

Study of Present Condition of Pedagogical Analysis in Actual Teaching Practices.

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ABSTRACT

The novice teachers have little or no teaching experiences. In order to make their teaching as effective as the experienced teachers, can we think of some different plans and measures. The answers available in the technique developed by Lee Shulman (Shulman 1963) called 'Pedagogical Analysis'. The teacher needs to think and consider the teaching contents and use methods, models of teaching and instructional strategies that are highly appropriate to contents. For this, teachers need to process three types of comprehension ability - That is flexible, comprehension, reflection comprehension, and conceptual comprehension. (Bennet 1993)

In teaching practice, Content-cum-Methodology (CCM) and Pedagogical Analysis (PA) have been the significant watch-words. Especially, PA that prompts the teachers to concentrate on 'What', 'Why' and 'How' aspects of teaching contents, paves the way for quality learning-teaching process. (N.C.T.E. 1978) This paper deals with the theoretical aspects of CCM and PA, and the research study related to PA. The theory in Section I, serves as the periodic reminder and recapitulation of CCM and PA. It briefly deals with the concepts of CCM and PA, and steps in PA procedure. It also indicates how in PA, teacher-centered teaching practice could be transformed into the pupil-centered practice. Finally, it shows how the Models, the Methods and Micro Skills of teaching could be amicably integrated. Section II briefly describes a PA-related research study and its conclusions. The quantified research data proves that the pre-teaching and initial teaching preparations and the application of the entire PA in the school-level teaching practice is far from being satisfactory. It also reveals that the teaching practitioners need CCM and PA orientation courses and training; and inspiration for their meticulous implementation

Concepts: flexible, reflective and conceptual comprehension, learner-centered thinking.

Introduction

Friends, this conference provides us an opportunity to discuss a new technique in the context of teaching practice. Teaching activity does not merely mean reading by teacher, developing some lesson plans and classroom teaching. If we wish to teach faithfully and effectively, our teaching activity will prompt us to think of many factors, aspects and unlimited points. Experienced teachers think and ponder about all these through the lens of their teaching experiences. This thinking process of theirs, of course, proceeds inwardly, on their mental screen. Therefore, others do not realize it. But the experienced teachers certainly teach excellently and effectively.

The novice teachers have little or no teaching experiences. In order to make their teaching as effective as the experienced teachers, can we think of some different plans and measures? What is the exact nature of experienced teachers thinking process that takes place at the pre-teaching mental preparation stage? Can we reveal the nature and details of their specific thinking process to the novice teachers? The answers to such queries and others are available in the technique developed by Lee Shulman. I am sure, friends, you will find this new technique useful.

Teaching does not mean procurement of information and practice alone. In teaching, the teacher needs to think and consider the teaching contents and use methods, models of teaching and instructional strategies that are highly appropriate to contents. Ofcourse, all this entirely depends on the teachers understanding of teaching contents. For this ability, teachers need to process three types of comprehension ability -

- ❖ **Flexible Comprehension:** Relatedness of an incident with the others factors - i.e. their interrelationship.
- ❖ **Reflective Comprehension:** Different explanations about how knowledge is generated, how knowledge-relations were established.
- ❖ **Conceptual Comprehension:** Interpretation-related knowledge of various concepts. It is expected that this knowledge should be procured through study at the planning level. According to it, the teacher selects the models and ascertain the classroom environment, principles of reaction, and he has to plan the practice of making learners understand those contents. For this plan, the teacher needs to select necessary aids, even prepare them if they are not available. This new approach include all such thinking.

