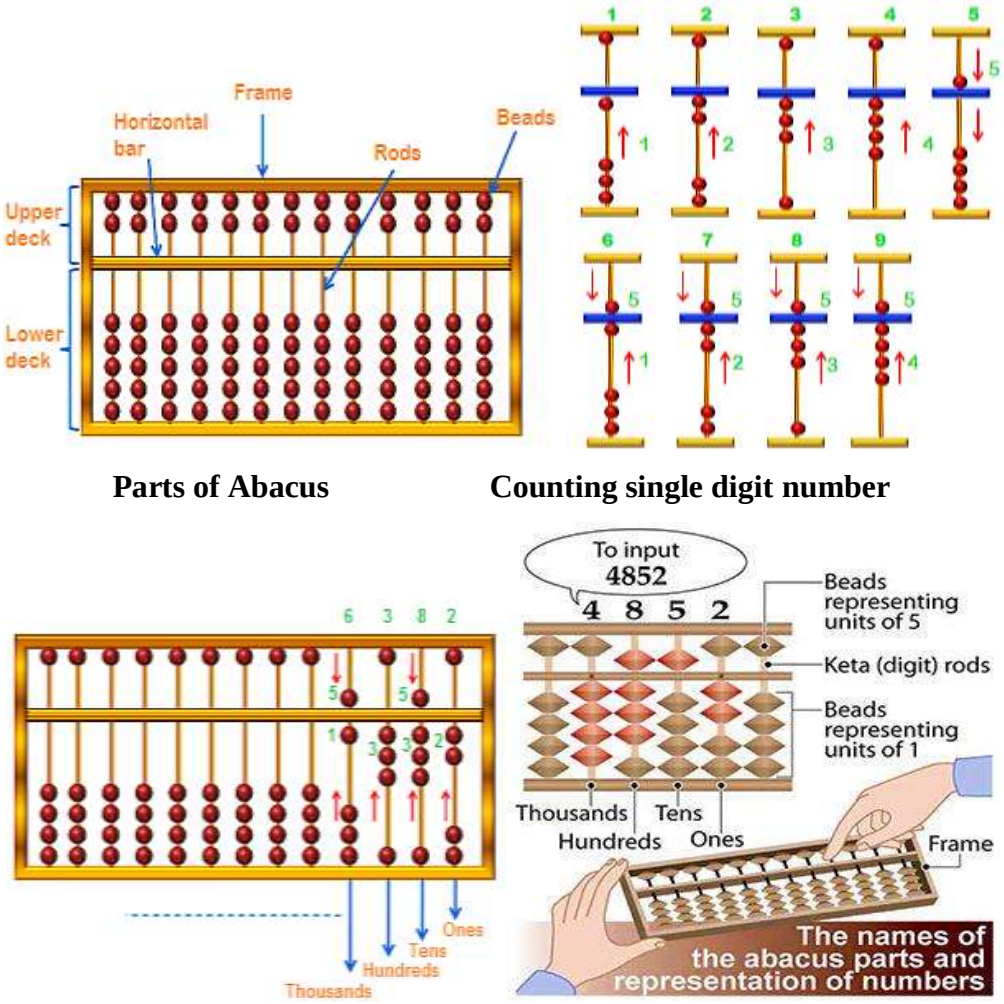

Parts of Abacus **Counting single digit number**

Counting multi digit number **Holding and using Abacus**

FIGURE 4: COUNTING BY USING ABACUS (FROM CONCRETE TO ABSTRACT)

The teacher educators and in-service teachers should themselves realize as well as make the prospective teachers realize too that methodologies have become revolutionized by increasing and imaginative use of various appealing audio-visual aids most of which are electronic and have now caught the attention of the students and the teachers.

