

A STUDY ON STUDY SKILLS AND CONTENT PEDAGOGICAL KNOWLEDGE OF B.Ed. BIOLOGICAL SCIENCE STUDENTS

A. Arunachalam & Dr. C. Ramesh ***

*Ph.D. Scholar (Reg. No. 11664), **Associate Professor of Education & Director i/c, DD & CE,
Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu.

ABSTRACT

This article focuses its attention on the study skills and content pedagogical knowledge of B.Ed. Biological Science Students. For this, the investigator adopted survey method of research. The population comprises of all the B.Ed. biological science students studying in the colleges of education in Tirunelveli, Thoothukudi and Kanyakumari districts. From the population, the investigator randomly selected 619 students using simple random sampling technique. Self-constructed Study Skills Inventory and Self-constructed Content Pedagogical Knowledge Scale were used as the tools of the study. Mean, Standard Deviation, 't' test and Product Moment Correlation were used to analyze the data. The findings revealed that significant relationship is found between study skills and content pedagogical knowledge of B.Ed. biological science students.

Keywords: Study Skills, Content Pedagogical Knowledge, Biological Science Students.

INTRODUCTION

Education plays a vital role in the determination of the career of every individual. Since the destiny of a nation is being shaped in the classroom, the teacher holds the entire responsibility by instilling certain skills and required mastery over the subject knowledge in the minds of the younger generation through making the classroom learning more meaningful one.

Among all the skills, the study skills have been played an important role in the determination of academic performance of the students. The study skills are helpful for the learner to learn the concept efficiently. Generally, The study skills of a learner revealed the innate capabilities of the learner not only in the classroom but also in their overall academic excellence.

Moreover, the teacher has to know the subject matter in an elaborate manner and he or she has able to know how to teach those content in an efficient way to the best of understanding of the learner. Despite a teacher's deep understanding of a subject area he or she must also be able to foster understanding of subject or concepts for students.

STUDY SKILLS

Any skill that increases a student's ability to learn, keeps and restores information, which helps to pass the examination, can be termed as a 'Study Skill'. In other words, study skills are the skills, which are required to enable the learners to learn efficiently (Bremer,

Rod, 2016). These skills are an important set of transferable life skills. Study skills include time management and motivational methods. They are individual skills that can be learnt in a shorter period of interval. They can be differentiated from various other skills, and from intrinsic abilities like intelligence level and learning style of the students.

These skills are series of skills, which tackle the process of organizing and taking in new information, retaining the same information or dealing with measurement of the same information. They include mnemonics that helps the retention of series of information; effective reading of those information; concentration techniques and note taking (Bruner, J., 1974).

Regarding the students' point of view, study skills are inevitable that is, without good study skills, the students cannot be able to learn the subject matter which in turn, they are not able to perform well in their examinations. Hence, it is more and more important to analyse the factor - study skills of the chosen sample.

CONTENT PEDAGOGICAL KNOWLEDGE

Content Pedagogical Knowledge is the overlap of information about subject knowledge being taught, and pedagogic knowledge, that is knowledge of how to teach. Despite a teacher's deep understanding of a subject area he or she must also be able to foster understanding of subject or concepts for students.

Shulman (1987) identified “content pedagogical knowledge” as the most useful forms of representation of the ideas of the teacher that is conveyed to the taught with the most powerful analogies, illustrations, examples, explanations, and demonstrations, the ways of representing the subject that make it comprehensible to others. It also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning. (Joyce, B. and Weil, M. 2000)

Content pedagogical knowledge also includes conceptual and procedural knowledge, a repertoire of varied techniques or activities (which meet different learning styles) knowledge of techniques for assessing and evaluating, and knowledge of a variety of resources, which can be easily accessed for use in the classroom (Farah J. Farooqi, 2006). Hence, the future teachers should be capable of having this to enrich their competency to teach the subject matter in an efficient manner.

NEED AND SIGNIFICANCE OF THE STUDY

The quality of teacher education depends upon the quality, efficiency and competency of teacher educators. The teachers should be expertized in certain skills like controlling their self, thinking capacity, problem solving and the like. The future teachers should be highly motivated to learn new concepts and techniques, and acquire various skills in order to improve their proficiency in teaching that are helpful to the nation building process.

All the school going children require certain skills and have to practise them to successfully develop their knowledge database. These skills play a vital role in deciding their levels of achievement, which may decide their career. The ambitions and aspirations of the

students are largely governed by their skills. Moreover, above all the skills, the student teachers should be capable of handling different students with different capabilities under different critical situations. With the broad spectrum of cognitive characteristics, there may be strengths and weaknesses, which influence their study skills and their pedagogical content pedagogical knowledge of student teachers. Hence, the investigator would like to take up this study.

TITLE OF THE STUDY

A STUDY ON STUDY SKILLS AND CONTENT PEDAGOGICAL KNOWLEDGE OF B.Ed. BIOLOGICAL SCIENCE STUDENTS

DEFINITION OF THE KEY TERMS

Study Skills

Study skills refer to one's ability or competence to learn and master the subjects. By this term, the investigator means study methods employed in general, in the classroom, in doing homework, in preparing for the examination and overcoming the obstacles of effective study.

