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An Assessment of Students' Performance According to their Learning Styles at A/O Level

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ABSTRACT

Aim of the Study: This research aims to determine how students' learning preferences affect their academic achievement in private sector schools. The learning styles of the students were analyzed, interpreted, and their performance was evaluated using Test of Honey & Mumford's learning type Questionnaire.

Methodology: The pupils attending private sector schools were the intended audience. Students were given various activity work sheets to complete, and their performance on each activity was graded based on their final results. A total of 200 pupils from private sector schools in Lahore were included in the study, which was conducted on O/A level students. The IBM Statistical Package for Social Sciences (SPSS) was used for data analysis, which included both descriptive and inferential statistics (ANOVA, Correlation, and Regression).

Findings and Conclusion: The study's analysis, interpretations, and findings can be used to help teachers become more knowledgeable about their students and assist them in creating lesson plans and activities that are tailored to the needs of their students. The results demonstrate that learning styles have a positive significant impact on students' performance and achievement.

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Introduction

The evaluation of students' performance is a crucial step in the educational process since it reveals how well they are developing and where they still need to make improvements. However, it is not always simple to evaluate each student's performance accurately, particularly when there are disparities in their learning preferences. There are four main learning styles, according to Honey and Mumford (1982): visual, aural, kinesthetic, and read/write. Charts, diagrams, and other visual aids may be helpful for visual learners since they prefer to learn through their sense of sight. Lectures, dialogues, and other vocal explanations may be helpful for auditory learners since they prefer to learn by hearing. Kinesthetic learners may benefit from opportunities for experiential learning because they prefer to learn through hands-on activities. Learners who prefer to read and write may benefit from written explanations and the chance to take notes. Learning preferences apply to how people choose to take in, process, and remember new knowledge (Honey & Mumford, 1982). In order to provide an accurate and fair evaluation of a student's performance, it is crucial to take into account the variations in their learning styles. Learning

styles refer to the ways in which individuals prefer to take in, process, and retain information (Dunn et al., 2014). Some common learning styles include visual, auditory, and kinesthetic (Rosenberg, 2012).

Importance of considering learning styles in education: Research has shown that students may be more successful in their studies when they are taught in ways that match their learning style (Coffield et al., 2004). By understanding and catering to the unique learning needs of their students, teachers can create a more inclusive and effective learning environment (Pashler et al., 2008). Overview of A/O Levels: A/O Levels are a series of standardized exams taken by students in the United Kingdom and other countries in the British Commonwealth (British Council, n.d.). These exams are typically taken at the end of secondary school and are used as a basis for university admissions (Universities and Colleges Admissions Service, n.d.).

Students are normally evaluated at the A/O levels using a mix of tests and coursework. While coursework may contain projects, essays, and other sorts of assignments, exams may include multiple choice, short answer, and extended response questions. However, not all students may benefit from the traditional techniques of evaluation, especially those whose learning preferences diverge from those of the teaching strategies being employed.

Utilizing learning style tests to determine students' preferred learning methods is one technique to overcome the difficulties associated with evaluating students' performance in light of their learning preferences. There are a variety of tests available that can assist educators in understanding the particular learning requirements of pupils, such the VARK questionnaire (Fleming, 2001) and the Kolb Learning Style Inventory (Kolb, 1984).Previous research on the relationship between learning styles and academic performance: Studies have consistently shown that there is a positive relationship between matching teaching style to learning style and academic performance (Bennett et al., 2011; Honey and Mumford, 1982). However, the extent to which this relationship holds true and the best methods for identifying and addressing individual learning styles are still areas of active research and debate (Fleming and Mills, 1992).

Statement of the Problem

The purpose of this research is to investigate the learning style preferences of O/A level learners and its effects on their learning achievement.

Methodology

Research Design

The researcher created a thorough questionnaire to rate the students' performance on various tasks to assess their learning abilities, including writing abilities, problem-solving abilities, perceptual abilities, presentation abilities, and task completion speed. The pupils' work was graded on a 10-point scale. How academic performance was measured: Academic performance was measured using the grades that the students received on their A/O Level exams. These grades were provided by the examining board and ranged from A* (highest) to E (lowest). In addition to the overall exam grade, the scores on individual sections of the exams were also analyzed.

Sample Size

In this study, the sample population consisted of 200 students O/A level students from various private schools in District Lahore are taken into account for determining the study population who were in the process of preparing for their A/O Level exams. The sample was stratified by subject area, with equal representation from students studying humanities, sciences, and languages. The students' ages ranged from 16 to 18 years old.