4. From Analysis to Synthesis - This maxim states that the difficult or complex topic or subject matter be logically and systematically broken into different components. (This maxim is also known as 'from Part to Whole'.) Analysis means breaking something into individual elements. Synthesis is just reverse of Analysis. It means joining the individual elements into one whole. In other words, in analysis, the subject is broken into its components or elements while in synthesis, the scattered elements of the subject are collected and the clarification of these elements is logically presented. In fact, these two are an integral part of Cognitive domain of Bloom's taxonomy of Educational objectives. The teacher educators should make

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use of this maxim in their own teaching as well as motivate and aid pupil teachers make use of it in their practice teaching too. The teacher educators ought to scaffold neophytes in this pursuit. The complex topics or subjects need to be taught in a logical and systematic manner with the help of this maxim. *(Formulation of objectives, hypothesis or hypotheses on the basis of the rough and systematic analysis of research problem in question.)*This maxim is quintessential of science and mathematics. It can, however, be made use of in other subjects too viz. economics, commerce, geography, political science, etc. In the field of teacher education this very maxim can be employed in such areas as:

Some applications of 'From Analysis to Synthesis' in the field of Teacher Education

- Writing specific objectives in behavioral terms
- Preparation of macro lesson plan
- Preparation of plan based on micro teaching skills
- Statistical interpretation of data (Psychological tests, Dissertation work)
- Educational measurement & evaluation
- Research methodology
- Doctoral research work
- Preparation of objective type test
- Pedagogical analysis of text book, pedagogical analysis of lesson(s)
- Writing Bibliography (APA, MLA styles)

Analysis of merits of various Western philosophies (*Idealism, Naturalism, Realism, Pragmatism*) ----------> **ANALYSIS**

ECLECTICISM (Drawing useful ideas from different Western philosophies) ----------> **SYNTHESIS**

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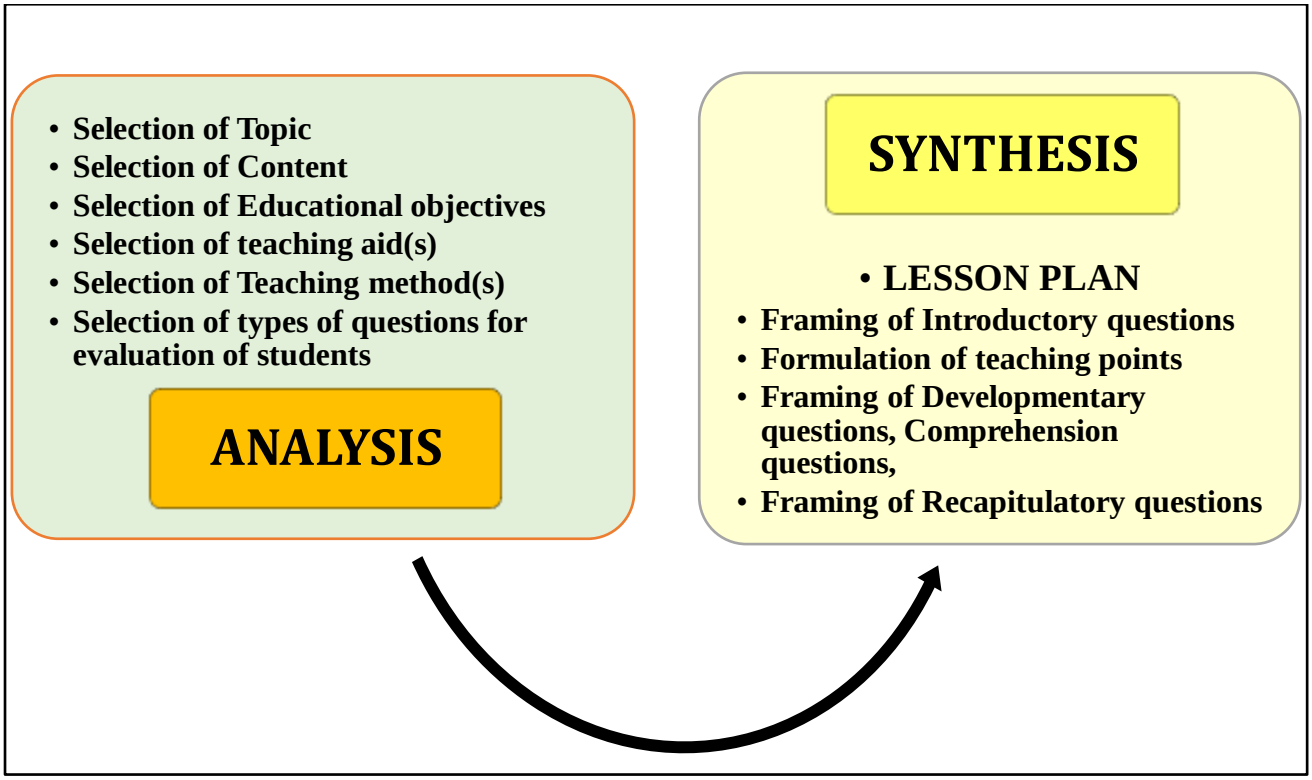

