

The Learning Style and Degree of Knowledge of Sixth-Grade Pupils with Foundational Math Subjects

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Abstract: A three-point Likert scale survey was used to determine the learning styles of one hundred (100) sixth-grade students. Students were asked to rate their preferred way of learning adopting a three-point rating system in twenty questions. The researcher also gave them a test on basic arithmetic concepts to see how proficient they were. There were five sections: low, acceptable, Good, very good, and Excellent. The pupils were audio learners due to their favored modes of studying. In view of this, most pupils find listening to be enjoyable during their educational experience. In terms of proficiency, 4 pupils, or 3.21%, have a good understanding of the fundamentals of mathematics, whereas 73 pupils, or 73.00%, have a low mastery. The total mean is 27.63, which is within the low proficiency range of 50–64.9 for fundamental math concepts. This indicates that a majority of learners have not become highly competent in the basic concepts of math. When comparing techniques for learning according to profile variables which includes age, parents' educational background, occupation, monthly income, and education tastes, there may be not a significant distinction. The theory has therefore been rejected. There was not a significant disparity in the participants' level of competency in fundamental mathematics concepts when they were categorized based on their profile characteristics, which included the gender of the students, their academic history, the occupation, their yearly salary, and the education types of the parents. Consequently, the hypothesis was shown to be incorrect. Additionally, there is not a great relationship between what a pupil likes to learn and their degree of ability in the basics of math. Therefore, their favored ways of learning will not have an impact on their level of ability in the basics of math.

Keywords: proficiency range, fundamentals of mathematics, educational background, hypothesis.

1. Introduction

Techniques of learning are the favored ways humans take in and comprehend new knowledge. Although there are many other learning style models and theories, one widely used framework divides instructional techniques into three primary categories: 1. Visual: Material is most effective when presented graphically to graphical pupils, which includes through graphs, charts, diagrams, and movies. When material is presented in a graphical method, the audience is more probable to learn it due to the fact it helps people develop associations and mental representations. 2. Auditory: Listening is the best learning

method for auditory learners. People favor audio recordings, talks, lectures, and spoken explanations. In order to assist pupils, comprehend the material better, having group discussions or repeating it aloud could be beneficial. 3. Kinesthetic/Tactile: Activity and experiences that are hands-on have the most effective ways for geographic or tactile pupils to learn. Children love interacting directly with materials, such conducting investigations, playing out scenarios, creating designs, or taking part in games that are dynamic. They typically benefit from include movement in their lessons. It's important to remember which although the above categories offer a foundation of comprehending ways of learning, people may have a few of the above techniques, and their choices can change based on the situation and the subject matter. Further study suggests the idea of various instructional methods may be more complicated than previously thought, with a person's cognitive makeup, past experiences, and educational environment all having a big impact on how they learn.

A level of mastery or ability which a person obtains during the process of gaining knowledge in a given subject, skill, or domain is known as academic proficiency. It may vary considerably based on a number of parameters, including the person's intrinsic abilities, past experience, educational preferences, drive, and the grade of education or materials offered. Apparently, the variables increasing study ability are:

1. Personal Aptitude: Anyone is various, and these variations might affect how well they learn particular courses or abilities. While some people may have a natural knack for languages or artistic undertakings, others may thrive in mathematics.
2. Previously details: Education proficiency might be greatly impacted by past expertise and knowledge. Those having an extensive education in a particular field could find it easy to comprehend larger concepts or develop their current abilities.
3. Education Environment: A person's competency might be impacted by how they learn. Enhancing pupil achievement requires a resource-rich, interesting classroom with qualified educators.
4. Enthusiasm: A key component for gaining competency is

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enthusiasm. Intrinsically driven people are more probable to contribute the study and effort required to become experts in a subject when they have a sincere interest in it.

5. Education Approaches: Using effective methods of instruction helps raise competency. These approaches could be practicing, interacting with the subject matter, receiving comments, and utilizing the use of numerous resources that catered to different learning preferences.
6. Feedback and Evaluation: Students may identify topics for improvement and modify their education practices with the assistance of promptly provided constructive criticism and regular progress assessments.
7. Persistence and Resilience: Acquiring competency in learning frequently calls for tenacity and fortitude in the face of obstacles and disappointments. People who endure in the presence of obstacles and disappointments are more likely to reach greater skill levels. All things considered, learning competency is a dynamic and complex idea that is impacted by a variety of personal traits, contextual elements, and education strategies. Through comprehension of the above factors and application of effective methods of instruction, people might enhance their competence in a range of topics and abilities.