Tool and Technique

Eighty questions from Honey & Mumford's learning style survey were used to collect quantitative data on the preferred learning styles of O/A level students, after which the students were divided into one of four groups.

Results

According to Mumford's activists carefully listen to instructions, according to research findings and Honey and Mumford's descriptions of the learning style. As evidenced by the research's findings, they independently read, write, and think. (1986; Honey and Mumford) Second, according to Howard Gardner's Theory of Multiple Intelligences, every person has different intellectual interests and aptitudes. Some people are physically bright, while others have verbal-linguistic or logical-mathematical aptitudes. Gardner (1991).The study's analysis, interpretations, and findings can be used to help teachers become more knowledgeable about their students and assist them in creating lesson plans and activities that are tailored to the needs of their students. The results demonstrate that learning styles have a positive significant impact on performance and achievement.

Analysis of Writing Skills

Table 1: *Writing skills (Content scoring) & learning style Cross tabulation*

		Learning style				**Total**
		Pragmatist	**Theorist**	**reflect**	**Activist**	
writing skills (content scoring)	up to 50%	9	26	7	5	47
	51 to 70%	7	23	9	4	43
	71 to 90 %	29	1	27	19	76
	91 to 100 %	5	0	7	22	34
Total		50	50	50	50	200

Activists scored highest in writing skills in content scoring. Among 50 activists students 22 scored up to 91% to100% 29 pragmatist scored 71 to 90% while theorist are also more than average in content writing skills. Out of 50 theorist students 23 scored 51 to 70%.

Table 2: *Writing skills (vocabulary scoring) & learning style Cross tabulation*

		Group				**Total**
		Pragmatist	**Theorist**	**Reflect**	**Activist**	
vocabulary skills)	(writing up to 50%	7	26	or 7	T	45
	51 to 70%	9	23	9	4	45
	71 to 90 %	28	1	27	19	75
	91 to 100 %	6	0	7	22	35
Total		50	50	50	50	200

Activist scored highest in writing skills in vocabulary scoring. Among 50 activist students 22 scored more than 90% and 19 scored 71 to 90% while Pragmatist and reflectors are also more than average in vocab writing skill. Out of 50 pragmatist students 28 scored 71 to 90%. However theorists are not much good in their vocabulary skills. Out of 50 theorists students 23 have scored 51 to 70% and 26 were with up to 50% score.

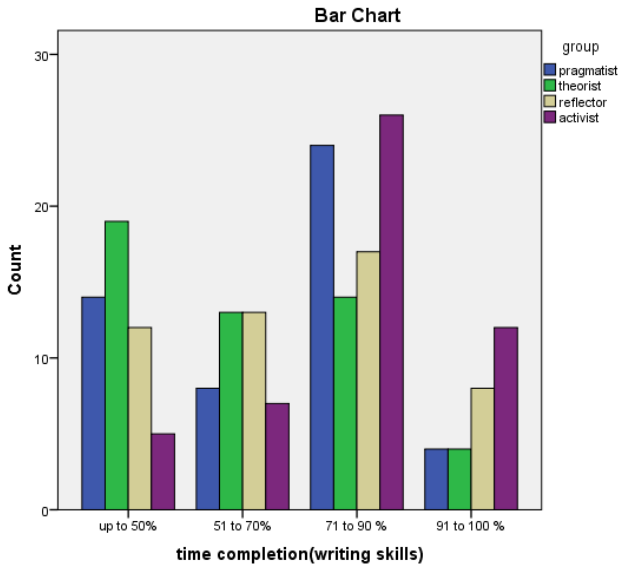

Figure 1: *time completion (writing skills)*

Activists are more efficient in time management they scored highest in time completion scoring for writing skills. Among 50 activist students 12 scored between 91 to 100% and 26 got 71 to 90% score. Pragmatists are also good in time management among 50 pragmatists 24 got 71 to 90% score. However theorists and reflectors are average or lower than average in time management scoring.

