



UTILISATION OF INSTRUCTIONAL MEDIA FOR REMEDIAL TEACHING IN SCIENCE AMONG COLLEGE TEACHERS

Education

Dr. V. Ramachandran*

Ph.D Excel College of Education, Pallakkapalayam, Namakkal Dt. *Corresponding Author

Dr.R.Ramesh

Ph.D Associate Professor, Department of Education, Periyar University, Salem-11, Tamil Nadu.

ABSTRACT

Instructional media are device or materials which present a body of instructional input and are largely self-supporting rather than supplementary in teaching-learning process. Remedial instruction involves using individualized teaching of students who are experiencing difficulties in specific subject areas. In this study, the investigator measured teachers' utilisation of instructional media in remedial teaching. To find out the utilisation of instructional media for remedial teaching in science among college teachers. The investigator has adopted the survey method for the study. In the study, the following demographic variables were considered as an independent variable: Gender (Male / Female), Designation (Associate Professor / Assistant Professor) and Type of institutions (Government / Aided / Private). The population considered for the study consists of college teachers working in the science departments (Physical Science, Bioscience, Mathematics and Computer Science) of arts and science colleges which are affiliated to Periyar University, Salem, Tamil Nadu, India. The sample of the study 591 college teachers were selected as a sample for this study from 48 arts and science colleges located in the Periyar University jurisdiction. The simple random sampling technique was adopted for data collection. In this present study, the investigator developed and standardized the tool combine personal proforma and questionnaire on utilisation of instructional media for remedial teaching in science (UIMRTS). The reliability value was found to remedial teaching in science was 0.80. The data collected from the sample were analyzed by using appropriate statistical technique. The investigator used test of significance viz., independent sample t-test and one-way ANOVA to analyze the data and summarize the results. The findings of the study were concluded that the variables like gender and designation are there is no significant difference in utilisation of instructional media for remedial teaching in science. Whereas the variable type of institution was there is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers.

KEYWORDS

INTRODUCTION

Instructional media are device or materials which present a body of instructional input and are largely self-supporting rather than supplementary in teaching-learning process. Instructional media are things which are intended to help the teacher to teach more effectively and enable the students to learn more readily. Instructional media are effective information carriers designed specifically to fulfil the objectives in a teaching-learning situation. Hence, the present study focuses on the extent of using instructional media for teaching science subjects.

It is an additional teaching to slow learners. Remedial instruction involves using individualized teaching of students who are experiencing difficulties in specific subject areas. In this study, the investigator measured teachers' utilisation of instructional media in remedial teaching. The ultimate aim of remedial teaching is to help pupils who have fallen behind to learn to the best of their ability and to bring them back into the mainstream classes as far as possible. It is essential for a remedial teacher to understand thoroughly the strengths and weaknesses of their pupils so that appropriate teaching approaches based on the instructional media can be adopted to meet their individual needs. Although these pupils are low academic achievers, they are not necessarily limited in abilities or that their attainment will remain permanently low. With proper remedial help, the use of stimulating teaching strategies, and closer supervision and more individual attention, these pupils' interest in learning will be aroused and they would make better progress.

OBJECTIVES

1. To find out the utilisation of instructional media for remedial teaching in science among college teachers.
2. To find out the significance difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender, designation and type of institutions.

HYPOTHESES

1. The college teachers have high utilization of instructional media for remedial teaching in science.
2. There is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender.
3. There will be a significant mean score difference in utilisation of

instructional media for remedial teaching in science among college teachers with respect to designation.

4. There will be a significant mean score difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of institution.

RESEARCH DESIGN

This research design encourages the process of strategic thinking and reflection (Mason, 2002) from the start and continues throughout the whole research process which calls for constant review of decision and approaches (Retchie and Lewis, 2003).

The investigator has adopted the survey method for the study. Considering the objectives and hypotheses of the present study the investigator adopted the normative survey research method.

Variables are two types in the study; an independent variable is a hypothesized cause or influence on a dependent variable. In the study, the following demographic variables were considered as an independent variables such as gender (Male / Female), designation (Associate Professor / Assistant Professor) and type of institutions (Government / Aided / Private).

The dependent variable is what we measure in the experiment and what is affected during the experiment. The dependent variable responds to the independent variable. In the study the dependent variable was considered as Utilisation of Instructional Media for remedial teaching in science.

The population considered for the study consists of college teachers working in the science departments (Physical Science, Bioscience, Mathematics and Computer Science) of arts and science colleges which is affiliated to Periyar University, Salem, Tamil Nadu, India.

The sample of the study was 591 college teachers were selected as a sample for this study from 48 arts and science colleges located in the Periyar University jurisdiction. The simple random sampling technique was adopted for data collection.

In this present study, the investigator developed and standardized the tool consists of personal proforma and questionnaire on utilisation of instructional media for remedial teaching in science (UIMRTS).

