

EFFECTIVENESS OF JURISPRUDENTIAL INQUIRY MODEL ON THE RETENTION OF LEARNING AMONG URBAN SECONDARY SCHOOL STUDENTS IN GEOGRAPHY SUBJECT

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Abstract

The present study is focused on comparison of achievement and retention of learning among secondary school students. The achievement test was administered to sample and after a time gap of 15 days retention test was administered. Achievement test itself used as a retention test. After experiment and data analysis it was observed that Retention is not uniform across all variables. Less Retention observed in terms the variables Knowledge, and Objective type questions. Retention was observed more in terms of Test Total scores, and among the variables Comprehension, Skill and Short Answer questions.

Keywords: *Achievement, Jurisprudential Inquiry Model, Retention of Learning*



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1. Introduction:

Learning is an essential, continuous and never ending activity in human life. Adolescence is an important phase in human development. Adolescence is often described as a period of storms and stresses. This stage is characterized by abstract concept formation, increased ability to deal with ideas, development of reasoning power (Dandekar, 2007). In the adolescent stage, not only memory develops but also retention power increases and students can retain any learnt material for a longer period of time. Up to age of 15 the memory of the adolescent is highly developed and they are interested in social situations (Sindhu,2013)

Our democracy facilitates sufficient scope for social dialogue to resolve issues. Models of teaching in social family are quite useful to inculcate democratic values among citizens.

2. Need and Importance of the Study:

Jurisprudential Inquiry Model of Teaching is an important model under social family. This model is based on a conception of society in which people differ in their views and priorities and in which social values legitimately conflict with one another. The process of classifying and resolving issues involves clarifying definitions, establishing facts and

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identifying values important to each issue. So Jurisprudential Inquiry Model of Teaching is useful to inculcate democratic and other values among students. (Joyce B, & Weil M.,1997)

‘Child- centered’ pedagogy means giving primacy to children’s experiences, their voices, and their active participation. This kind of pedagogy requires us to plan learning in keeping with children’s psychological development and interests. The learning plans therefore must respond to physical, cultural and social preferences within the wide diversity of characteristics and needs. Our school pedagogic practices, learning tasks, and the texts we create for learners tend to focus on the socialization of children and on the ‘receptive’ features of children’s learning. Instead, we need to nurture and build on their active and creative capabilities—their inherent interest in making meaning, in relating to the world in ‘real’ ways through acting on it and creating, and in relating to other humans. Learning is active and social in its character. (NCF, 2005)

3. Statement of the Problem:

Study the effectiveness of a programme based on Jurisprudential Inquiry Model on the Retention of learning among Secondary School Students in the Geography Subject.

4. Operational Definitions of the Key terms:

Achievement:It refers to the scores obtained by the Std IX students on the achievement test.

Jurisprudential Inquiry Model: A model of teaching developed by Donald Oliver and James Shaver. In the present research, Jurisprudential Inquiry Model refers to teaching of public policy issues indicated from Std. IX Geography text book using following six phases- i) Orientation to the case ii) Identifying the issue iii) Taking positions iv) Exploring the stances / patterns of argumentation v) Refining and qualifying the position vi) Teaching factual assumptions behind qualified positions

Retention of Learning: The ability to retain the specified content in Std IX Geography subject.

5. Review of the related literature:

Vinita & Banswal (2015) examined the role of CAI in maintaining learning retention of the VIII grade students. The results shows that in the computer assisted instructions the students retained the concepts for a long period of time as compared to the traditional lecture method.

Elagovan and Ismail (2014) studied the effectiveness of realistic simulation and non-realistic simulation on Form Four Biology students’ achievement before and after the

teaching and learning process and their memory retention for Cell Division topic. The results show that the realistic simulation enhanced students understanding and their memory retention.

Uygun&Teremiz (2014) studied the effects of Problem-Based Learning on Student Attitudes, Achievement and Retention of Learning in Math Course. The results show that significant differences in favor of the experimental group were found in the achievement and retention levels of the two groups.

Kim Ritter and Koubeck (2010) described a theory of how task knowledge is learned and forgotten that consists of three stages. Researchers concluded that skill retention is related to the progression through the three stages of learning.

6. Scope, Delimitations and Limitations of the study:

Scope: The present study focuses on the use of program based on Jurisprudential Inquiry Model of Teaching as an effective teaching strategy for Standard IX Marathi medium students in the subject Geography. Concerned with the Marathi medium schools in Pune district including Pune city affiliated to SSC Board Maharashtra state.

Delimitations: The study is limited to the one secondary co-education Marathi medium school affiliated to SSC Board of Maharashtra state.

Limitations: The fatigue, past experiences, mood, motivation levels of the secondary school students which may affect their responses are beyond the control of the researcher.

