

A STUDY ON RELATION BETWEEN CONSTRUCTIVIST PEDAGOGY AND ACADEMIC GRIT OF PROSPECTIVE TEACHERS IN CHENNAI DISTRICT

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ABSTRACT

Constructivist pedagogy is arising when students are failing to produce desired outcomes and the core principles of constructivist pedagogy are that students can understand new circumstances and atmospheres through their current knowledge. The results show that significant difference is prevailing among constructivist pedagogy and profile of prospective teachers and significant difference is prevailing among academic grit and profile of prospective teachers. Academic grit of prospective teachers is positively, significantly and highly related with their constructivist pedagogy. Hence, prospective teachers should follow reciprocal and inquiry based learning and faculty members must encourage prospective teachers for effective interaction and cooperative learning. Colleges should give proper and adequate trainings to their faculty members on constructivist teaching methods. Further, prospective teachers must involve in problem based learning in order to improve their analytical skill and knowledge and learning capabilities and these lead to enhance their academic grit.

Key Words: Academic Grit, Constructivist Pedagogy, Prospective Teachers

INTRODUCTION

Education is playing an important role in learning and developing of multiple aspects of students and they are assisted and guided by teachers significantly in their academic activities, conducts and personalities (Franzoni and Assar, 2009). Effectiveness of teaching and learning is highly depending on interactions among students, teachers and school and family environments (Adom et al 2016). Teaching by using traditional methods is mainly focusing on coverage of syllabus and making

students to get good marks in the examinations without any creativeness (Faraj, 2000) and active involvement of students in learning and in most of instances, instruction is unilateral that is believed as effective activity in teaching and learning process (Gemayel, 2010).

The modern trend in teaching and learning process is constructivist method that is mainly concentrated on creative activities (Hijazi, 2009) and moral and ethical values and improving and acquiring new skills (Yadav, 2016). Constructivist pedagogy in the activity of supplementing to teaching and lecturing, students is given chances to make their own understanding of subjects based on interaction among teachers and co-students (Kim, 2005). Constructivist pedagogy is arising when students are failing to produce desired outcomes and the core principles of constructivist pedagogy are that students can understand new circumstances and atmospheres through their current knowledge (Bawi and Khaji, 2006) and it makes connection among new and modern ideas with existing knowledge of students effectively (Dagar and Yadav, 2016). Students who learn through constructivist method are having high level of knowledge and performing well in their academics and behaviour and higher degree of academic grit (Shah, 2019). Hence, it is imperative to study relation between constructivist pedagogy and academic grit of prospective teachers.

REVIEW OF RELATED LITERATURE

Mohammed et al (2020) found that in constructivist method, students were actively involved in interactive learning and it was positively contributing to academic performance of students and it improved skills and knowledge and problem solving abilities of students.

Alhadabi and Karpinski (2019) concluded that academic grit of university students was positively and significantly related with their academic performance through achievement goal orientation, self efficacy and performance in their academics.

Khan (2018) revealed that constructivist method of teaching was adopted in school education and it made students to understand subjects clearly and their

academic performance was significantly improved and it was very effective in teaching science subject in schools.

Hodge et al (2017) found that academic grit of students studying in university had positive and significant relation with their engagement and productivity of academics and no significant difference was there between gender of students and their academic grit.

Qarareh (2016) concluded that constructivist learning method had significant effect on scientific thinking and academic achievement of eighth grade students and no significant difference was found in constructivist learning and academic achievement with respect to gender of students.

Ayaz and Şekerci (2015) revealed that constructivist learning was positively and significantly impacting academic achievement of students and its impact was at varying levels among them.

Kalpana (2014) found that constructivist learning had improved active participation of students in class room activities and they were learning through interactive and practical based learning and it had improved their knowledge and performance.

OBJECTIVES OF THE STUDY

1. To find difference among constructivist pedagogy and gender and medium of instruction of prospective teachers.
2. To find difference among constructivist pedagogy and subject group and type of institution of prospective teachers.
3. To find difference among academic grit and gender and medium of instruction of prospective teachers.
4. To find difference among academic grit and subject group and type of institution of prospective teachers.
5. To analyze relation between constructivist pedagogy and academic grit of prospective teachers.

HYPOTHESES OF THE STUDY

1. There is no significant difference among constructivist pedagogy and gender and medium of instruction of prospective teachers.

2. There is no significant difference among constructivist pedagogy and subject group and type of institution of prospective teachers.
3. There is no significant difference among academic grit and gender and medium of instruction of prospective teachers.
4. There is no significant difference among academic grit and subject group and type of institution of prospective teachers.
5. There is no significant relation between constructivist pedagogy and academic grit of prospective teachers.