Most sophisticated concepts in math are constructed upon the foundation of less complex concepts in math. These ideas are essential to comprehending and using mathematics in a variety of settings. Here are a few major primary concepts such as 1) Numbers: The key units of maths are numbers. Normal numbers (1, 2, 3,...), entire numbers (0, 1, 2,...), numbers (... , -3, -2, -1, 0, 1, 2, 3,...), sane numbers (divisions), and nonsensical numbers (such the square base of 3) are a portion of the various classes into which they can be partitioned. It is fundamental to understand the attributes of numbers and how they are utilized in activities like expansion, deduction, augmentation, and division. 2) Number-crunching Activities: Expansion, deduction, increase, and division are instances of essential math tasks. Computations and number control are finished with these cycles. 3) Divisions, Decimals, and Rates: Parts are divisions isolated by a number (denominator), which addresses a piece of an entirety. One more method for communicating divisions is as decimals, where the fragmentary part and the entire number part are isolated by a decimal point. A rate is a part that is expressed as a level of 100 and is habitually used to show proportions, changes, and extents. 4) Basic Algebra: In algebra, unknown numbers are represented and their relationships are expressed through the use of symbols and variables. Fundamental ideas in algebra include expressions, equations, and inequalities. 5) Geometry focuses on the dimensions, characteristics, and forms of objects in space. Points, lines, angles, triangles, circles, polygons, and geometric transformations including rotations, dilations, and reflections are examples of fundamental geometric notions. 6) Measurement: Quantifying characteristics like length, area, mass, time, and temperature is the goal of measurement. It is crucial to comprehend measurement units and how to convert between them. 7) Examples and Arrangements: Perceiving consistencies and associations among numbers or things is the

errand of examples and successions. Significant numerical thoughts incorporate distinguishing and extending designs and understanding mathematical and number juggling successions.

8) Likelihood and Insights: While measurements manages gathering, arranging, dissecting, and deciphering information, likelihood manages the likelihood that occasions will happen. Likelihood circulations, estimations of focal propensity and changeability, and the terms mean, middle, mode, and reach are among the essential thoughts in likelihood and measurements.

Acquiring a comprehension of these crucial thoughts lays areas of strength for a for taking on additional troublesome numerical subjects like math, straight variable based math, and discrete science. They are vital for numerical thinking, decisive reasoning, and critical thinking in different disciplines, like science, designing, financial aspects, and money. English language skill affects understudies' mastering limit, which could affect their scholastic accomplishment. An elevated degree of English language capability among understudies will without a doubt impact and upgrade their scholastic accomplishment. Nonetheless, in any scholarly circumstance, an absence of English skill will without a doubt influence an understudy's scholastic achievement. To put it momentarily, English capability will affect how well the educational experience continues. Learning style is one of a few components that can add to the unsuitable result of Libyans' capability. As indicated by Oxford, one of the key components impacting how effectively understudies get a second or unknown dialect is their learning inclinations. It might affect how well they talk, tune in, read, and write in dialects. Learning styles are private ways to deal with discovering that connect with one's environmental elements to help one interaction, comprehend, and secure information, encounters, or wanted capacities like talking, composing, perusing, and tuning in. Aside from the monstrous test of gaining a subsequent language, which is intensely impacted by full of feeling factors, an investigation of learning style features huge perspectives. Using an assortment of showing methodologies and making a connecting with and intuitive homeroom air are pivotal for accomplishing a definitive point of understudy learning. Understudies learn in various ways. While certain understudies learn best outwardly, others learn best perceptibly or instinctively. Visual guides like diagrams, outlines, and pictures assist students who with learning best outwardly. Perusing and paying attention to addresses are two different ways that hearable students learn. Sensation students get things through doing. One, two, or three learning styles can be liked by understudies. To guarantee that each understudy might prevail in their classes, educators should consolidate exercises from the educational plan that take special care of every one of these unmistakable learning styles We appear to have inclinations for the manners by which we learn best, despite the fact that we utilize every one of our faculties to handle data. We should cook our guidance to as a significant number of these inclinations as we can to help the learning of each and every understudy. Our underlying examination uncovered various issues with the English Training Study Program. My easygoing meetings with undergrad EFL understudies uncovered that few of them were

disappointed with their TOEFL scores, which showed their degree of English capability. It was found from the TOEFL test results that few undergrad EFL understudies attempted to get a score of more than five, which was an essential for the Course on Exploration Proposition. Despite the fact that they recognized that they learned in different ways, many were uncertain of the particular learning strategies they utilized. Along these lines, research was finished to decide how their learning inclinations and English capability connected with one another. This study is similar to one by Aappe (2010), who found that the understudies' favored learning styles were not essentially influenced by their orientation, age, or scholarly program. The review's discoveries showed that there was no way to see a connection between understudies' favored learning styles and their scholarly achievement. Moreover, concentrates on whose objectives were to distinguish the many learning styles that are normal in grade schools. She found that there was a significant connection between scholastic accomplishment and the three factors—visual, auditory, and kinesthetic.

