SELECTION OF INSTRUCTIONAL METHODS AND TECHNIQUES: THE BASIC CONSIDERATION OF TEACHERS AT SECONDARY SCHOOL LEVEL

By

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ABSTRACT

The main objective of the study was to identify the instructional methods and techniques used by the secondary school teachers to transfer the instructions to the students and to explore the basic considerations of the teachers about the selection of these instructional methods and techniques. Participants of the study included were 442 teachers (155 Science teachers, 287 Arts/Humanities teachers). Data was collected by a self developed five point Likert Scale. Data was analyzed by using SPSS version 15. The findings of the study revealed that the use of Lecture Method and the Question-Answering technique is common among the teachers of both Science and Arts groups. Basic considerations of the teachers of both Science and Arts groups during selecting the instructional methodology for the students included Subject matter, Number of students in class, Environment of the classroom, School policy, Assessment criteria and Grade level of the students.

Keywords: Instructional Methodology, Instructional Techniques, Secondary School Level, Science Group, Arts and Humanities Group.

INTRODUCTION

Traditionally, the term curriculum is simply refer to what students will be taught, where a particular spotlight would be on objectives, content, methodology and explanation of some other related pedagogical arrangements. (Taba 1962; Pinar et. Al.; smith 1996/2000). School provides the students with the opportunity to learn how to experience the things. Teachers and other personnels in the institutions are responsible to select appropriate learning experiences for the students and make their transfer possible. Dewey (1916) explored a criterion for the selection of learning experience for the students. Learning experiences, according to Dewey, should be democratic and human, growth-enhancing and they should take into account an element of inquisitiveness and strengthen inventiveness. Learning experiences should enable an individual to understand and draw meanings of certain phenomena.

Comenius (1896) has considered as the father of modern curriculum principles. He has presented five principles for developing learning opportunities: (i). Preparation to receive new knowledge; (ii). Move from General to Specific; (iii). Move from easy to difficult; (iv).Considering the level of development of the learners; and (v). Considering how the subject matter will be used. Tyler (1949) has presented five basic principles for the development of learning experiences: (i). Appropriate practice; (ii). Satisfaction; (iii). Success; (iv).The use of multiple approaches; and (v). Multiple outcomes. Brady (1985) argued variety, Scope, validity, appropriateness and relevance as means for the selection of teachings/learning methods and activities. McNeil (1985) explored philosophical; psychological and technical pressure groups not only theoretically but also proved them as the set standards or criteria in the process of choosing teaching-learning methods and activities for the students at any level of learning. Wikipedia, the free

encyclopedia (2010), described that students' previous knowledge and information about the particular subject matter; environment of the class rooms and learning objectives can serve as a means for selecting an appropriate teaching/learning method and activity for the students. A teacher needs to consider all these variables consciously while making any decision about the teaching methods. Zais (1976) suggested aims, goals and objectives; foundation pledges; subject matter; and students' experience as appropriate criteria for selecting an instructional method for the students.

Birkel (1973) explored that the lecture method is one of the most commonly used methods by not only the Secondary School teachers but also by the teachers at college level though this method is condemned by a great number of people. Co-operative learning is one of the various forms of group learning. Co-operative learning may be generally explained as any classroom teaching and learning situation, in which learners of all levels work collaboratively in groups to achieve the common goals. According to Johnson & Holubc, (1994), "Cooperative learning is the instructional use of small groups, through which students work together to maximize their own and each others learning." In classrooms where teamwork is experienced, students' practice learning in groups, negotiate, initiate, plan and evaluate. In such a situation, students have healthy competition with every student in the group. Students are given the responsibility of creating a learning community where all students participate in a considerable and significant manner. In co-operative learning, students work together to achieve common goals which they could not achieve individually. Scaffolded instruction is one of the latest concepts in research Vygotsky (1978). This concept is based on the assumption that at the first step of learning, students need a great deal of assistance; gradually students are able to do the job by themselves without any help. If students feel difficulty in attaining autonomy, the teacher again provides them support and helps the students until they are able to achieve independence in a particular job. The scaffolding teaching approach provides individualized support based on the learner's Zone of Proximal Development, ZPD (Chang, Sung, & Chen, 2002). The concept of guidance and help in Scaffolded Instruction is much broader as compared to modeling and teaching of strategies and skills; this is only one part of the scaffolding practice. In a nut-shell, Provision of guidance and help takes place in a variety of ways.

The main objective of the study was to identify the instructional methods and techniques used by the secondary school teachers and to explore the basic considerations of teachers during selecting instructional methodology for their students.

1. Research Methodology

1.1 Population and Sampling

All the teachers at secondary school level in the province of Punjab, Pakistan were considered as the population for study. Sampling was done by going through two phases: in the first phase, total of 64 schools were selected through stratified random sampling technique from the eight divisions in the province of Punjab, Pakistan. Eight schools were selected from each district. In the second phase 442 teachers (155 Science teachers, 287 Arts/humanities teachers). Teaching in those selected 64 schools, were contacted for the purpose of data collection.

1.2 Tool of Research, Validity and Reliability

Five point Likert scale (Strongly Disagreed, Disagreed, Undecided, Agreed, Strongly Agreed) was developed by the researcher to collect the data from the selected sample. Validity of the tool was ensured via expert opinion. Five teachers and three researchers in the field of education were requested to give their valuable suggestions for the improvement of the questionnaire. Modifications were made in the light of their recommendations. Pilot testing was made to check the validity of the tool. The reliability of the research tool was checked with the help of Cronbach's Alpha on SPSS version 15.0. The observed degree of reliability was 0.82. The researcher herself visited the schools to collect data. After collecting the data SPSS sheet was prepared by using the following coding:

1= Strongly Disagree, 2= Disagree, 3= Undecided, 4= Agree and 5= Strongly Agree.