It is indeed a challenge to create and enhance teaching competencies through the distance education mode. The teacher trainees who choose to undergo training in this University, enroll themselves through the inner urge and self-motivation. Therefore, they strive to excel in their teaching profession through meritorious achievements. They all are essentially the in-service teachers who are not totally unaware of teaching skills and talents. While in teaching who are not teaching the students, the gain plenty of experiences which they try to verify in their own classrooms and schools. This real situation experiences enrich them. All of them certainly have some teaching skills that are highly developed and also those that are not so adequately developed. Therefore, the University implements the Core Training programme with the diagnostic approach. Another problem that is likely to come up is the transfer of training to the classroom situation i.e. to the grassroots level. To facilitate this type of transfer, various workshops for teacher trainees are organized. They are made to perform some activities. Some supporting materials such as self-instructional materials, audio and video tapes, Information communication Technology (ICT) are used. In the contact sessions, the new teaching methodologies and teaching through Models of Teaching are demonstrated and the teacher trainees are made to practice in simulated conditions. For ensuring the transfer of these new methodologies, school practice lessons are prescribed and they are supervised by the expert counselors. Some practice lessons are conducted under the supervision of teacher-trainees colleagues and some lessons are meant for self-evaluation. All these activities are guided and supported through orientations in pedagogical

analysis technique and lesson-planning workshops. Such is the continuum of the training strategy that begins with laboratory experiences and concludes with the actual classroom teaching.

The distance between the University trainer and the trainee teacher and among trainee teachers is reduced to minimum possible through the use of ICT in distance education mode. For this purpose, training materials are developed and various programmes are organized. They include high quality printed material for instructional mode, audio-visual aids, CD's, websites, internet, discussion forum, contact sessions, etc. The innovative experimentation. The Zimbabwe Integrated National Teacher Education Course (ZINTAC) has proved that teaching competencies of teacher trainees can be developed through the distance education mode. It has provided the answer to the query-Is teacher training possible through the distance education mode? (IGNOU, 1995). The research study conducted by Kavita Salunke (2000) has revealed the guiding principles for developing and implementing the B.Ed. Training course through the distance education mode. These guiding principles have been used for developing the quality in-service teacher training of Y.C.M.O.University. It was supported by the quality practicum that was created on reflective thinking. Since the teacher-trainees have the real school situation facilities readily available to them, the 'School-oriented training programme can be implemented with no difficulties. The National Board for Professional Teaching Standards (1991) has brought out a report entitled, "What Teachers should know and Be able to Do", It prescribes five norms of the teaching profession. They are learner and his commitment to learning, teaching ability, management of student learning, systematic thinking about practice, and teacher's attitude towards learning. These norms have been satisfied through this University training programme.

The relationships among trainer, the trainee and knowledge resources are crucial. The distances between these three factors are reduced to almost nil. For this, the internet, tele-conferencing, radio conferencing, mobile phones, virtual classrooms, hyper texts and web-based learning are highly useful. With such ultra-modern techniques, it is possible to provide effective teacher training to the trainees wherever they are.

It is now possible to develop all teaching competencies in teachers through the distance education mode as it can be done in pre-service teacher-training. The following research shows the importance of Distance Education for improvement in Pedagogical Analysis.

There are two sections in this paper. The first section deals with the new technique; Pedagogical Analysis and explains it. The second section presents summary of a research work in which present situation of implementation of this technique in actual classroom conditions is described.

SECTION -1

PEDAGOGICAL ANALYSIS

1.1 Content cum Methodology

Content cum Methodology is not a new concept. It was first introduced in the NCTE curriculum framework long back in 1978. But it remained delimited to mere mention of it. There was

neither thinking nor discussion about it, and it disappeared into background. Later, in 1988, there was no mention of the concepts at all. In the framework 1998, it reappeared in the form of Pedagogical Analysis. In fact, the concepts that had appeared in 1978 was highly clear, concrete and in details. It was introduced as follows -

Content cum Methodology clearly implies that there will be a meaningful integration of the content and method in terms of observable skills developed in the enriched content separately provided to the trainee in his discipline. It is rather the deeper understanding of concepts he is required to teach in the school. (N.C.T.E. , 1978)

This definition reveals three chief and essential characteristics. They are -

- ❖ Meaningful integration of content knowledge and teaching method.
- ❖ This integration is in observable terms and in terms of overt behavior, and
- ❖ Higher knowledge in content cum Methodology does not mean addition knowledge of concepts which is imparted independently to learners. It implies content knowledge enrichment in the context of concepts.

