Original Research Article

A Study on Learning Styles and Academic Performance of Undergraduate Geography Students of Greater Guwahati

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ARTICLE INFO	ABSTRACT
	This research paper attempts to identify the level of learning styles, examine the differences in academic performances as well as study the relationship between learning style and academic performance of the under-graduate geography students of Greater Guwahati. Geography is a very important subject in solving many day-to-day life issues, national and international concerns as well as for various concept/knowledge-based competitive examinations in India and awareness about the varied learning styles helps both the teacher and the learners to gain adequate mastery over the subject-matter which is to be learnt. Learning style may be understood as the particular style, manner, approach, procedure, etc. of learning or adopting novel qualities. Again, Academic performance is an act or process of performing or disclosing the academic learning through the medium of tests or examinations followed by standard norms of evaluation. The Under-Graduate students may be defined as the students studying in courses beyond the higher secondary (10+2) level and below the Post-Graduation level. The study population constitutes the undergraduate college students of Greater Guwahati area having Major in the subject GEOGRAPHY of Arts Stream having a sample size of 100 students, including 40 males and 60 female students. Hypotheses have been tested with the help of Z-Tests. Findings show mostly average level of learning styles. Also, significant difference has been found between learning style and academic performance of the under-graduate geography students of Greater Guwahati but no significant difference between academic performance of under-graduate boys and girls.

Introduction

Learning style may be understood as the particular style, manner, approach, procedure, etc. of learning or adopting novel qualities where Learning is a process of acquiring new knowledge, information, skill, behaviour, habit, value, etc. or modifying the existing ones and style refers to a certain distinctive form, technique, way, etc. of doing something. Again, Academic performance is an act or process of performing or disclosing the academic learning through the medium of tests or examinations followed by standard norms of evaluation. Here, academic performance has been measured from the students' assigned SGPA Grades in the last semester exam held for under-graduate courses under Gauhati University for the academic session 2019-2020. The Under-Graduate students may be defined as the students studying in courses beyond the higher secondary (10+2) level and below the Post-Graduation level. The study population constitutes the undergraduate college students of Greater Guwahati area having Major in the subject GEOGRAPHY of Arts Stream.

Under-graduate college students are young adults having their own will and choices. Now-a-days, students keep themselves quite busy in social media, hobbies, other extra-curricular activities or preparing for future vocations. At the same time,

newer and newer learning styles are coming up and the existing learning styles have become increasingly complex with the advent of the digital era.

Hence, the challenge that lies ahead for the teachers is to synchronize their teaching styles with the learners' learning styles in order to solve many learning related issues. Only this type of a psychological bonding can lead to grand academic performances and more so in the higher educational institutions.

This research paper tries to delve into the learning styles of the geography undergraduate students of Greater Guwahati area because Geography is a very important subject in solving many day-to-day life issues, national and international concerns as well as for various concept/knowledge-based competitive examinations in India and awareness about the varied learning styles helps both the teacher and the learners to gain adequate mastery over the subject-matter which is to be learnt.

Objectives of the Study
(a) To identify the level of learning styles of the under-graduate geography students of Greater Guwahati area.
(b) To study the relationship between learning style and academic performance of the under-graduate geography students of Greater Guwahati.

Hypotheses of the Study
(a) Ho_1 = There exists no significant difference between learning style and academic performance.
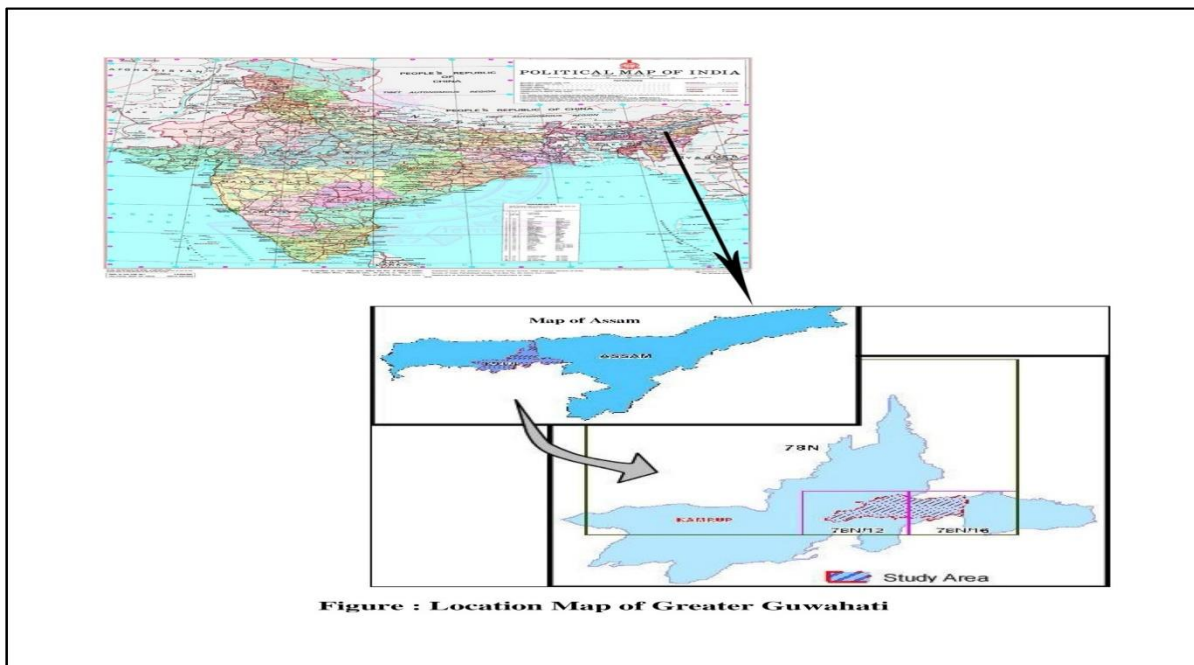
Profile of the Study Area