METHODOLOGY

Chennai district is selected for carrying out the present study. Prospective teachers are chosen randomly and structured questionnaire is used to collect data from 350 prospective teachers. Profile of prospective teachers is studied by using percentages and difference among constructivist pedagogy and profile of prospective teachers and difference among academic grit and profile of prospective teachers are found by employing mean, standard deviation, t-test and ANOVA test. Relation between constructivist pedagogy and academic grit of prospective teachers is analyzed by employing correlation analysis.

RESULTS

PROFILE OF PROSPECTIVE TEACHERS

The profile of prospective teachers is disclosed in Table-1. Near to three fifth of prospective teachers is female (56.29 per cent) and larger than three fifth of them are studying in English medium (63.14 per cent). Further, near to three fifth of them are belonging to Science group (57.43 per cent) and greater than two fifth of them are studying in self-finance colleges (41.71 per cent).

Table-1. Profile of Prospective Teachers

Profile	Number	Percentage
Gender		
Male	153	43.71
Female	197	56.29
Medium of Instruction		
English	221	63.14
Tamil	129	36.86
Subject Group		
Arts	149	42.57
Science	201	57.43
Type of Institution		
Government	84	24.00
Government Aided	120	34.29
Self Finance	146	41.71

CONSTRUCTIVIST PEDAGOGY OF PROSPECTIVE TEACHERS AND THEIR PROFILE

The relation among constructivist pedagogy of prospective teachers and their profile is disclosed below as.

Gender and Constructivist Pedagogy

The relation between gender of prospective teachers and constructivist pedagogy is disclosed in Table-2.

Table-2. Gender and Constructivist Pedagogy

Gender	N	Mean	Standard Deviation	t-value	Sig.
Male	153	148.44	10.96	3.061**	.002
Female	197	144.57	11.75		

** Significant in 1% level

Mean value of constructivist pedagogy for male and female prospective teachers are 148.44 and 144.57 consecutively and it elucidates that male prospective

teachers are having higher level of constructivist pedagogy in comparison with female prospective teachers.

The t-value is 3.061 and it is explaining that significant difference is prevailing between gender of prospective teachers and constructivist pedagogy in one per cent level.

Medium of Instruction and Constructivist Pedagogy

The relation between medium of instruction of prospective teachers and constructivist pedagogy is disclosed in Table-3.

Table-3. Medium of Instruction and Constructivist Pedagogy

Medium of Instruction	N	Mean	Standard Deviation	t-value	Sig.
English	221	144.57	12.23	3.553**	.000
Tamil	129	149.04	9.69		

**Significant in 1% level

Mean value of constructivist pedagogy for prospective teachers studying in English and Tamil medium are 144.57 and 149.04 consecutively and it elucidates that prospective teachers studying in Tamil medium are having higher level of constructivist pedagogy in comparison with prospective teachers studying in English medium.

The t-value is 3.553 and it is explaining that significant difference is prevailing between medium of instruction of prospective teachers and constructivist pedagogy in one per cent level.

Subject Group and Constructivist Pedagogy

The relation between subject group of prospective teachers and constructivist pedagogy is disclosed in Table-4.

Table-4. Subject Group and Constructivist Pedagogy

Subject Group	N	Mean	Standard Deviation	t-value	Sig.
Arts	149	146.24	11.87	3.036**	.003
Science	201	150.19	9.34		

**Significant in 1% level

Mean value of constructivist pedagogy for prospective teachers belonging to Arts and Science group are 146.24 and 150.19 consecutively and it elucidates that prospective teachers in Science group are having higher level of constructivist pedagogy in comparison with prospective teachers in Arts group.

The t-value is 3.036 and it is explaining that significant difference is prevailing between subject group of prospective teachers and constructivist pedagogy in one per cent level.

Type of Institution and Constructivist Pedagogy

The relation among type of institution of prospective teachers and constructivist pedagogy is disclosed in Table-5.

Table-5. Type of Institution and Constructivist Pedagogy

Type of Institution	N	Mean	Standard Deviation	F-value	Sig.
Government	84	145.13	12.20	5.065**	.000
Government Aided	120	147.02	10.75		
Self Finance	146	149.17	8.83		

** Significant in 1% level

Mean value of constructivist pedagogy for prospective teachers studying in Government, Government aided and self finance colleges are 145.13, 147.02 and 149.17 consecutively and it elucidates that prospective teachers studying in self-finance colleges are having higher level of constructivist pedagogy in comparison with prospective teachers studying in Government and Government aided colleges.