There are eight steps that help us in detailed thinking about content cum Methodology. They are -

- 1) Nature and structure of subject discipline,
- 2) Curriculum, syllabus and textbooks in teaching,
- 3) Content analysis of teaching units,
- 4) Pre-teaching enrichment of content knowledge,
- 5) Pedagogical analysis,
- 6) Integration of content and teaching method,
- 7) Knowledge representations, and
- 8) Evaluation in the context of Content cum Methodology.

In these eight steps, 'Pedagogical Analysis' is the most important steps. Lee Shulman had considered it in the U.S.A. It is necessary to seriously observe the extent to which this significant technique is utilised in actual practice. Section 2 of this paper supplies a relevant research study.

1.2 Pedagogical Analysis

There is an important question - what to teach? Equally important is another question - how to teach? Pedagogical Analysis considers these 'what' and 'how' questions.

Concept of Pedagogical Analysis

Detailed reflection and thinking about 'How to teach?' is Pedagogical Analysis. Bruner, J. (1969) states, "Pedagogy is entirely an applicational concept. It includes considerations of how to achieve predetermined objectives? Which methods and techniques should be used for realizing the objectives." He has provided the following definition -

A theory of instruction is prescriptive because it establishes rules concerning the best ways to teach knowledge and skills, normative because it sets criteria and states the conditions for meeting these rules; and descriptive because it tells what has happened in the instructional process. (Bruner, J. , 1969)

Lee Shulman has identified four steps in his research on Pedagogical Analysis. They are -

- 1) Thinking process about content knowledge,
- 2) Teachers selection of activities and skills for teaching specific subject,
- 3) Teachers subject enrichment, and
- 4) Considerations about learners and their thinking process in terms of subject knowledge. (Joshi, A. , 2000)

Briefly, it includes considerations about “How do I impart knowledge which I have procured, to my students?”

1.3 Steps of Pedagogical Analysis

There are eight steps in Pedagogical Analysis. Those steps are related to three units of the teaching process viz. ‘learner’, ‘Pedagogy’ and ‘Social Objective’.

The eight steps of Pedagogical Analysis are as follows -

- 1) Goal awareness,
- 2) Awareness about learner ideas,
- 3) Opportunities for learner participation,
- 4) Developing abstract ideas,
- 5) Activating learners thinking process,
- 6) Progress evaluation,
- 7) Supportive environment for learning, and
- 8) Considerations about values and core elements.

(Salunke, k., 2002)

The first two steps detail why learners need to learn the unit and how the teacher should teach it so that it will be effective. Moreover, these two steps think of their previous knowledge, especially their social, culture and intellectual differences which interfere and create obstacles in their learning process.

In the next five steps, various aspects are considered-previous experience of students, their ability to comprehend the meaning, supply of examples that are relevant to their experiences and asking them to supply their own proper examples, activating them to interpret the matter according their own comprehension level and to prompt them express their interpretations etc. In the last two steps, thinking about pleasant teaching activity and inculcation of various is encouraged.

In the last step, teachers are activated to consider the social and national goals. Earlier, we used to consider these aspects but it was entirely the teacher-centered thinking. Today these considerations are totally made learner-centered.

Figure no. 1
Pedagogical Re-thinking

New Thinking (Learner-Centered)	Pedagogical Units	Previous Thinking (Teacher-Centered)
Stating analysis of reasoning to learners	For learning purpose	With a view for teaching

Considerations about interfering and harmful ideas	Awareness about previous knowledge and ideas of learners	Useful for teaching
Learners asked to state proofs, supports	Learners participation-incidents/happenings	For explaining
Use of representations and other ideas, considerations about application	For clarity of abstract ideas	For providing explanation
Guarantee that the learners have interpreted in the same way	Considerations about learners	For proceeding ahead/advancing while teaching
Applicational	Progress assessment	Based on contents
Opportunities to all, curiosity, healthy competition, creativity	Environment for enriched learning	Partial considerations
Conscious thinking	Core elements and values	Incidental thinking

It is essential for us as teachers to consider all the factors and values in our teaching because ultimately, through education we have to catch up with the national level.

