Instructional effectiveness in the light of National Curriculum Frame work

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ABSTRACT:

Effective teachers, and their relevance are the most relevant trends of educational research on teaching and learning are included in the present paper. Characteristics of effective teachers, and studies that go under the label of "process-product studies", are the most relevant trends of research on—teaching and classroom processes through over the world and NCF does not have any exception. Good instruction not only supports students in thinking and learning, but also motivates them and offers an emotionally sound context. Instruction motivates students if attention is aroused, the relevance of the contents is shown, the self-confidence is strengthened, and satisfaction with the results of learning is achieved.

INTRODUCTION:

As teachers our goal is to facilitate student learning. As Halpern and Hakel (2002) state, "Enhancing student learning is the most important task we will ever attempt as professors". Angelo (1996) perceived: "I assert that the most meaningful measure of teaching is student learning". But what is student learning? Ormrod (2006) defines learning as "a long-term change in mental representations and associations due to experience".

During instruction, the student should get the possibility to reflect on learning. Reflective learning represents an active process of construction in which memory contents are--mediated by changing and expanding thinking processes:

a) To implement instructional methods without disturbances and to handle successfully critical events

b) A sequence of instruction which allows students and teachers to have enough time for thinking and asking questions;

c) Presenting contents and tasks organized and clearly;

d) Varying instructional methods during different phases of instruction :

e) Focusing instruction consequently on teaching goals.

f) Considering individual differences and learning progresses; and

g) Establishing a good social-emotional climate between students and teachers.

OBJECTIVES:

1. To study instructional effectiveness in the light of NCF.

2. To find out effective criteria of instructional effectiveness.

METHODOLOGY:

The study is based on survey type research. Though only percentage method has been used for taking inference.

National Curriculum Frame work 2009 and new Vision of Instructional Effectiveness:

In addition, the NCF 2005, requires a teacher to be a facilitator of children's learning in a manner that the child is helped to construct her knowledge. It also opens out possibilities for the teacher to participate in the construction of syllabus, textbooks and teaching learning materials. Such roles demand that teachers be equipped with a better understanding of curriculum, subject content and pedagogy on the one hand and community and school structures and management on the other.

There is now public acknowledgement that the current system of schooling imposes a tremendous burden on children and they must be freed from it. The recommendations of the NCF 2005 on school curriculum are built on this plank. Educationists are of the view that the burden arises from treating knowledge as a 'given', an external reality existing outside the learner and embedded in textbooks. Knowledge is essentially a human construct, a continuously evolving process of reflective learning.

Teacher Education and Instructional Effectiveness:

Teacher education, it may be seen, is a reflective undertaking that also issues forth in pedagogical prescriptions for carrying out teaching at the ground level. Being a met activity, it deals in showing how things are done at school and classroom levels, explaining the 'reason why' of things and the basic theory and principles behind classroom practices. These call for skills and understanding of a different kind in addition to the skills required for actual school teaching. The NCF-2005 position paper on teacher education has elaborated this point and has referred to androgogy (principles of adult learning) as the appropriate pedagogy for teacher education. We believe that teacher education should provide appropriate opportunities to the would-be teacher for:

➢ Observing and engaging with children, communicating with and relating to children.

➢ Understanding the self and others (one's beliefs, assumptions, emotions and aspirations); developing the ability for self-analysis, self-evaluation, adaptability, flexibility, creativity and innovation;

➢ Self-learning, reflection, assimilation and articulation of new ideas; developing capacities for self-directed learning and the ability to think, be self-critical and to work collaboratively in groups.

➢ Content enrichment to generate understanding and knowledge, examine disciplinary knowledge and social realities, relate subject matter with the social milieu and develop critical thinking.

➢ Developing professional skills in pedagogy, observation, documentation, analysis and interpretation, drama, craft, story-telling and reflective inquiry.