The F-value is 5.065 and it is explaining that significant difference is prevailing among type of institution of prospective teachers and constructivist pedagogy in one per cent level.

ACADEMIC GRIT OF PROSPECTIVE TEACHERS AND THEIR PROFILE

The relation among academic grit of prospective teachers and their profile is disclosed below as.

Gender and Academic Grit

The relation between gender of prospective teachers and academic grit is disclosed in Table-6.

Table-6. Gender and Academic Grit

Gender	N	Mean	Standard Deviation	t-value	Sig.
Male	153	182.19	13.65	3.644**	.000
Female	197	186.18	11.73		

** Significant in 1% level

Mean value of academic grit for male and female prospective teachers are 182.19 and 186.18 consecutively and it elucidates that female prospective teachers are having higher level of academic grit in comparison with male prospective teachers.

The t-value is 3.644 and it is explaining that significant difference is prevailing between gender of prospective teachers and academic grit in one per cent level.

Medium of Instruction and Academic Grit

The relation between medium of instruction of prospective teachers and academic grit is disclosed in Table-7.

Table-7. Medium of Instruction and Academic Grit

Medium of Instruction	N	Mean	Standard Deviation	t-value	Sig.
English	221	182.17	13.28	3.867**	.000
Tamil	129	186.58	12.03		

** Significant in 1% level

Mean value of academic grit for prospective teachers studying in English and Tamil medium are 182.17 and 186.58 consecutively and it elucidates that prospective teachers studying in Tamil medium are having higher level of academic grit in comparison with prospective teachers in English medium.

The t-value is 3.867 and it is explaining that significant difference is prevailing between medium of instruction of prospective teachers and academic grit in one per cent level.

Subject Group and Academic Grit

The relation between subject group of prospective teachers and academic grit is disclosed in Table-8.

Table-8. Subject Group and Academic Grit

Subject Group	N	Mean	Standard Deviation	t-value	Sig.
Arts	149	182.61	13.25	3.750 **	.000
Science	201	186.65	12.35		

** Significant in 1% level

Mean value of academic grit for prospective teachers in Arts and Science group are 182.61 and 186.65 consecutively and it elucidates that prospective teachers in Science group are having higher level of academic grit in comparison with prospective teachers in Arts group.

The t-value is 3.750 and it is explaining that significant difference is prevailing between subject group of prospective teachers and academic grit in one per cent level.

Type of Institution and Academic Grit

The relation among type of institution of prospective teachers and academic grit is disclosed in Table-9.

Table-9. Type of Institution and Academic Grit

Type of Institution	N	Mean	Standard Deviation	F-value	Sig.
Government	84	181.01	13.01	5.129 **	.000
Government Aided	120	186.45	10.42		
Self Finance	146	183.49	11.30		

** Significant in 1% level

Mean value of academic grit for prospective teachers studying in Government, Government aided and self finance colleges are 181.01, 186.45 and 183.49 consecutively and it elucidates that prospective teachers studying in Government aided colleges are having higher level of academic grit in comparison with prospective teachers studying in Government and self finance colleges.

The F-value is 5.129 and it is explaining that significant difference is prevailing among type of institution of prospective teachers and academic grit in one per cent level.

RELATION BETWEEN CONSTRUCTIVIST PEDAGOGY AND ACADEMIC GRIT OF PROSPECTIVE TEACHERS

The correlation analysis is applied to analyze relation between constructivist pedagogy and academic grit of prospective teachers and the result is disclosed in Table-10.

Table-10. Constructivist Pedagogy and Academic Grit of Prospective Teachers

Particulars	Correlation Coefficient(r)
Constructivist Pedagogy and Academic Grit of Prospective Teachers	0.65**

** Significance in 1% level

The correlation coefficient between constructivist pedagogy and academic grit of prospective teachers is 0.65 and it is demonstrating that they are positively and highly interrelated.

CONCLUSION

The foregoing analysis reveals that significant difference is prevailing among constructivist pedagogy and profile of prospective teachers and significant difference is prevailing among academic grit and profile of prospective teachers. Academic grit of prospective teachers is positively, significantly and highly related with their constructivist pedagogy. Hence, prospective teachers should follow reciprocal and inquiry based learning and faculty members must encourage prospective teachers for effective interaction and cooperative learning. Colleges should give proper and adequate trainings to their faculty members on constructivist teaching methods. Further, prospective teachers must involve in problem based learning in order to improve their analytical skill and knowledge and learning capabilities and these lead to enhance their academic grit.

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