1.4 Content and Pedagogy Integration

Once we decide and ascertain 'what to teach?' and 'how to teach?', the next step naturally follows and it is related to the actual integration of content and teaching methods. In integration process, we need to consider models of teaching, teaching methods, skills and knowledge representations. Therefore, all teachers should know more than one models of teaching, teaching methods and skills. Some of them are enlisted as examples -

Figure no. 4
Some Methods, Models and Skills for Teaching

Models of Teaching	Methods	Skills
Concepts Attainment	Discussion Lecture	Introduction Explanation
Advance Organizer	Dramatisation	Open Questioning
Inquiry Training	Journey	Probing Questioning
Inductive Thinking	Support	Basic Questioning
Jurisprudential Inquiry	Problem Solving	Use of AV Aids
Direct Training	Minimum Learning ability	Use of BB in Teaching
Memory Model		Stimulus variation
Play Model		Reinforcement
Co-operative Learning (9 models)	Inductive-Deductive (9 methods)	Closure Activity for feedback (12 skills)

The section that follows presents a research report about the use and application of Pedagogical Analysis in the actual teaching practices in schools. For relevance of this report, the theoretical background of Pedagogical Analysis proves to be useful.

SECTION - 2

RESEARCH STUDY

2.1 **Research Title:** Pre-teaching Preparation in schools and Study of Present situation of Pedagogical Analysis.

2.2 **Research Objectives:** 1) To study the Pre-teaching preparation done by School Teachers.
2) To analyse and study critically the Pedagogical Analysis done by the School Teachers.

2.3 **Sample Selection:** Twenty primary schools and 20 secondary schools for every district located in the Nashik Region were selected by using the Purposive Sampling method. From those schools, 20 primary teachers and 20 secondary teachers i.e. 40 in total were selected by the lottery method.

2.4 **Assumptions:** 1) Teachers make preparations before they undertake the teaching activity.
2) Teachers know the concept of pedagogical analysis.

2.5 **Variables:** **a) Independent Variables:** Content preparation, Pedagogical analysis
b) Dependent Variables: Teachers teaching activity
c) Intervening Variables: Age, qualifications, training, IQ, sex, Social and family background of teachers.

2.6 **Research Method:** The Survey(quantitative) Method.

2.7 **Research Tools:** Questionnaire and Interview.

2.8 **Research Procedure and Data Analysis:** From the five districts located in the Nashik Region, four schools each and two teachers from each of the schools were selected for an orientation workshop. They were informed about the present research objective. They were supplied with a questionnaire consisting of total 20 questions related to pre-teaching preparation and pedagogical analysis. They were informed to supply free response to each and every item of the questionnaire. Their responses were analysed. Those analyses are supplied in Figure3 and Figure4.

Figure no. 3: Teaching-Initial Preparations (A)

Sr. No.	Chief units	Sub Units	Obtained Responses
1	Content knowledge Enrichment	<ul style="list-style-type: none"> • To know the contents • Updatedness of contents • Expectations from learners • Other unit links • Discussion with colleagues 	25% 10% 5% 5% 15%
2	Previous knowledge	<ul style="list-style-type: none"> • What and How to teach? 	50%

	and Higher Level knowledge	<ul style="list-style-type: none"> • Learner's Previous knowledge • complicated and complex concepts • content analysis • One's own role • Place in subject structure • Place in curriculum • Significance and Weightage of unit 	5% - - 5% - - -
3	Ascertainment of Teaching Methods	-	12%
4	Considerations about Teaching Aids	-	50%
5	Considerations about Illustrations and Experiences	-	30%
6	Thinking about Evaluation	-	12%
7	Method for Closure	-	10%

In initial preparation of contents for actual classroom teaching there are numerous sub-aspects such as reading and grasping the teaching content, its regular updating, content prescribed in instructional materials, thinking about learner's previous knowledge and teacher's preparation in its context, thinking process of learners, knowledge available in various sources, content analysis, etc.