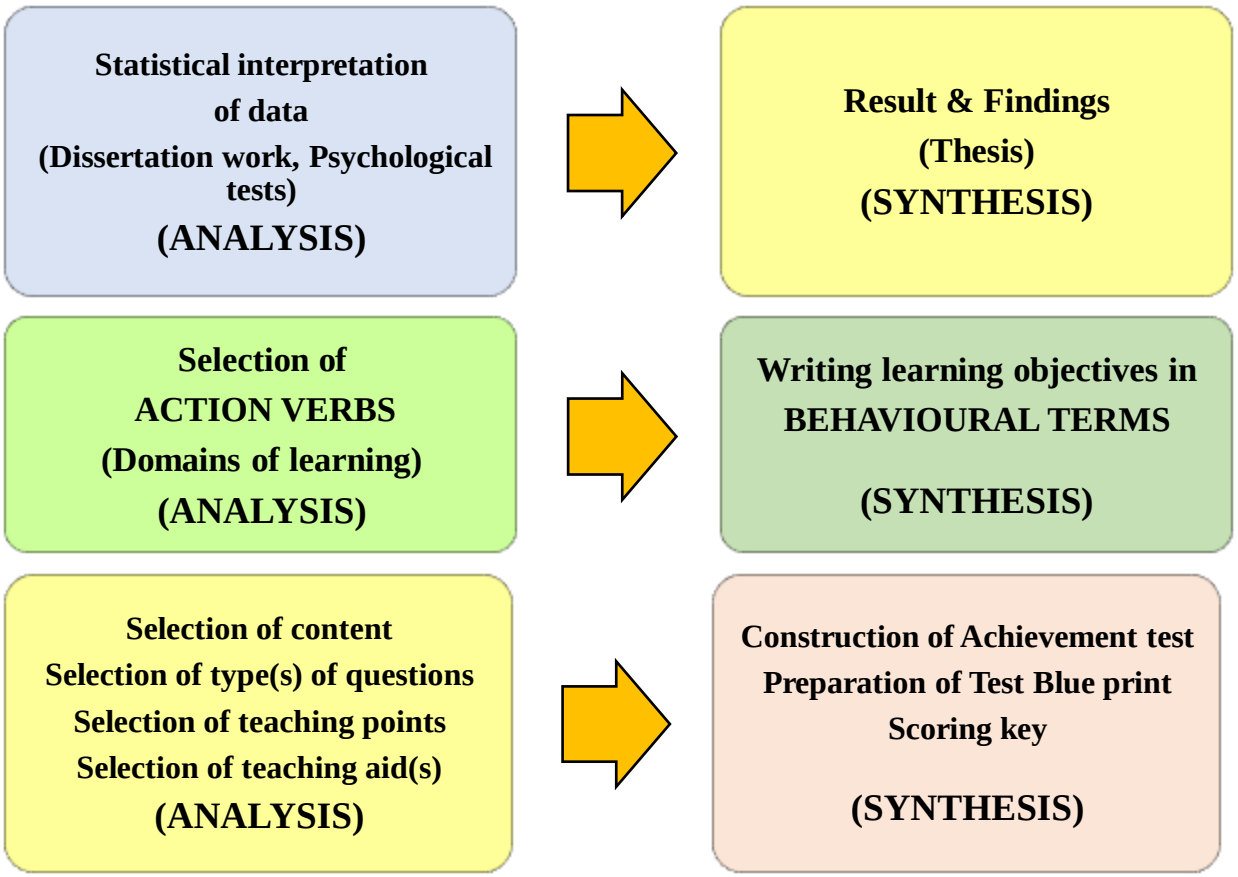

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Selection of content
Selection of type(s) of questions
Selection of evaluation objectives
Weightage of test items
(ANALYSIS)

Construction of Achievement test
Preparation of Test Blue print
Scoring key
(SYNTHESIS)

5. From Psychological to Logical - As regards the realm of Educational Psychology, the cynosure is the child or the learner. The entire teaching-learning process is planned and organized on the basis of interests, abilities, capacities, etc. of the learner.