The reliability of the questionnaire on utilisation instructional media for remedial teaching in science is arrived by using split half method. The reliability value was found to remedial teaching in science was 0.80.

The collected data were arranged properly and completed response sheets questionnaires were tabulated. The data collected from the sample were analyzed by using appropriate statistical technique. The investigator used test of significance viz., independent sample t-test and one-way ANOVA to analyze the data and summarize the results. Prior to this, frequency of distribution was employed to group the variable. The SPSS was used to analyze the data.

TESTING OF HYPOTHESES

Hypotheses 1: The college teachers have high utilization of instructional media for remedial teaching in science.

Table: 1

Number and percentage of utilisation of instructional media for remedial teaching in science among college teachers

Sl. No.	Instructional media	Always (%)		Sometimes (%)		Never (%)	
		N	%	N	%	N	%
01	Boards	572	96.8	12	2.0	7	1.2
02	Laboratory Materials	292	49.4	215	36.4	84	14.2
03	Projected aids	421	71.2	131	22.2	39	6.6
04	Radio/TV	104	17.6	113	53.0	174	29.4
05	Computerised Instructional Packages	199	33.6	332	56.2	60	10.2
06	Web Pages	168	28.4	303	51.3	120	20.3
	Average		50.4		37.87		11.67

The above table 1 presents number and percentage of utilisation of instructional media for remedial teaching in science among college teachers. According to the table revealed that the 50.4% of selected teachers are opted always, 37.87% of them are opted sometimes and 11.67% of them are opted never. Finally it is concluded that 50.4% of the teachers are always using instructional media for remedial teaching. In the remaining 49.54% only 11.67% of them never used instructional media for remedial teaching in science.

Hypothesis 2: There is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender.

Table No. : 2

Significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender

Instructional Media	Gender	N	Mean	SD	Df	T value	P Value
Boards	Male	302	2.95	.259	589	0.55	0.583
	Female	289	2.96	.254	589		
Laboratory Materials	Male	302	2.33	.694	589	0.721	0.471
	Female	289	2.37	.740	589		
Projected aids	Male	302	2.64	.620	589	0.302	0.763
	Female	289	2.65	.582	589		
Radio / TV	Male	302	1.89	.668	589	0.215	0.83
	Female	289	1.88	.686	589		
Computerised Instructional Packages	Male	302	2.21	.620	589	1.067	0.286
	Female	289	2.26	.618	589		
Web Pages	Male	302	2.08	.697	589	0.063	0.95
	Female	289	2.08	.692	589		

***Significant at 0.05 level**

The table 2 reveals that the mean score difference in utilisation of instructional media in teaching science among college teachers for remedial teaching with respect to gender. According to the table, the calculated 't' value is not statistically significant at 0.05 level in all instructional media including total. Hence the hypothesis 2 was rejected and it can be concluded that there is no significant mean difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender.

Hypothesis 3: There is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to designation.

Table: 3

Significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to designation

Instructional Media	Designation	N	Mean	SD	df	t-value	p-value
Boards	Asso. Prof	153	2.93	.318	589	1.031	0.304
	Asst. Prof	438	2.96	.231			
Laboratory Materials	Asso. Prof	153	2.33	.669	589	0.39	0.697
	Asst. Prof	438	2.36	.733			
Projected aids	Asso. Prof	153	2.56	.687	589	1.984*	0.049
	Asst. Prof	438	2.68	.565			
Radio / TV	Asso. Prof	153	1.80	.672	589	1.796	0.74
	Asst. Prof	438	1.91	.676			
Computerised Instructional Packages	Asso. Prof	153	2.22	.678	589	0.426	0.671
	Asst. Prof	438	2.24	.598			
Web Pages	Asso. Prof	153	2.15	.732	589	1.381	0.169
	Asst. Prof	438	2.06	.679			

***Significant at 0.05 level**

The table 4 reveals that the mean score difference in utilisation of instructional media in teaching science among college teachers for remedial teaching with respect to designation. According to the table, except the Projected aids, the calculated 't' value is not statistically significant at 0.05 level in other instructional media including total. Hence the hypothesis 4 is rejected and it can be concluded that there is no significant mean difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to designation.

Hypothesis 4: There is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of institution

Table: 4

Significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of institution

Instructional Media	Type of Institution	N	Mean	SD
Boards	Government	258	2.94	.331
	Aided	68	2.90	.306
	Private	265	2.98	.122
Laboratory Materials	Government	258	2.22	.485
	Aided	68	2.56	.678
	Private	265	2.43	.876
Projected aids	Government	258	2.46	.672
	Aided	68	2.49	.782
	Private	265	2.87	.350
Radio / TV	Government	258	1.81	.564
	Aided	68	1.78	.770
	Private	265	1.98	.738
Computerised Instructional Packages	Government	258	2.27	.663
	Aided	68	2.50	.680
	Private	265	2.13	.531
Web Pages	Government	258	2.19	.767
	Aided	68	2.50	.743
	Private	265	1.87	.514

The table 4 shows mean and standard deviation in utilisation of instructional media for remedial teaching in science among college teachers based on type of institution. As per the table, there are three groups in type of institution like government, government aided and private. Each group differs from each others in terms of its number, mean and standard deviation. The following table gives the significant difference of the same.