Engagement with theoretical concepts and frameworks as per reference NCTE FrameWork-2005

It is important to note that an engagement with theoretical concepts and frameworks is necessary or else there is the real danger of reducing all classroom discussions, including project work to revolve merely around personal experiences. In such an event there is little hope to lift the discourse from mere description of experiences to reflective analysis. This must be cautioned against, if we want to develop the student-teachers' capacity to think, analyse, interpret and reflect.

Multiple changes of cognitive, motivational, and emotional characteristics for good instruction consist of a joint usage of several instructional methods with different effects on single characteristics of students. Good instruction not only supports students in thinking and learning, but also motivates them and offers an emotionally sound context. Instruction produces cognitive effects if teaching goals are stated, pre-knowledge is activated, stimulating contents are presented, learning processes are guided, feedback on tasks is given, learning progress is evaluated, and knowledge transfer is guaranteed. Instruction motivates students if attention is aroused, the relevance of the contents is shown, the self-confidence is strengthened, and satisfaction with the results of learning is achieved. In respect to emotion, instruction should decrease negative feelings .and increase positive feelings . Multiple support means that the methods for influencing cognitive, motivational, and emotional processes should be applied in a way that these methods are complementary to each other and do not disturb the effects of the other methods.

A final recent review on instructional effectiveness is the one carried out by the US National Centre for Education Statistics (NCS), NCS, 2002. The focus of this report is a critical review of survey based methods to capture instructional processes. The conclusion is that survey based methods have failed to account sufficiently for the engagement of students with content although they have been successful in assessing the extent to which teachers deliver appropriate content. The report goes on to state bluntly that "measuring student engagement requires observational methods" with assessing teachers' substantive and Pedagogical knowledge as a second methodological option.

The results of these more recent reviews, in the sense of the most important instructional conditions that were referred to, are summarised in the table below. The table includes the main observation categories of a classroom observation schedule that is currently being used in an internationally comparative study of SICI, an international organisation of educational Inspectorates in Europe.

Table: Summary of recent reviews on effective instruction and the observation categories of the Dutch Inspectorate

Teaching (Anderson) enacted curriculum classroom physical environment classroom climate classroom organisation & management actual teaching pre-conditions (lesson planning) communication with students stimulating involvement	**Brophy** opportunity to learn curricular alignment supportive classroom climate achievement expectations cooperative learning goal-oriented assessment coherent content; clear explanations thoughtful discourse establishing learning orientations sufficient opportunities for practice and application scaffolding student's task engagement modeling learning and self-regulation strategies
Dutch inspectorate • learning time • support in climate • challenge in climate • structure in teaching • activating students • teaching learning strategies • attainment/teacher focus on attention • classroom organization	**Baumert et al.** quantity and quality of instruction teacher student relations student student relations

Research and Innovation (NCF-TE-2009):

There is a need to increase research that documents practices reflectively and analytically – whether it is of programs or of individual classrooms – so that it can be included in the body of knowledge available for study to student teachers.

CURRICULUM AND PEDAGOGICAL THEORY

1. Curriculum Studies

Activities and processes in the education and professional development of teachers should help participants to understand that knowledge evolves from experience and is constructed through the active process of exchange of ideas, beliefs and reflection on issues in shared and collaborative contexts.

It is important to engage prospective teachers with the conceptual knowledge they have gained through general education. Most teacher education courses focus exclusively on the methodology of teaching individual school subjects. It is assumed that teacher-trainees have the subject-content knowledge, which they would draw upon when required. Hence, teacher

education curricula do not engage teacher-trainees with subject-content. However, if we want to prepare teachers to present subject-content in developmentally appropriate ways and with critical perspective it is essential that through simple observations and experiments and discussions, several theoretical concepts learnt during general education in school and college be revisited and reconstructed.