FIGURE 5: QUOTE BY AUTHOR OF PRESENT RESEARCH PAPER

This maxim states that the sequence of teaching process should be psychological followed by logical. If the teaching process is not in logical order and its organization is not systematic, the entire teaching process with become either hotchpotch or haphazard. Consequently, the teaching process will either become an exercise in futility or end up in fiasco. The teacher educators must employ this maxim in their own teaching as well as motivate pupil-teachers to make use of it under proper guidance and supervision. *[For example, the teacher educator should advice pupil-teachers to teach the basics of hydrocarbons, types of bonds to the students before coming on to types of lipids (saturated and unsaturated).]*

Similarly, the teacher educator should systematically and logically deal with such topics as measures of central tendency, measures of dispersion or variability before dealing with Normal Probability Curve (at post-graduation level).

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In the same way, the teacher educator can deal with the topic **'Research'** by logically and systematically presenting such topics as:

- What is Research?
- Essentials of research
- Types of research (general overview of different bases of classification) - Fundamental, Applied, Action
- Qualitative and Quantitative
- Historical, Descriptive, Experimental, Ex-post facto
- Types of research (one by one in detail)
- Difference between research methodology and research method
- What is a research design?
- Types of research design

- ***The topic 'Sampling' can also be taught in a similar fashion***

6. From Actual to Representative - Teaching is more effective when the teacher displays actual teaching aids instead of artificial ones before the pupils in the classroom. Researches have shown that the natural teaching material has more influence in the teaching process instead of artificial one. So, as far as possible, the teacher should make use of this maxim in teaching-learning process. It is not that this maxim should be blindly resorted to. The teacher should use logic to apply this maxim. The teacher educators can employ this maxim in teaching such topics as:

What is Multimedia?

(By Projecting Any Educational film or animated moral stories or anecdotes of any legend on the screen.)

What is Smart Classroom? (Demonstrating the use of Smart board)

Showing the various essentials of a smart classroom.

What is Virtual classroom?

Using projection method to show what a virtual classroom is by projecting a real-time virtual lecture (if possible). If real-time virtual class is not possible, efforts should be made to project pre-recorded lecture on some useful topic in which case it would tantamount to what is known as Simulated virtual Classroom.

It won't be an exaggeration to say that in the current scenario of teacher education in India, various Psychological tests are not actually performed by pupil-teachers. They never ever get the opportunity to get a first-hand (direct) experience of various apparatuses, instruments and concrete entities that are an indispensable part of Psychology laboratory. The pupil-teachers are either made to copy written matter verbatim without any knowledge and comprehension

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of the test under question or they are given haphazard knowledge of these tests. The teacher educators ought to make the pupil-teachers visit Psychology laboratory on a periodical basis and get first-hand experience of various instruments and concrete stuff prior to completing their requisite practical work. For example:

- Mirror Drawing apparatus
- Maze Leaning Electrical apparatus
- Memory Drum Hand Operated Apparatus
- Finger Dexterity Board Apparatus with pins
- Weight Discrimination Box apparatus with weights
- Alaxender's Pass along test apparatus

Likewise, the pupil-teachers must be shown different verbal and non-verbal tests (in original). The teacher educators ought to make use of similar strategy in case of other such labs as science laboratory, mathematics laboratory, social science laboratory, language laboratory, music lab, art & craft lab, etc.

The teacher educators must also properly train the pupil-teachers in the use of this very maxim as regards their teaching subjects.

7. From Empirical to Rational - It means that the empirical knowledge of a student should be made rational so that it becomes true and definite. (It may be recalled here that empirical knowledge is the one which a learner receives by observation.) If we study and analyze the definitions of learning, we will come to know that the changes in human behavior through experiences are termed as learning. The experiences contribute especially in the learning process. The pupil learns through observation and experience and consequently acquires substantial knowledge. The teacher can employ this maxim especially in teaching of mathematics and sciences. In simple words, the ability to know something, to learn and verify it is acquired first and the ability to interpret it on the basis of logic or reasoning develops afterwards.