2. Data Analysis

SPSS version 15.0 was used to analyze the data. Data sheet was prepared and analysis was made by applying Mean and Independent Sample T-Test on the data.

In Table 1, the data shows no significant difference between the use of Lecture Method, Discussion Method, Brainstorming techniques, Question-Answering technique, and use of Instructional Technology (black/white boards,) charts etc by the Science and the Arts teachers.

The data shows significant difference between the use of the combination of Lecture and Discussion Method, Demonstration Method, use of the combined studies and group work techniques by the teachers of both the groups, Science and Arts.

In Table 2, the data shows no significant difference between the practice of Science and Arts teachers of taking into account the General goals and objectives of the lesson, before making any decision about the selection of the method and technique to deliver the instructions to the students also no significant difference was observed between the practice of Science and Arts teachers. Teachers of both groups, Science and Arts and give equal weightage to the subject matter while making decision about the instructional methods and techniques for their class.

Statements	Science N= 155		Arts N= 287		t-value	p-value
	Mean	SD	Mean	SD		
Lecture Method	3.65	1.42	3.70	1.42	-0.63	0.534
Lecture with Discussion Method	3.20	1.22	2.30	1.22	2.58	0.014*
Discussion Method	2.40	1.37	2.48	1.36	0.78	0.439
Demonstration Method	3.42	1.20	1.92	1.02	7.05	0.0001***
Brainstorming Techniques	2.03	1.00	2.00	0.78	0.18	0.860
Question-Answering technique	3.54	1.30	3.58	1.40	0.36	0.720
Use of Instructional Technology (black/white boards, charts etc)	3.51	1.27	3.53	1.25	-1.29	0.15
Combined Studies Techniques	2.40	1.13	3.51	1.27	6.84	0.001***
Group work Techniques	2.29	1.23	3.23	1.25	4.23	0.0001***

*p<.05, ***p<.001

Table 1. Instructional methods and techniques used by the Teachers at Secondary School Level

Statements	Science N= 155		Arts N= 287		t-value	p-value
	Mean	SD	Mean	SD		
General Goals and Objects	2.40	1.37	2.48	1.36	0.78	0.439
Subject Mater	3.50	1.24	3.78	1.12	-1.76	0.086
Number of Students in Class	3.36	1.30	3.49	1.31	-0.83	0.411
Environment of the Class	3.58	1.28	3.57	1.27	0.04	0.97
School Policy	3.58	1.48	3.90	0.84	-3.01	0.07
Assessment Criteria	3.62	1.34	3.61	1.31	-1.01	0.31
Grade Level of Students	3.59	0.53	3.51	0.85	-2.08	0.070
Students Previous Knowledge	2.23	1.35	2.11	1.10	1.14	0.261

Table 2. Basic Considerations of Sectioning a Method/ Technique for the Students at Secondary School Level

Data shows no significant difference between the practice of Science and Arts teachers of giving weightage to the number of students in class while making decision about the instructional methods and techniques for their class. There was no significant difference observed between the practice of Science and Arts teachers of taking into account the environment of the class, before making any decision about the selection of the method and technique to deliver the instructions to the students and teachers of both the groups take care of school policy, while deciding the instructional methodology for the students.

No significant difference was observed between the practice of Science and Arts teachers, and the teachers of both the groups take into account the assessment criteria of the students while deciding the instructional methodology for the students. Teachers of both groups (Science and Arts) take into account the Grade Level of Students before making any decision about the selection of the method and technique to deliver the instructions to the students and the teachers of both the groups consider the students' previous knowledge while deciding instructional methodology for the students.

Discussion and Conclusion

The findings of the study showed that the teachers of both groups, Science and Arts use the lecturing as an instructional method at secondary school level. These findings are in line with Birkel (1973). It was concluded that Lecture method has a number of limitations even than it is the most frequently used method in our schools. Some of the researches have highlighted lecture method equally competent and efficient method by any other teaching method such as Baghaei & and Roshan (2003) compared the lecturer method and problem-solving

methods. The findings of the study showed that there is no significant difference between lecture and problem-solving method as far as their effect on students' learning is concerned. Capon (2004) highlighted that lecture method permit to covered more material in a single session.

Both Science and Arts teachers have not used Discussion method and Brainstorming techniques in their classrooms whereas the Arts teachers use Discussion method with the combination of lecture method and science teachers used Demonstration method frequently in their classrooms during instructing the students. Science teacher use Demonstration method to give the concrete experience to the students as discussed by Deneve & Heppner (1997) that the methods providing concrete and solid experiences place an everlasting impact on the minds on the students. Question-answering technique and the use of instructional technology (Black/White Boards, Charts etc) are common among teachers of secondary School level. Combined Study Techniques & Group Work Techniques are most commonly practiced by the teachers of Arts group as compared to the teachers of Science group.

The basic considerations of the teachers of both, Science and Arts group about the selection of instructional methodology for the students includes Subject matter, Number of students in class, Environment of the class, School policy, Assessment criteria and Grade level of the students in general whereas the teachers of both groups take care of General goals and objectives as well as Students' previous knowledge to some extent.

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