7. Population and Sample:

- **Population:** All students of Standard IX in secondary co - education Marathi Medium schools affiliated to SSC Board of Maharashtra state.
- **Sample:** 103 students of Std IX in AbhinavVidyalaya High School (Marathi Medium) Pune was the sample.

8. Research Methodology:

- **Research Design:** Post Test only Equivalent Group Design used for the research.
- **Research Tool:** A researcher made Achievement Test was the research tool. Researcher adopted following procedure to finalize research tool.

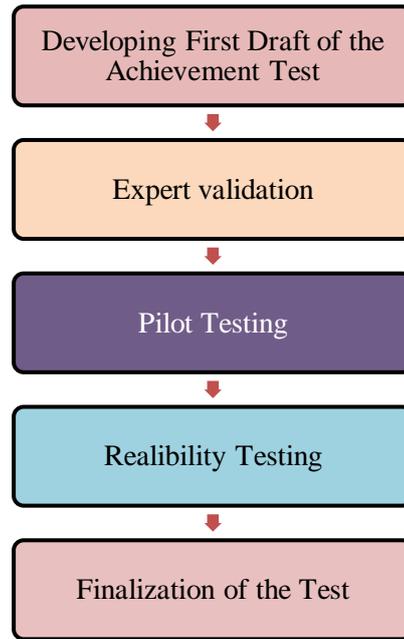


Figure 1
Steps of Test Development

Achievement test consisted of four broad questions carrying total twenty marks. Each broad question is related to specific learning objective viz Knowledge, Comprehension, Application & Skill. Two types of questions were included in the questionnaire viz. Objective Type questions and Short Answer Questions. There were total 8 objective type questions and 6 short answer questions. Achievement Test itself used as a Retention Test.

- **Steps followed in the research:**

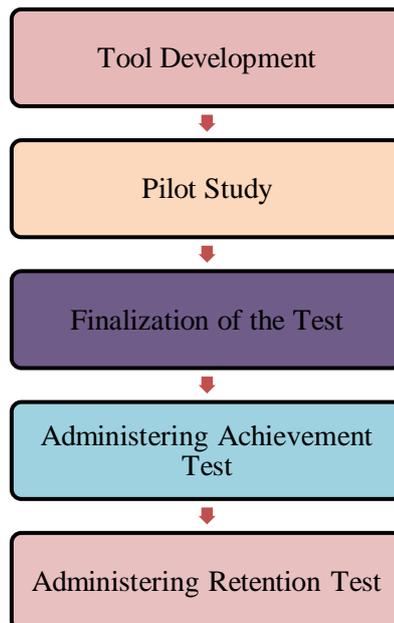


Figure 2

Steps of the Research

After development of Research Tool i.e. Achievement Test, researcher conducted Pilot study. Considering the results of the pilot study, the tool was finalized. An achievement test was administered on the Std IX students of the Abhinav Vidyalaya High School Marathi Medium, Karve Road Pune. After a gap of 15 days same achievement test was administered and it was considered as a retention test.

9. Data Analysis:

In the present study dependent variable i.e. achievement scores of the experimental and the control group had been classified into two dependent variables – learning objectives and types of questions. Thus MANOVA was used for the analysis of the achievement scores of the sub categories of the dependent variable.

Table 1 MANOVA for the group comparison on Achievement Test among Urban Experimental and Control group (N= 103)

Variables	Urban				F	η^2
	Control Group		Experimental Group			
	M	SD	M	SD		
Achievement Test Total	11.05	2.48	15.84	1.77	118.79	.54
Knowledge	1.35	.57	2.33	.47	96.52	.49
Comprehension	2.57	1.34	4.28	.76	59.53	.37
Application	3.46	1.17	5.03	.95	56.67	.36
Skill	3.66	.73	4.20	.59	12.80	.11
SA	5.97	1.85	9.31	1.26	109.43	.52
Obj	5.03	1.03	6.53	.88	62.21	.38

Observations:

Table 1 shows the descriptive statistics and MANOVA for the analysis of the performance in Achievement Test of both experimental and Control groups in urban school. A multiple univariate F test was carried out to find out if there was a significant difference in the scores obtained by the experimental and control group. The F values are significant.

The partial η^2 was computed to find out the effect size. From the table 1 it is observed that the effect size is large across types of questions and types of learning objectives. The partial η^2 for the total achievement is η^2 .54.

Interpretation:

The MANOVA results showed that there were statistically significant differences between the achievement test scores of both Experimental and Control group. All the F values are significant and more than $P < 0.01$. Hence the Null Hypothesis is rejected and there was statistically significant difference between the achievement of the Experimental

and Control group. The difference is significant at various levels, where the items in the questionnaire has been categorized into question types, learning objectives. The partial eta square value for the total score in achievement test also indicates a large effect of the intervention program on the achievement of the experimental group as compared with the control group. Hence the program based on J.I.M. of Teaching is effective for teaching public policy issues to Std IX.