The pupil-teachers must be given proper training in the effective use of this maxim by teacher educators. This maxim can be made use of by teacher educators in demonstration of micro teaching skills whereby pupil-teachers observe and note the different teaching skills being demonstrated by the teacher educators whereby the pupil-teachers get to know and comprehend the essentials of various teaching skills and make use of this empirical knowledge in evaluation of peer-teaching (analysis and interpretation of peer-teachers on the basis of logic i.e. rational knowledge)

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Disquisition

Many teachers do not treat teaching as a complex process calling for competencies in various knowledge and skills. They should master different teaching skills and understand the essentials of pedagogy and methodology. Effective and efficient use of maxims of teaching is also a skill the application of which requires sound knowledge of psychology, pedagogy, philosophy besides sound knowledge of one's own teaching subject(s). Mere acquisition of degrees and superficial research experience don't necessarily ensure effective as well as efficient teaching. Imitation and emulation are the only methods through which prospective teachers learn the teaching skills and other 'tricks of the trade' for improving their professional competence. Even if there is an earnest desire in prospective teachers to equip themselves with the essentials of maxims of teaching, their endeavors are nothing more than an exercise in futility for they are left with the so called *Hobson's choice* of mugging up the different maxims of teaching. They are never ever subjected to the various teaching maxims in real-life situations. It is, therefore, essential to expose prospective teachers to various maxims of teaching in real-life classroom situations. They must be encouraged to reflect upon different teaching maxims on theoretical as well as practical basis. Proper guidance and supervision should be provided to them by experienced, skillful and artful teachers. It won't be an exaggeration to say that in the current scenario of Indian teacher education programme a majority of teacher educators are themselves not well conversant with the essentials of pedagogical skills. They never take pains to discuss the essentials of maxims of teaching in their own teaching sessions let alone the practical application of these maxims in real-life classroom situations. They do not make painstaking efforts to infuse the spirit of using teaching maxims in the prospective teachers. What is being emphasized here is that the teacher educators do not even think about developing a favorable attitude towards and interest in the use of teaching maxims in prospective teachers resulting in total neglect of *affective domain.* The reason is simple. The so called teacher educators do not themselves bear a favorable attitude and have interest in employing teaching maxims in their own teaching. They fail to understand and realize that there has been a paradigm shift in pedagogy in current educational scenario. Prospective teachers are not to blame on a sole basis. It is rightly said that it takes two to make a quarrel. **P.C. Wren** aptly remarks, *"As is the teacher, so are pupils."* Teachers of higher education generally give more importance to acquire and transmit knowledge. They never care to know how far students have assimilated or grasped new ideas. They are not concerned about their abilities to communicate their strategies effectively and evaluate their own performance from time to time. More often they don't feel the need to evaluate their abilities. All endeavors are made to cover the syllabus rather than uncover it for the students to discover, explore, analyze and critically study in order to assimilate the knowledge and make it their own.

Methods vary from subject to subject, from topic to topic and from teacher to teacher. An adequate knowledge and practice of vital principles of teaching methods and learning theories can help the teachers to improve their performance in classrooms.

Some noteworthy suggestions for teachers and teacher educators

1. The teacher educators must make use of a balanced blend of different maxims of teaching in their own teaching. They ought to serve as role models who inspire their students (prospective teachers) to deliberately follow in their footsteps and imitate their behavior. **P.C. Wren** aptly remarks, ***"As is the teacher, so are pupils."***

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2. In keeping with the essence of the adage, 'two heads are better than one', the teacher educators should resort to mutual reciprocation in discussing about how to best employ these maxims of teaching in their own teaching subjects.

3. Orientation programmes and workshops should be organized from time to time on how to effectively and efficiently employ maxims of teaching in teacher education programme and practice teaching for both teacher educators and prospective teachers.

4. The teacher educators need to scaffold their students regarding the use of teaching maxims in different ways. Thorndike's laws of learning should be kept in consideration.

5. The teacher educators ought to develop a favorable attitude towards the need, significance and use of teaching maxims. Unless the teacher educators realize the value of maxims of teaching, they won't be able to instill the spirit of the same in prospective teachers. They must motivate prospective teachers in using the different maxims of teaching in their teaching subjects.