Table 3: *Cross tabulation for Problem Solving Skills (Analytical Ability) & Learning Style*

		analytical ability (problem solving skills)				**Total**
		up to 50%	**51 to 70%**	**71 to 90 %**	**91 to 100 %**	
Group	Pragmatist	8	8	29	5	50
	Theorist	16	8	23	3	50
	Reflector	24	11	14	1	50
	Activist	41	7	2	0	50
Total		89	34	68	9	200

Pragmatists and theorists are more batter in analytical ability scoring of problem solving skills. Among 50 pragmatists students 29 scored 71 to 90% and out of 50 theorists 23 scored 71 to 90%. However reflector and activists are not much good in this skill. Out of 50 activist students 41 scored up to 50% and just 7 scored 51 to 70%. However among 50 reflectors 24 scored up to 50% and just 11 scored 51 to 70%.

Table 4: *Cross tabulation for Problem Solving Skills (critical thinking) & Learning Style*

		up to 50%	**51 to 70%**	**71 to 90 %**	**91 to 100 %**	**Total**
Group	Pragmatist	9	7	29	5	50
	Theorist	9	9	28	4	50
	Reflector	37	6	7	0	50
	Activist	33	9	8	0	50
	Total	88	31	72	9	200

Pragmatists and theorists are good with more than average score in critical thinking scoring for problem solving skills. Among 50 pragmatists 29 scored between 71 to 90% and 5 scored between 91 to 100%. Similarly out of 50 theorists 28 scored 71 to 90% and 4 scored 91 to 100%. However reflector and activists are not much efficient in this regard.

Theorists have above-average content writing capabilities, but activists have higher effective writing abilities. The activist had the greatest vocabulary score for writing abilities. While the writing skills of pragmatists and reflectors are above average in terms of vocabulary, those of theorists are not as strong. Activists are more adept at managing their time; they received the greatest marks for writing skills in terms of time completion. Time management skills are good for pragmatics. Theorists and reflectors, however, score average or below average in time management. Theorists and pragmatics score higher on analytical ability tests that measure problem-solving abilities. However, activists and reflectors are not very good at this talent. Theorists and Pragmatists perform well, achieving above average in the critical thinking category for their ability to solve problems. Reflectors and activists, however, are not very effective in this area.

Pragmatists and theorists are less effective in this area than activists and reflectors in terms of managing their time to solve problems. In scoring groups, the distribution of theorists is almost evenly spread.

Reflectors perform around averagely in terms of creative capacity score in perceptual skills, whereas Pragmatists and Theorists do better. However, reflectors are spread approximately equally across all scoring groups in terms of their scoring. Analysis revealed that activists score poorly in tests of creative capacity. Reflectors are more effective at scoring in perceptual abilities for visual perception. While theorists have above-average visual vision abilities, pragmatists and activists do not have as strong of these abilities. In the scoring of perceptual skills for time management, activists performed best. Reflectors outperform the average in terms of time completion for perceptual skills, whereas theorists and pragmatists perform poorly.

The groups with the highest presenting skills fluency scores were the activists and pragmatics. Theorists and reflectors, on the other hand, struggle with presentation skills. Theorists and pragmatists are less effective in this area, and reflectors do about averagely. Activists are more effective in assessing confidence for presentation abilities. No realist received a score of more than 90%. Theorists' performance in terms of their scoring in this area is similarly lacking. Activists and Reflectors perform presentations on time a little more adeptly. Pragmatists and theorists are spread approximately evenly throughout all groups in terms of their scores.

Discussion

These results suggest that considering students' learning styles can be an important factor in predicting and improving their academic performance. This is consistent with previous research on the topic (Bennett et al., 2011; Honey and Mumford, 1982) and supports the idea that tailoring instruction to the unique needs of individual learners can have a positive impact on their academic success (Pashler et al., 2008).

Based on these results, educators may wish to think about incorporating a variety of teaching strategies and materials (such as visual aids, lectures, and hands-on exercises) in their classes to meet students' various learning preferences. This can entail offering different ways for learning and processing information (such visual aids, lectures, hands-on activities, etc.) and letting students select the strategy that suits them the best. The research study should be widely disseminated by gathering information from various higher education institutions and focuses on high school pupils rather than university students. Due to the inconvenience of collecting data from multiple districts, the study also has the limitation of only being applied to one district. However, in the future, with sufficient funding and travel resources, it should be applied generally throughout the nation by collecting samples from every region. In order to obtain more broadly applicable results, the study should be broadened to include public sector schools as well.

Conclusion

The results of this study suggest that considering students' learning styles can be an important factor in predicting and improving their academic performance at the A/O Level. These findings highlight the

importance of considering learning styles in education and the need for teachers to use a variety of teaching methods and resources to accommodate the diverse needs of their students.

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Conflict of Interest

Authors declared no conflict of interest.

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