Table 2 MANOVA for the group comparison on Retention Test among Urban Experimental and Control group (N= 103)

Variables	Urban					
	Control Group		Experimental Group		F	η^2
	M	SD	M	SD		
Retention Test Total	12.29	2.07	16.55	1.24	171.88**	.60
Knowledge	1.88	.50	2.58	.49	56.15**	.33
Comprehension	2.85	.96	4.45	.54	115.34**	.51
Application	3.68	1.00	5.09	.77	69.29**	.38
Skill	3.88	.67	4.42	.49	23.01**	.17
SA	6.53	1.47	9.55	.99	159.53	.59
Obj	5.76	.88	7.0	.74	64.71	.36

Observations:

Table 2 shows the descriptive statistics and MANOVA for the analysis of the performance in Retention Test of both experimental and Control groups in urban school. A multiple univariate F test was carried out to find out if there was a significant difference in the scores obtained by the experimental and control group. The F values are significant.

The partial η^2 was computed to find out the effect size. From the table 2 it is observed that the effect size is large across types of questions and types of learning objectives. The partial η^2 for the total retention t is $\eta^2 .60$.

Interpretation:

The MANOVA results showed that there were statistically significant differences between the achievement test scores of both Experimental and Control group. All the F values are significant and more than $P < 0.01$. Hence the Null Hypothesis is rejected and there was statistically significant difference between the Retention of the Experimental and Control group. The difference is significant at various levels, where the items in the questionnaire has been categorized into question types, learning objectives. The partial eta square value for the total score in Retention test also indicates a large effect of the intervention program on the achievement of the experimental group as compared with the control group. Hence the program based on J.I.M. of Teaching is effective for teaching public policy issues to Std IX.

Table 3 Comparison of Effect Size in Achievement Test and Retention Test

Variables	Achievement Test		Retention Test	
	F	η^2	F	η^2
Test Total	118.79	.54	171.88**	.60
Knowledge	96.52	.49	56.15**	.33
Comprehension	59.53	.37	115.34**	.51
Application	56.67	.36	69.29**	.38
Skill	12.80	.11	23.01**	.17
SA	109.43	.52	159.53	.59
Obj	62.21	.38	64.71	.36

Observation:

In comparison to the scores attained in the achievement test, the retention scores is observed more in terms of Test Total scores, and among the variables Comprehension, Skill and Short Answer questions.

Less Retention observed in terms the variables Knowledge, and Objective type questions.

References:

- Dihoff R E & Brosvic G M , *The Role of Feedback During Academic Testing: The Delay Retention Effect*
Revisited <http://www.epsteineducation.com/home/articles/file/research/RoleFeedback.pdf>
accessed on 4th April 2018.
- Elangovan T & Ismail Z (2014) *The effects of 3D computer simulation on biology students' achievement and memory retention*, *Asia-Pacific Forum on Science Learning and Teaching*, Vol 15, Issue 2 https://www.eduhk.hk/apfslt/v15_issue2/elangovan/page2.htm#two
accessed on 4th April 2018.
- Haynie W J (2007), *Effects of Test Taking on Retention Learning in Technology Education: A Meta-Analysis*, *Journal of Technology Education*, Vol. 18 No. 2 pp – 24-36. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.145.2709&rep=rep1&type=pdf>
accessed on 4th April 2018.
- Joyce B, Weil M, Calhoun E (2009) *Models of Teaching*, PHI Learning Pvt Ltd, New Delhi.
- Kim J W, Ritter F E, & Koubek R (2011) *An integrated theory for improved skill acquisition and retention in the three stages of learning*, *Theoretical Issues in Ergonomics Science*, Vol 14 Issue 1
- Sindhu I S (2013) *Educational Psychology*, Pearson, New Delhi.
- Vinita & Banswal S. (2015) *The retention effect of computer assisted instruction (CAI) on student's achievement for teaching the chemistry topics of class VIII students* *International Journal of Scientific and Research Publications* Vol 5 Issue 1 pp 485-488. <http://www.ijsrp.org/research-paper-1115/ijsrp-p4774.pdf> accessed on 4th April 2018.
- Uygun N & Tertemiz N I (2014) *Effects of Problem-Based Learning on Student Attitudes, Achievement and Retention of Learning in Math Course*, *Education and Science*, Vol 39 Issue 174 pp 75-90 file:///C:/Users/PRASAD/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8b-bwe/TempState/Downloads/1975-29034-4-PB.pdf accessed on 4th April 2018.