In the same way, the chief unit, 'Previous knowledge and Higher-Level knowledge' includes various sub-aspects such as - why and how to teach? How to think and consider about learner's knowledge? How to fill the gaps in learner's previous knowledge? What type of examples and illustrations should be provided for making learners grasp the complicated concepts? Why is it necessary to ascertain the place of the teaching contents in the subject structure? This question further leads to aspects such as curriculum - syllabus relationship, significance and weightage of teaching unit, teaching methodology as per the characteristics of teaching contents, teaching aids, examples, learning experiences, evaluation procedure and closure.

Figure no. 3 reveals very serious and unsatisfactory facts. Only 25% teachers try to know and grasp the contents they are to teach. Only 50% teachers consider the teaching objectives. Nearly half the number of teachers i.e. 50% think about using teaching aids. Only 30% teachers think of appropriate examples and illustrations, and merely 12% teachers think of evaluation and closure procedures. The remaining aspects are considered by less than 5% of teachers. Unfortunately, place of unit in structure, curriculum - syllabus relationship, significance and weightage to units are the aspects that are totally neglected.

Figure no. 4

Pedagogical Analysis (B)

Sr. No.	Chief Units	Sub Units	Obtained Responses
1	Awareness about Objectives	<ul style="list-style-type: none"> • Knowledge of contents • Learner expectations • Thinking about significance of subject 	25% 5% 5%
2	Awareness about	<ul style="list-style-type: none"> • Survey of previous knowledge 	5%

	Learner's Ideas	<ul style="list-style-type: none"> • Set induction 	5%
3	Participation Opportunities to Learner's	<ul style="list-style-type: none"> • Considerations about learning experiences 	5%
4	Development of Abstract Ideas	<ul style="list-style-type: none"> • Thinking about illustrations, examples 	5%
5	Encouragement to Learner Interaction	<ul style="list-style-type: none"> • Thinking about questions • Learner Participation 	5% 1%
6	Progress Assessment	-	-
7	Conducive Environment for Learning	<ul style="list-style-type: none"> • Delightful environment • Life skills • Thinking about values 	5% 5% 5%

The concept of Pedagogical Analysis incorporates various aspects such as awareness about objectives, opportunities to learners for participation, development of abstract ideas, speeding up of learner interactions, assessment of learner's progress and conducive environment for learning. Though these aspects are significant, only 5% teachers think and consider about them.

2.9 **Conclusions and Recommendations**

It is concluded that -

- 1) Teachers pay very little attention and care about pre-teaching initial preparation.
- 2) Teachers do not know the concept of pre-teaching content and pedagogical analysis.

It is RECOMMENDED that Content cum Methodology training programmes should be organized in schools and colleges.

2.10 **Summary**

We all certainly and seriously think about teaching quality and its enhancement. But the teachers do not seem to understand the significance of the aspects that represent the standard of teaching quality. The thinking of experienced teachers does reveal some steps such as knowing the nature of contents, thinking or proper methodology to suit the contents, use of teaching aids, learning experiences to be provided, selection of proper examples, special efforts to activate and inspire learner's thought process, tricks to safeguard learners from fatigue, creation of delightful and inspiring learning environment etc. The new teachers need to know these significant aspects. For this purpose, the gap between experienced and unexperienced teachers must be narrowed down. Pedagogical analysis will certainly help in this regard. Therefore it is significant. In order to let the content reach the learners, and to make the learner's internalize it, teachers should transform the contents into suitable and proper teaching activities. It is highly significant and essential. For achieving these, teachers should regularly undergo training in orientation courses. They should be acquainted to the research-based data in the related field. It is also necessary to conduct large scale research in this area and discipline. These are the challenges for us, one and all.

2.11 **References**

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