6. Sample or model lesson plans should be developed by respective teacher educators on the use of various maxims of teaching pertaining to different topics such as:

- From **known to unknown** (Lesson Introduction skill)
- From **inductive to deductive** (Explanation skill)
- From **concrete to abstract** (Illustration skill, Teaching aids, Stimulus variation skill)
- From **analysis to synthesis** (Flander's Interaction analysis, Writing learning objectives in behavioral terms, preparation of test blue print, components of micro teaching skills, components of lesson plan)
- From **simple to complex** (as illustrated above)

(Step by step Demonstration of basics PowerPoint presentation, Making prospective teachers visit ICT lab and have direct experience of working with MS- PowerPoint, Giving Simple assignments to be prepared by using PowerPoint presentation software viz. Inserting text box on a slide and edit font color, size and type as desired, Inserting Animation and Transition, Inserting images on a slide, Making use of Smart art, etc. Once these basics are mastered, Complexity of assignment should be gradually increased viz. Using a single slide, animate introductory questions on any topic of your choice in your teaching subjects, now complexity should further be increased as in 'assignment on preparation of lesson plan using MS-PowerPoint (The teacher educator must properly demonstrate all these before the students step by step by making use of Projection method prior to giving the aforementioned assignments and the like).

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7. It is a misconception that maxims of teaching fall under the purview of teacher education programme only. In fact, maxims of teaching are psychological principles of teaching that have a universal appeal, be it any field. Regrettably, if these maxims are ever employed, these remain confined to the field of teacher education only. These are hardly made use of by teachers in disciplines other than education. It won't be an exaggeration to say that a majority of teachers today have no cognizance of principles and maxims of teaching. Those who do, hardly take cognizance of these on a pragmatic basis. It must be borne in mind that mere acquisition of degrees or awards does not necessarily guarantee the acquisition of art and skills of teaching. For doing away with this misconception and negligence, isolation between education department and other departments needs to be removed. National level workshops on effective and efficient use of teaching maxims should be organized from time to time in Education department, resulting in broadening the pedagogical horizon of teachers from different disciplines. Besides this, such workshops in other departments too should be in cooperation with teacher education department.

8. As far as possible, the teacher educators should throw light on the maxim of teaching being employed by him or her in the classroom so that the prospective teachers get an idea of the underlying rationale. For example,

Some applications of various teaching maxims

- Demonstration method (From Concrete to Abstract)
- Laboratory method (From Concrete to Abstract)
- Lesson Introduction skill (From Known to Unknown)
- Illustration skill (From Concrete to Abstract)
- Psychological tests (From Concrete to Abstract, From Analysis to Synthesis)
- Writing learning objectives in behavioral terms (From Analysis to Synthesis)
- Essentials of Educational Philosophy (From Known to Unknown)

9. The teacher educators should teach a good number of topics to the prospective teachers in their respective teaching subjects by making use of maxims of teaching and the former must ask the latter to prepare lesson plans on different topics employing the different maxims of teaching in a logical manner. The teacher educators ought to hold discussion sessions with their students regarding this move and must be a friend, philosopher and guide to them.

"I hear, I forget.

I see, I remember.

I do, I know."

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- Confucius

10. It must be borne in mind that the practical application of maxims of teaching is a science as well as an art. The use of teaching maxim(s) depends on the nature of subjects being taught. It is not that each and every maxim can be applied in all subjects at all times. The preceptor needs to work on the analysis, selection and strategy prior to employing maxims of teaching in his or her teaching. This ought to be done during Pre-active phase of teaching. Some of the teaching maxims may not be made use of at all.These maxims of teaching are not mutually exclusive. These usually remain amalgamated in some way or the other (mutually inclusive).

For example:In writing *Book review* on the basis of pedagogical analysis of a text book, following maxims are become mutually inclusive.

- *From Known to Unknown*
- *From Analysis to Synthesis*
- *From Empirical to Rational*

11. The teacher educators should make use of the maxim *'From Analysis to Synthesis'* in devising teaching strategies during *Pre-active phase* of teaching.

12. The teacher educators should make use of essentials of Behavioral technology to bring about desirable changes in the behavior of pupil-teachers. (*Behavioral technology states that teachers are not always inborn, they can be trained through training and effective teachers can be produced.*) It is definitely more useful in teacher-education programme. This technology does take into consideration the individual differences of pupil-teachers.

13. The teacher educators should also make use essentials of *teaching technology*. The prime aim of this technology is to make classroom teaching purposeful and effective. Not only pupil-teachers but also in-service teachers can be benefitted from this very technology. With the help of this technology, the teaching process can be organized from memory level to reflective level. A good rapport between teacher and taught is essential.