2. Pedagogic Studies:

The purpose is to understand school subjects and their pedagogic study in the concrete context of the school and the learner by forging linkages among learner, context, subject discipline and pedagogical approach. The key departure of pedagogical courses from conventional teacher education would involve shifting the focus from pure disciplinary knowledge and methodology to the learner and her context as well. For instance, a course on language pedagogy would promote an understanding of the language characteristics of learners, language usage, socio-cultural aspects of language learning, language as a process and the functional use of language across the curriculum. This would mean moving away from the conventional focus on language as a subject, which emphasizes its grammatical structure rather than usage. To enable student-teachers to draw theoretical insights, they would need to engage with projects involving listening to children's reading, observing and analyzing reading difficulties, observing and identifying mismatches between school language and home language, analyzing textbooks and other materials used in different subjects in terms of presentation, style and language used.

These could be followed by reflective discussion, learning how to make observations, record them and analyse them. Such an approach would help forge linkages between the learner and her context, disciplinary content and the pedagogical approach.

Pedagogical approach of NCTE: Some Alternative Measures:

Currently there appear two major perspectives on enhancing teacher and teaching effectiveness through national policy measures in the curriculum domain.
Ownership paradigm:

The first is the one that Muijs and Reynolds (2001) call the ownership paradigm. According to this paradigm "it was believed that teachers would be more likely to be effective and to develop as professionals if they were involved in actually creating the methods that their schools and classrooms would then reflect "bottom up" approach has also been quite popular for the last 15 years among people working in the field of school improvement in the USA the UK and the Netherlands. It appeals to the philosophy of decentralisation and stimulating school autonomy, and in political systems that are against "state pedagogy" and for curricula that only provide general frames of aims and methods. As Muijs and Reynolds say, the "ownership" paradigm has led to a lack of consistency in teaching approach between teachers, and a lot of "re-inventing the wheel". Contrary to the currently fashionable belief in the before mentioned countries teachers, if given the choice, have been seen to prefer "off the shelf" explicit teaching methods to promote educational effectiveness. The success of the "Success for All" program in the USA also seems to depend partly on the almost "teacher proof" teaching guidelines (Slavin, 1999).

1. **Pro-active centralised approach of curriculum**

This strategy would include a standard based national curriculum in the main subject matter areas. Moreover the strategy would ensure and monitor alignment aspects, in the sense that curricula are operationalised into actual teaching programs, thus enlarging the chances of a good match between the official and the national curriculum. Explicit guidelines for teachers on "how to teach" the contents are part of these programs.

2. **Humanistic approach:**

Approaches which not only consider cognitive characteristics of students as relevant for learning, Motivational and emotional aspects experiences which allow to establish a nation-wide quality assurance system for improving the effectiveness of instruction (e.g., Baumert, Artelt, Klieme, Neubrand, Prenzel, Schiefele, Schneider, Tillmann, & Weiss, 2003): and practical approaches which do not only consist of traditional methods of instruction, but also reflect new developments which assist in facing global educational competition.

3. **Constructivist –approach:**

This approach claims that reality is more in the mind of the knower, but does not go as far as denying external reality altogether (solipsism), however some radical constructivists do come very close to a position of complete denial. The image of student learning that goes with constructivism underlines the active role of the learner. Students are to be confronted with "contextual" real-world environments, or "rich" artificial environments simulated by means of interactive media. Learning is described as self-regulated with lots of opportunity for discovery and students' own interpretation of events. Learning strategies, learning to learn and reflecting on these learning strategies (meta-cognition) are as important as mastering content. Different ways in finding a solution are as important as the actual solution itself. Terms like "active learning" (Cohen, 1988), "situated cognition" (Resnick, 1987) and "cognitive apprenticeship" (Collins et al., 1989) are used to describe student learning.

The other side of the constructivist coin are approaches to teaching and instructional technology that enable students "to construct their own meaningful and conceptually functional representations of the external world" (Duffy and Jonassen, 1992, p. 11). The teacher becomes more of a coach, who assists students in "criss-crossing the landscape of contexts", looking at the concept from a different point of view each time the context is revisited (Spiro et al., 1992, p. 8). Cohen (1988) uses the term "adventurous teaching" for this approach.