Figure : Location Map of Greater Guwahati

(Map Sources: Survey of India and *Bakshi, A.R. and Roy, Indranil (2006)* "Groundwater Management Options in Greater Guwahati Area").

Research Methodology
In this investigative process, descriptive survey method has been used. In addition, observation and interview method have been followed for filling up the rating scales which are already Standardized Structured Questionnaires in order to obtain the desired data for the present research study.

Study Area

The present study has been conducted on some selected sample positions (Colleges) of Greater Guwahati. The study area comes under the jurisdiction of Guwahati Municipal Area of Kamrup (Metropolitan) District within the north-eastern state of Assam in India. Greater Guwahati region is an urban cosmopolitan area (328 sq. km.) having a huge concentration of population (9.57 lakh population) in comparison to the rest of Assam.   Flanked by the mighty river Brahmaputra, the geographical location of Greater Guwahati area falls under 26°15' N Latitude and 91°73' E Longitude. (H. Talukdar, 2019)
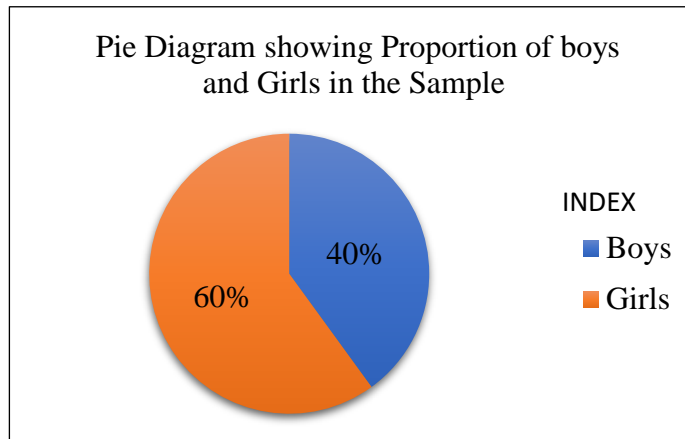
Variables of the study

    a.   Independent Variable: Various Learning Styles viz. Enactive Reproducing, Enactive Constructive, Figural Reproducing, Figural Constructive, Verbal Reproducing, Verbal Constructive.

    b.   Dependent Variable: Academic Performance.

Study Population

There are only five semi-government under-graduate colleges within Greater Guwahati study area having UGC recognised Geography Departments. The population of the study consisted of the total number of students of two semesters (Second and Sixth Semesters) in Arts Stream studying Geography as major subject in these five under-graduate provincialized colleges in Greater Guwahati Area of Assam, India. Total population of undergraduate Geography (Major) Arts' students in two semesters is 252 (96 males and 156 females).

Sample Size

As per the Directorate of Higher Education of Assam, the five provincialized under-graduate colleges of Greater Guwahati area having UGC recognised Geography Departments are AryaVidyapeeth College, Bholanath Barooah College, Guwahati College, Pandu College and Pragjyotish College. The sample consisted of 40% from the total number of Geography (Major) Arts Stream students of two semesters in these colleges where, the total sample size is 100, out of which 40 are male and 60 are female students.

Sampling Method

For the present study, Simple Random Sampling method has been adopted for data collection. The requisite samples were selected randomly and questionnaires and information schedules were distributed to them for necessary data collection.

Tools used for the Study

(a) K.S. Misra's Learning Style Inventory has been used as tool for primary data collection on learning styles. This inventory consisted of 42 items divided into six areas – I. Enactive Reproducing, II. Enactive Constructive, III.Figural Reproducing, IV.Figural Constructive, V. Verbal Reproducing, VI.Verbal Constructive. It was administered on geography undergraduate second and sixth semester students of Greater Guwahati.