Table: 5

Mean score difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of institution

Instructional Media	Groups	Sum of Squares	df	Mean Square	F value	p-value
Boards	Between Groups	.509	2	.255	3.904	.021
	Within Groups	38.347	588	.065	*	

Laboratory Materials	Between Groups	8.808	2	4.404	8.809	.000
	Within Groups	293.987	588	.500	*	
Projected aids	Between Groups	23.615	2	11.807	36.64	.000
	Within Groups	189.475	588	.322	2*	
Radio / TV	Between Groups	4.460	2	2.230	4.943	.007
	Within Groups	265.249	588	.451		
Computerised Instructional Packages	Between Groups	7.923	2	3.961	10.66	.000
	Within Groups	218.385	588	.371	6*	
Web Pages	Between Groups	26.394	2	13.197	30.111	.000
	Within Groups	257.708	588	.438	*	

*Significant at 0.05 level

Table-5 shows that the mean score difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of institution, According to the table, the calculated F-value for reports, periodicals, different types of board, laboratory materials, Projected aids, Radio/TV, computerised instructional packages and web pages including Instructional Media (Total) is statistically significant at 0.05 level. So the hypothesis: 4 is accepted. Further, the variable department does influence on utilisation of instructional media for remedial teaching in science among college teachers.

FINDINGS OF THE STUDY

The following findings are existed the utilisation of instructional media in teaching science among college teachers:

- 88.27% of college teachers in science are utilized the instructional media for remedial teaching in science discipline.
- There is no significant difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to gender.
- There is no significant mean score difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to designation.
- There is a significant mean score difference in utilisation of instructional media for remedial teaching in science among college teachers with respect to type of Institution.

Summary

Based on the findings of the study, finally it is concluded that 50.4% of the teachers are always using instructional media for remedial teaching. In the remaining 49.54% only 11.67% of them never used instructional media for remedial teaching in science. From the analysis concluded that the variables like gender and designation are there is no significant difference in utilisation of instructional media for remedial teaching in science. Whereas the variable type of institution was there is a significant difference in utilisation of instructional media for remedial teaching in science among college teachers.

REFERENCES

1. Abdel Raheem, A. Y. & Al-Rabane, A. H. (2005). Utilisation and Benefits of Instructional Media in Teaching Social Studies Courses as Perceived by Omani Students. *Malaysian Online Journal of Instructional Technology*, 2 (1), 1.
2. Abraham, O. (2012). Teaching English as a global language in smart classrooms with power point presentation. *English language teaching*, 5(12), 54-60.
3. Akram, S., Malik, S. & Malik, K. (2012). Use of audio visual aids for effective teaching of biology at secondary schools level. *Leadership management*, 50, 10597-10605.
4. Amare, N. (2006). To slide ware or not to slide-ware: Students' experienced with power point vs. lecture. *Journal of Teaching Writing and Communication*, Retrieved from doi: 10.2190/03GX-FIHW-VW5M-7DAR 36(3), 297-308.
5. Ashley Kannan (2012). "What are the challenges faced by teachers in teaching science in schools?" *eNotes*. Retrieved from <https://www.enotes.com/teacher-help/what-challenges-faced-by-both-pupils-learning-348952>.
6. BadriYadav, & Shri Krishna Mishra (2013). The study of the impact of the laboratory approach on achievement and process skill in science among standard students. *International journal of scientific and research publications*, 3(1), 1-6.
7. Carlos Orús, Maria Jose Barles, Daniel Belanche, Luis Casalo. (2016). The effects of learner-generated videos for YouTube on learning outcomes and satisfaction. *Computers & Education*, 95, 254-269.
8. Helenjoy, H.B. (2007). Usage of internet: practices and attitudes of teacher trainees. *Journal of Educational Research & Extension*, 44(1), 101-108.
9. Ngure Grace & Nancy Njoki, (2014). Utilization of instructional media for quality training in pre-primary school teacher training colleges in nairobi county, kenya, a Doctoral dissertation: submitted for studies in the school kenyatta university. Retrieved from www.ir-library.ku.ac.ke/.../Utilization%20of%20Instructional%20Media%20for%20Quality.
10. Singh, H. & Mishra, H.P. (2009). Effectiveness of e-learning: an experimental study. *University news*, 47(27), 20-21.
11. Stefania Manca & Maria Ranieri, (2016). Facebook and the others. potentials and obstacles of social media for teaching in higher education. *Computers & Education* 95, 216-230.