Practising Curriculum Framework:

As regards of NCF-2005 teaching of theory we may note that the knowledge component in teacher education is derived from the broader area of the discipline of education as well as foundation disciplines of philosophy, sociology, history and psychology. It needs to be represented so. It is thus multi-disciplinary in nature within the context of education. In other words, conceptual inputs in teacher education need to be articulated in such a manner that they describe and explain educational phenomena – actions, tasks, efforts, processes, concepts, events and so on. In doing so, concepts from various disciplines need to be

integrated for arriving at composite understanding of educational components. The point of significance here is that while formulating knowledge components for teacher education conscious efforts need to be made to represent explanations from the perspective of education as well as of other social science disciplines. Attempts must be made to shift from the usual 'theory to practice' model to understanding theory in order to develop tools and frameworks of thinking and to theorise about field realities.

5E Instructional Model : What the Teacher Does:

Rodger W. Bybee, Joseph A. Taylor,at all (2006)

Stage of the Instructional Model	That Is Consistent with This Model	That Is Inconsistent with This Model
Engagement	➤ Creates interest ➤ Generates curiosity ➤ Raises questions ➤ Elicits responses that uncover what the students know or think about the concept or topic	➤ Explains concepts ➤ Provides definitions and answers ➤ States conclusions ➤ Provides closure ➤ Lectures
Exploration	Encourages the students to work together without direct instruction from the teacher ➤ Observes and listens to the students as they interact ➤ Asks probing questions to redirect the students' investigations when necessary ➤ Provides time for the students to puzzle through problems ➤ Acts as a consultant for students ➤ Creates a "need to know" setting	➤ Provides answers ➤ Tells or explains how to work through the problem ➤ Provides closure ➤ Directly tells the students that they are wrong ➤ Gives information or facts that solve the problem ➤ Leads the students step by step to a solution
Explanation	➤ Encourages the students to explain concepts and definitions in their own words ➤ Asks for justification (evidence) and clarification from students ➤ Formally clarifies definitions, explanations, and new labels when needed ➤ Uses students' previous experiences as the basis for explaining concepts	➤ Accepts explanations that have no justification ➤ Neglects to solicit the students' explanations ➤ Introduces unrelated concepts or skills

	➢ Assesses students' growing understanding	
Elaboration	➢ Expects the students to use formal labels, definitions, and explanations provided previously ➢ Encourages the students to apply or extend the concepts and skills in new situations ➢ Reminds the students of alternate explanations ➢ Refers the students to existing data and evidence and asks, "What do you already know?" "Why do you think?" (Strategies from exploration also apply here.)	➢ Provides definitive answers ➢ Directly tells the students that they are wrong ➢ Lectures ➢ Leads students step by step to a solution ➢ Explains how to work through the problem
Evaluation	➢ Observes the students as they apply new concepts and skills ➢ Assesses students' knowledge and skills ➢ Looks for evidence that the students have changed their thinking or behaviours ➢ Allows students to assess their own learning and group-process skills ➢ Asks open-ended questions such as, "Why do you think …?" "What evidence do you have?" "What do you know about x?" "How would you explain x?"	➢ Tests vocabulary words, terms, and isolated facts ➢ Introduces new ideas or concepts ➢ Creates ambiguity ➢ Promotes open-ended discussion unrelated to the concept or skill

The five phases of the 5E Instructional Model are designed to facilitate the process of conceptual change. The use of this model brings coherence to different teaching strategies, provides connections among educational activities, and helps science teachers make decisions about interactions with students. The 5E model had its origins with the work of others especially the SCIS(Science Curriculum Improvement Study) learning cycle. The research reinforced the effectiveness of the learning cycle:

- All three phases of the model must be included in instruction, and the exploration phase must precede the term introduction phase.