(b) Self-prepared information schedule has been used for the study for obtaining the data regarding academic performance. Here, the data of last exam for Students' SGPA Grade cum Percentage score have been considered and collected from the Individual samples.

Statistical techniques

In order to achieve the objectives of this study, different statistical techniques such as Measures of Central Tendency (like mean), Measures of Dispersion (standard deviation), Measures of Relative Position (z-scores) and Tests of Significance (Z - Test) have been used for hypothesis testing and drawing meaningful, valid and reliable conclusions. All the calculations have been done using MS Excel software.
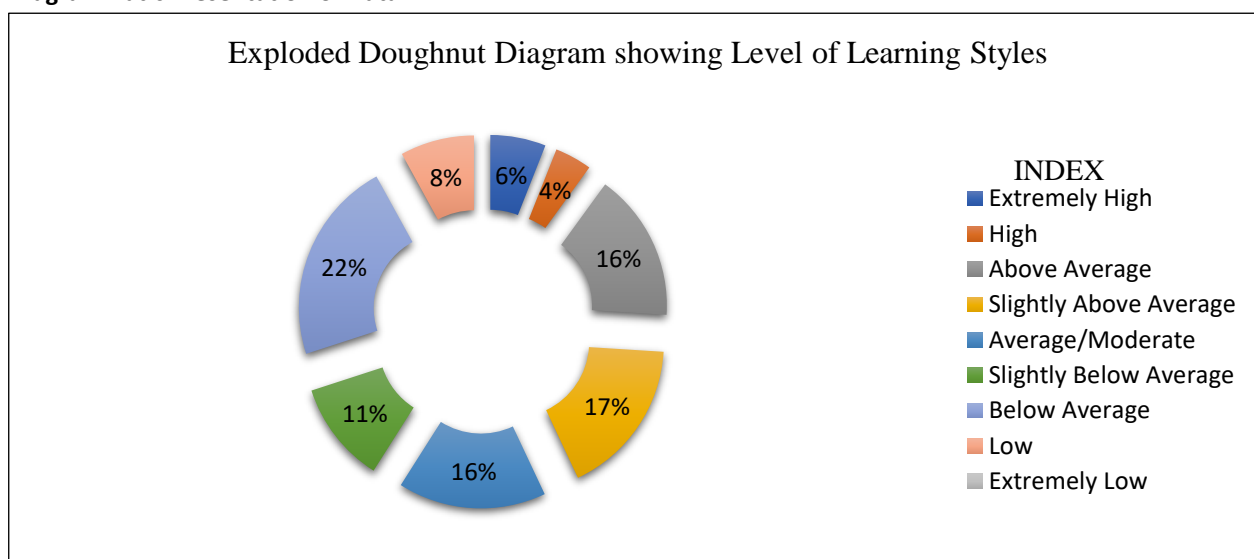
Data Analysis and Interpretation

(1) **Objective No. 1**: To identify the level of learning styles of the under-graduate geography students of Greater Guwahati area, z-scores have been determined for individual samples and grouped from extremely high to extremely low.

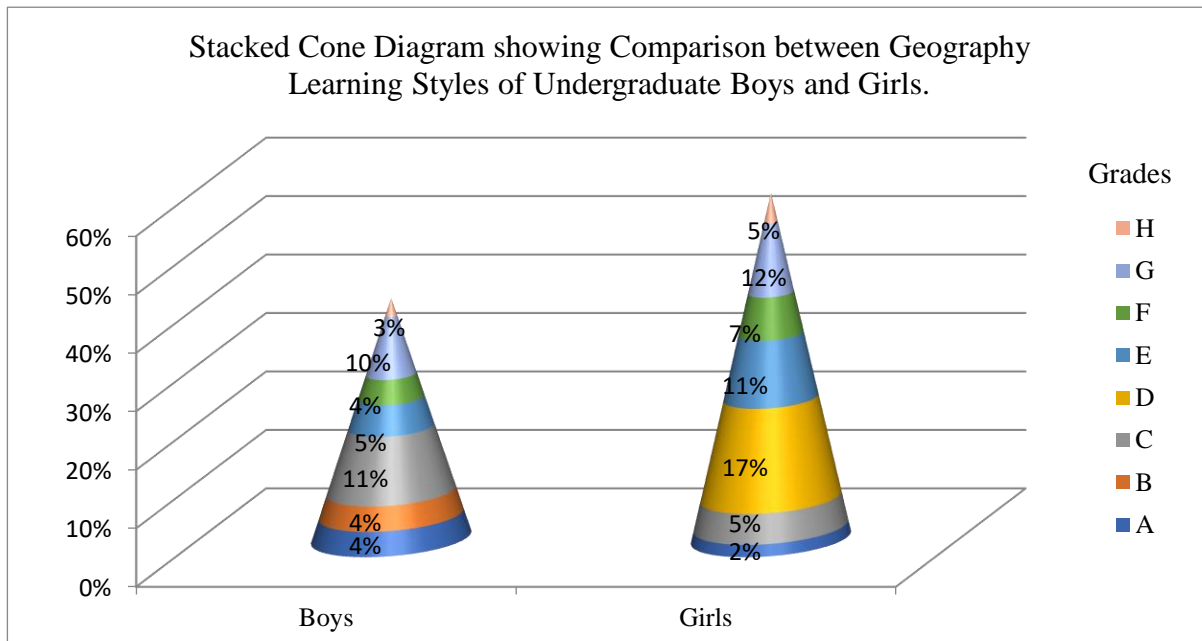Table 1: Showing Level of Learning Styles of Geography Under-Graduate Students.