Content Pedagogical Knowledge

Content pedagogical knowledge refers to a type of knowledge that is unique to teachers, and is based on the manner in which the teachers relate their pedagogical knowledge (what they know about teaching) to their subject knowledge (what they know about what they teach).

B.Ed. Biological Science Students

By 'B.Ed. Biological Science Students', the investigator means the student teachers studying two years B.Ed. degree course having the optional subject - biological science.

OBJECTIVES

1. To find the level of study skills and content pedagogical knowledge of B.Ed. biological science students.
2. To find the significant difference in the study skills of B.Ed. biological science students with regard to certain background variables - gender, family type and locality of residence.
3. To find the significant difference in the content pedagogical knowledge of B.Ed. biological science students with regard to certain background variables - gender, family type and locality of residence.
4. To find the significant relationship between study skills of B.Ed. Biological Science Students and their content pedagogical knowledge.

METHOD AND PROCEDURE

The investigator adopted survey method. The population comprises of all the B.Ed. biological science students studying in the colleges of education in Tirunelveli, Thoothukudi

and Kanyakumari districts. From the population, the investigator randomly selected 619 students using simple random sampling technique. Self-constructed Study Skills Inventory and Self-constructed Content Pedagogical Knowledge Scale were used as the tools of the study. Mean, Standard Deviation, 't' test and Product Moment Correlation were used to analyze the data.

ANALYSIS AND FINDINGS

Percentage Analysis

Level of Study Skills and Content Pedagogical Knowledge of B.Ed. Biological Science Students.

Table - 1 : Level of Study Skills and Content Pedagogical Knowledge of B.Ed. Biological Science Students

Dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Study Method	31	5.00	486	78.50	102	16.50
Classroom Skills	50	8.10	452	73.00	117	18.90
Home work	60	9.70	336	54.30	223	36.00
Examination	41	6.60	425	68.70	153	24.70
Obstacles to Effective Study	78	12.60	435	70.30	106	17.10
Study Skills in Total	36	5.80	486	78.50	97	15.70
Content Pedagogical Knowledge	118	19.10	387	62.50	114	18.40

From the above table, it is inferred that 5.80% of the B.Ed. Biological Science Students have low, 78.50% of them have moderate and 15.70% of them have high level study skills in total. 5.00% of them have low, 78.50% of them have moderate and 16.50% of them have high level study method. 8.10% of them have low, 73.00% of them have moderate and 18.90% of them have high level classroom skills. 8.10% of them have low, 73.00% of them have moderate and 18.90% of them have high level home work skills. 6.60% of them have low, 68.70% of them have moderate and 24.70% of them have high level examination skills. 12.60% of them have low, 70.30% of them have moderate and 17.10% of them have high level obstacles to effective study.

It is also inferred that 19.10% of the students have low, 62.50% of them have moderate and 18.40% of them have high level content pedagogical knowledge.

Null Hypothesis - 1

There is no significant difference in the Study Skills of B.Ed. Biological Science Students with respect to gender.

Table - 2 : Difference in the Study Skills of B.Ed. Biological Science Students with respect to Gender

Dimensions	Gender	N	Mean	SD	Calculated 't' value	Remark
Study Method	Male	44	51.80	4.840	1.133	NS
	Female	575	52.65	4.814		

Dimensions	Gender	N	Mean	SD	Calculated 't' value	Remark
Classroom Skills	Male	44	6.55	.975	0.198	NS
	Female	575	6.57	.915		
Home work	Male	44	5.09	.709	1.669	NS
	Female	575	5.26	.654		
Examination	Male	44	12.89	1.482	1.367	NS
	Female	575	13.24	1.657		
Obstacles to Effective Study	Male	44	7.45	1.405	0.294	NS
	Female	575	7.53	1.546		
Study Skills in Total	Male	44	83.77	7.976	1.194	NS
	Female	575	85.25	7.897		

(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table, that the calculated 't' values are less than the table value at 5% level of significance. Hence, the null hypothesis is accepted in the case of study skills in total and in all the dimensions. Therefore, it is concluded that there is no significant difference between the male and female students in their study skills in total and in all the dimensions.

Null Hypothesis - 2

There is no significant difference in the Study Skills of B.Ed. Biological Science Students with respect to family type.

Table - 3 : Difference in the Study Skills of B.Ed. Biological Science Students with respect to Family Type

Dimensions	Family type	N	Mean	SD	Calculated 't' value	Remark
Study Method	Nuclear	261	53.02	4.805	1.905	NS
	Joint	358	52.27	4.808		
Classroom Skills	Nuclear	261	6.65	.995	1.752	NS
	Joint	358	6.52	.856		
Home work	Nuclear	261	5.31	.744	1.937	NS
	Joint	358	5.21	.586		
Examination	Nuclear	261	13.51	1.645	3.855	S
	Joint	358	13.00	1.617		
Obstacles to Effective Study	Nuclear	261	7.23	1.718	3.972	S
	Joint	358	7.73	1.349		
Study Skills in Total	Nuclear	261	85.71	7.881	1.531	NS
	Joint	358	84.73	7.908		

(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table, that the calculated 't' value is greater than the table value at 5% level of significance. Hence, the null hypothesis is rejected in the case of study skills related to examination and Obstacles to Effective Study. Therefore, it is concluded that there is significant difference between the students belonging to nuclear and joint families in the study skills related to examination and obstacles in effective study. The students

belonging to nuclear families have better study skills related to examination and obstacles in effective study than their counterparts in joint families.