- The specific instructional format may be less important than including all phases of the model, but laboratory work (typical in the exploration phase) is more effective for many students, provided it is followed by discussion.

- Finally, student attitudes toward science instruction are more positive when they are allowed to explore concepts through experimentation or other activities before discussing them.

Effective Criteria for measuring Instructional effectiveness:

Academic Self Concept		
1.Learning Environment and Course Goals and Objectives	**Yes**	**Yes**
Pedagogical Goals :course/session clearly expressed and stated.	**70%**	**30%**
Objectives established for the course/session enable students to achieve the stated goals.	**80%**	**20%**
Classroom environment : is collaborative	**82%**	**18%**
Teacher is well prepared and organized	**75%**	**25%**
all information introduced, including handouts, relate clearly to the course goals and objectives	**85%**	**15%**
2.Teachers characteristics	**Yes**	**No**
Teacher have to rush to cover material by end of class	**60%**	**40%**
Teaching to diverse learning styles	**70%**	**30%**
sufficient and effective use of visual reinforcement: board/ overheads/ slides	**65%**	**35%**
teacher reinforce information given out and the learning process	**75%**	**25%**
teacher encourage the active learning	**85%**	**15%**
3. Presentation Mode	**Yes**	**No**
the teacher engage the class attention	**75%**	**25%**
the style of delivering information (talking too fast/ slowly) appropriate to class objectives	**60%**	**40%**
The teacher ask questions with wait for answers	**65%**	**35%**
the teacher demonstrate respect for the class	**75%**	**25%**
4.Teaching Tools	**Yes**	**No**
use of Blackboard ,Visual aids ,Slides Overheads, Computer technology Auditory aids,	**72%**	**28%**
all information introduced, including handouts, relate clearly to the course goals and objectives	**68%**	**32%**
Reinforcement clearly set out and explained.	**78%**	**22%**

Findings:

In the present mode of output based teaching instructional efficacy is one of the root for getting success with the following elements extracted from the present paper:

1: Instructing based on a design for reflexive learning

2: Multiple supporting of cognitive, motivational, and emotional characteristics

3: Considering the strengths of students

4: Knowledge acquiring and   applying in varying contexts

5: Supporting and evaluating basic knowledge but also   higher-order skills

6: Stimulating argumentation skills

7: Realizing and guiding self regulated learning

8: Increasing the efficiency of learning

9: Arousing and sustaining   interest

10: Increasing positive feelings

11: Decreasing negative feelings

12: Establishing respect and   responsibility

13: Using self-instructional learning materials

14:collaborative practices should be encouraged.

CONCLUSION:

Curriculum Up gradation:

From the point of view of using the knowledge base on educational effectiveness this approach has the advantage that insights on which there is considerable consensus could be implement and made available to a large population of teachers. One important side issue would be the ability to monitor "opportunity to learn", another would be to gear teacher training and in-service training closely to the aims and methods set out in the national curriculum. Opportunity could be monitored because there would be sufficient clarity on the intended curriculum on the one hand, and the "realised curriculum" (i.e. the assessment instruments) on the other to assess the degree to which these are matched by what is actually taught at school. It would be a caricature to see such a curriculum as totally prescriptive. Even when clear guidelines are being provided there is always need for the professional skills of teachers to adapt to the students in the classroom and the students at hand.

A variation of this curriculum centralisation strategy would be a more retroactive interpretation, in which the assessment program would actually steer teaching priorities. In order to preclude non-desirable effects as pure "training for the test" this would put strong demands on the quality of the assessment instruments. These could actually provided by means of item banking techniques and tests that conform to Item Response models.

Focusing on such principles only increases the success of instruction when instructional methods are continuously planned, implemented, evaluated, and adapted based on these principles. To adapt means that instructional methods are calibrated to given characteristics of students, teachers, and subject matters. Such a calibration cannot be delivered by this paper, because it is assumed that the connection between research and practice can only be realized at a general level.

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