Sr. No.	Range of Z-Scores	Grade	Level of Learning Style	Boys	Girls	Total Students
1.	+1.76 and above	A	Extremely High	4%	2%	6%
2.	+1.26 to 1.75	B	High	4%	-	4%
3.	+ .76 to +1.25	C	Above Average	11%	5%	16%
4.	+ .26 to + .75	D	Slightly Above Average	-	17%	17%
5.	- .25 to + .25	E	Average/Moderate	5%	11%	16%
6.	-2.6 to - .75	F	Slightly Below Average	4%	7%	11%
7.	- .76 to -1.25	G	Below Average	10%	12%	22%
8.	-1.26 to -1.75	H	Low	3%	5%	8%
9.	-1.76 and below	I	Extremely Low	-	-	-

Diagrammatic Presentation of Data:

Exploded Doughnut Diagram showing Level of Learning Styles

INDEX
- Extremely High
- High
- Above Average
- Slightly Above Average
- Average/Moderate
- Slightly Below Average
- Below Average
- Low
- Extremely Low

Interpretation of Results

From the above analyses, it has been found that the learning styles of majority of the students is slightly above average, above average, average, slightly below average and below average types while fewer percentages of students fall in the category of extremely high, high and low levels of learning style. Most of the boys depict extreme levels of learning style by falling in the grades of above average and below average while other few boys displayed the rest of the levels of learning styles. The girls are found to have slightly above average, average and below average levels of learning styles mostly and the remaining few girls belonged to the other levels of learning styles. Not a single boy or girl in the sample has been found to showcase extremely low levels of learning styles.

Stacked Cone Diagram showing Comparison between Geography Learning Styles of Undergraduate Boys and Girls.

Objective No. 2: To study the relationship between learning style and academic performance of the under-graduate geography students of Greater Guwahati.

Ho$_1$ = There exists no significant difference between learning style and academic performance.

Testing Hypothesis No. (Ho$_1$): The null hypothesis (Ho$_1$) has been tested with the help of Z-test as the sample size is 100, which is > 30.

Table 3: Showing Z-test and Level of Significance values for testing Hypothesis (Ho$_1$).

Variables	Mean Scores	Standard Deviation	Calculated Z- value	Tabulated Z-value		Level of significance	
				0.01 level of Significance	0.05 level of significance	0.01	0.05
Learning Style	147.08	20.12	$|Z| = 15.49$	2.58	1.96	Ho$_1$ Rejected	Ho$_1$ Rejected
Academic Performance	205.8	32.07					

Interpretation of results

From the above table, it is seen that the calculated Z- test value of the sample distribution is much higher than the tabulated Z-values and so the null hypothesis (Ho$_1$) is rejected at both 0.01 and 0.05 levels of significance. Hence, there exists significant difference between learning style and academic performance.

Educational Implications

Through the present study, the researcher has made a very limited effort in making the students as well as the teaching faculties of the Higher Education Sector in Greater Guwahati aware of the existing status of the college students' learning styles and academic performance, in order to raise the academic performance of the undergraduate geography students and overall academic achievements of the Colleges and Universities of the North-Eastern part of India.

Conclusion

It may be concluded that the learning styles of the geography students of Greater Guwahati are yet to develop further in order to raise the standards of overall academic performance in terms of the learning outcomes of higher education. It has also been found that more number of female students enrolled themselves for studying Geography as major subject in undergraduate colleges of Greater Guwahati area compared to male students and that the number of the latter is declining eventually due to certain factors, as has been informed by the students - some of them being; excessive study pressure in limited time per semester, underdeveloped infrastructure, lack of suitable employment opportunities and so on which are serious matters of concern and requires immediate attention. (H. Talukdar, 2019)

References

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