It is also inferred from the above table, that the calculated 't' values are less than the table value at 5% level of significance. Hence, the null hypothesis is accepted in the case of study skills in total and in the dimensions - study method, classroom skills and homework. Therefore, it is concluded that there is no significant difference between the students belonging to nuclear and joint families in the study skills in total and in the dimensions - study method, classroom skills and homework.

Null Hypothesis - 3

There is no significant difference in the Study Skills of B.Ed. Biological Science Students with respect to locality of residence.

Table 4 : Difference in the Study Skills of B.Ed. Biological Science Students with respect to Locality of Residence

Dimensions	Locality of Residence	N	Mean	SD	Calculated 't' value	Remark
Study Method	Rural	521	52.64	4.865	0.631	NS
	Urban	98	52.31	4.569		
Classroom Skills	Rural	521	6.59	.918	0.844	NS
	Urban	98	6.50	.922		
Home work	Rural	521	5.26	.649	0.424	NS
	Urban	98	5.22	.711		
Examination	Rural	521	13.21	1.666	0.074	NS
	Urban	98	13.22	1.550		
Obstacles to Effective Study	Rural	521	7.53	1.539	0.500	NS
	Urban	98	7.45	1.520		
Study Skills in Total	Rural	521	85.23	8.045	0.600	NS
	Urban	98	84.70	7.140		

(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table, that the calculated 't' values are less than the table value at 5% level of significance. Hence, the null hypothesis is accepted. Therefore, it is concluded that there is no significant difference between the rural and urban students in their study skills.

Null Hypothesis - 4

There is no significant difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to gender.

Table - 5 : Difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to Gender

Gender	N	Mean	SD	Calculated 't' value	Remark
Male	44	103.98	18.333	1.064	NS

Female	575	100.32	22.232		
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(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table that the calculated 't' value is less than the table value at 5% level of significance. So, the null hypothesis is accepted. Hence, there is no significant difference between the male and female students in the content pedagogical knowledge.

Null Hypothesis - 5

There is no significant difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to family type.

Table - 6 : Difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to Family Type

Family Type	N	Mean	SD	Calculated 't' value	Remark
Nuclear	261	94.15	22.782	6.285	S
Joint	358	105.26	20.162		

(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table that the calculated 't' value is greater than the table value at 5% level of significance. So, the null hypothesis is rejected. Hence, there is significant difference between the students belonging to nuclear and joint families in their content pedagogical knowledge. The students belonging to joint families have better content pedagogical knowledge.

Null Hypothesis - 6

There is no significant difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to locality of residence.

Table - 7 : Difference in the Content Pedagogical Knowledge of the B.Ed. Biological Science Students with respect to Locality of Residence

Locality of Residence	N	Mean	SD	Calculated 't' value	Remark
Rural	521	101.45	22.039	2.357	S
Urban	98	95.92	21.203		

(At 5% level of significance the table 't' value is 1.96)

It is inferred from the above table that the calculated 't' value is greater than the table value at 5% level of significance. So, the null hypothesis is rejected. Hence, there is significant difference between the rural and urban students in their content pedagogical knowledge. The rural students have better content pedagogical knowledge.

Null Hypothesis - 7

There is no significant relationship between study skills and content pedagogical knowledge of B.Ed. biological science students.

Table - 8 : Relationship between Study Skills and Content Pedagogical Knowledge of B.Ed. Biological Science Students

Dimensions	N	Calculated 'r' Value	Remark
Study Method	619	0.276	S
Classroom Skills	619	0.164	S
Home work	619	0.251	S
Examination	619	0.345	S
Obstacles to Effective Study	619	0.098	S
Study Skills in Total	619	0.263	S

(Table Value = 0.095 at 5% level of significance)

It is inferred from the above table that the calculated 'r' value is greater than the table value at 5% level of significance. Hence, the null hypothesis is rejected. So, there is significant relationship between study skills and content pedagogical knowledge of B.Ed. biological science students.

CONCLUSION

The researcher concluded that the B.Ed. biological science students have moderate level of study skills and content pedagogical knowledge. Their gender does not have any significant influence on their study skills and content pedagogical knowledge. The family type has significant influence on their study skills and content pedagogical knowledge. The finding of the correlation analysis revealed that significant relationship is found between the study skills of B.Ed. biological science students and their content pedagogical knowledge. From these observations, it is obvious that study skills and content pedagogical knowledge are the vital factors in the process of teaching and learning more effectively. Hence, the liability of the teacher communities is to consider these factors that should be instilled in the minds of younger generation for making a brighter tomorrow.

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