14. In tune with Thorndike's laws of learning, pupil-teachers should be motivated to apply various maxims of teaching during their practice teaching session (Law of readiness). They must be given a good number of opportunities for ample practice under proper guidance and supervision (Law of exercise). Constructive feedback and reinforcement should be given by teacher educators as and when required. Care must be taken that the pupil-teachers (in-service teachers too) achieve satisfaction and pleasant experience both during theoretical and practice sessions. They must feel that they have learnt and achieved something valuable at the end of

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the day (Law of effect). In addition to these laws, Bloom's taxonomy of Educational objectives should also be kept in consideration, especially cognitive as well as affective domain.

15. During initial stages, processing and not product should be emphasized; accuracy and not speed should be emphasized.

Conclusion

Teaching is inspiring the learner to learn, the learner being a child or a pupil-teacher or an in-service teacher or an adult. It is a dignified profession that demands proficiency and it is mandatory for every teacher to acquire this ability. Teaching is a form of social service which aims at bringing a reform in the behavior of the student who in turns reforms the society. Teachers are the makers of destiny of a nation. They are considered as role models for their students. It is but natural for a learner to imitate its teacher. Pupil-teachers are none other than learners. They are mature minds who resort to observational and imitational learning. The attitude and demeanor of teachers or teacher educators undoubtedly leave an indelible impression on the minds of prospective teachers. It is, therefore, the moral duty of teachers and teacher educators to make every sincere endeavor to bring about positive and fruitful desirable changes in the behavior of their students (pupil-teachers). Mere dictation of notes or allocation of bland and drab assignments to be completed by the pupil-teachers amount to nothing valuable but an exercise in futility. These do not fall under the purview of real and effective teaching and learning. What is the use of such learning which is not effectively and efficiently transferred to those whom it is really meant for? Sustainability of learning is an index of its effectiveness. It is the ability to recollect, recall and apply the skills at appropriate time and place. **P.C. Wren** aptly remarks, *"As is the teacher so are pupils."* Unless the in-service teachers, prospective teachers, teacher-educators, educational administrators are themselves equipped with teaching skills, art of use of maxims of teaching, they won't be able to transfer and infuse these in the prospective teachers. **Kothari Commission (1964-66)** aptly remarks, *"The destiny of India is being shaped in her classrooms.* **Humayun Kabir** aptly

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remarks *"Without good teachers, even the best of system is bound to fail. With good teachers, even the defects of system can be largely overcome."* So the teacher is of paramount importance in any system of education. They play a pivotal role in the development of education system as a whole. Enlightened, emancipated and empowered teachers lead communities and nations in their march towards better and higher quality of life. They are responsible for acculturating the role of education. It is no denying the fact that teaching is a science as well as an art. The various maxims of teaching tantamount to what is known as science of teaching whereas the strategies, techniques, skills and tactics employed by the teacher to make use of these maxims in an effective as well as efficient manner pertain to what is known as art of teaching. The tenets, working rules or general truths through which teaching becomes interesting, easy and effective are called the maxims of teaching. They have universal significance. Every person who is expected to enter into the teaching profession has to familiarize himself with the maxims of teaching. Their knowledge helps him to proceed systematically.

FIGURE 6: QUOTE BY AUTHOR OF PRESENT RESEARCH PAPER

But it is to be reiterated here that simply mugging up these maxims is a child's play while practical application of these is a Herculean task. What maxim(s) a teacher practically uses/use is science but how skillfully is or are these maxims used is really an art. The various maxims of teaching are universal and therefore must not remain confined to school education only. These should be made use of in teacher education as well as in such fields as are related

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to the field of education. A real teacher is the one who keeps the spirit of true philosophy alive forever and in tune with the same keeps philosophizing on the ways of improving his or her pedagogy. The teacher (be it a teacher educator or an in-service teacher or pupil-teacher) ought to be an ever-learning one in concomitance with the following dictum that captures the real essence of philosophy:

'Never stop learning because learning never stops'

Education Commission (1964-66) had rightly said, *"A sound programme of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against the resulting improvements in the education of millions. "*

The author of the present paper earnestly hopes that this paper appeals to the teacher educators and motivates them to employ the teaching maxims in their own teaching as well as encourage, aid and constructively supervise the prospective teachers as well to make use of these maxims (as is being done by the author). We must be the epitome of change we want to see in others.

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