2. Results and Discussion

A. Profile of the Respondents

Table 1
Frequency and percentage distribution of respondents in terms of sex

Sex	Frequency	Percentage
Male	58	58%
Female	42	42%
Total	100	100%

The table 1 shows the profile of the respondents when grouped according to sex. It is revealed in the table that out of 100 respondents, majority were males with a frequency of 58 percent while 42 percent are female.

Table 2
Frequency and percentage distribution of respondents in terms of parents' highest educational attainment

Educational Attainment	Father		Mother	
	F	Percentage	F	Percentage
Elementary Undergraduate	25	26.21%	43	39.17%
Elementary Graduate	14	14.22%	15	19.05%
High School Undergraduate	28	28.11%	24	23.14%
High School Graduate	21	22.07%	13	14.23%
College Undergraduate	2	1.20%	2	1.20%
College Graduate	10	8.19%	3	3.21%
Total	100	100%	100	100%

Table 2 displays the academic achievements of the parent. In accordance with the data, the moms of 28 respondents are undergraduates in secondary school, and the mother of one is a bachelor in college. In addition, the data regarding the respondents' dads' educational backgrounds show that, of the 50 respondents, the majority had dad who reached primary education, and just one had a higher education.

The frequency and percentage distribution of respondents' parents' income is shown in Table 3. Regarding the parents' monthly income, 51 of them made between LD1,000 and LD 6,000 per month, while none made LD 10,000 or more. According to 22 people, the parents' lowest income was LD 5,000 less.

Table 3
Frequency and percentage distribution of respondents in terms of parents' income

Monthly Income of Parents	Frequency	Percentage
LD 1000- below	22	19.45%
LD 1000- 2000	51	48.15%
LD 2001 -3000	10	12.15%
LD 3001- 4000	9	11.22%
LD 4001- 5000	4	3.21%
LD 5001- 6000	2	6.00%
LD 6000- above	0	0%
Total	100	100%

Table 4
Frequency and percentage distribution of respondents in terms of father's occupation

Occupation	Frequency	Percentage
Teacher	72	83.89%
Engineer	16	7.63%
Farmer	4	3.21%
Doctor	8	5.27%
Total	100	100%

Table 4 displays the respondents' frequency distribution according to the father's occupation. The data indicates that four of the respondents have fathers who are carpenters, and 72 of the respondents have fathers who work on farms.

Table 5
Frequency and percentage distribution of respondents in terms of mother's occupation

Occupation	Frequency	Percentage
Housewife	78	77.97%
Nurse	14	15.50%
Teacher	1	0.95%
Doctor	7	5.58%
Total	100	100%

The frequency distribution of respondents with respect to the mothers' occupations is displayed in Table 5. Only one of the moms of the respondents is a salesperson, while the table indicates that the majority of the mothers, or 78, are housekeepers.

B. Learning Styles of the Respondents

Table 6
Frequency and percentage distribution of respondents in terms learning styles of the respondents

Learning Styles	Frequency	Percentage
Visual	20	20.00%
Auditory	67	67.00%
Kinesthetic	13	13.00%
Total	100	100 %

Table 6 displays the respondents' learning style frequency and percentage distribution. The table indicates that the majority of respondents, or 67%, learn best by auditory. that the majority of students want to absorb facts in order to enhance their comprehension of ideas and procedures. They appreciate doing their own research, analyzing data, and hearing from "the experts" in addition to being able to learn efficiently from lectures. However, the ratio of kinesthetic and visual learners were 13 and 20 percent, respectively.

C. Test of difference of learning styles when grouped according to profile variables

The test's outcome indicated that the computed p value for the profile variables was equal to 0.056 for the sex profile, 0.07 for the father's educational attainment, 0.52 for the mother's educational attainment, 0.91 for the father's occupation, and 0.68 for the mother. When parents' profiles are taken into account, including their sex, level of education, occupation, and monthly income, the statistics show that there are no appreciable differences in the learning styles of the pupils. However, this does not mean that everyone learns in the same way. While some senses may function better than others, learning may still involve a combination of senses that is unique to each person. According to the study, gender had no significant relationship with calibration; however, gender did have a correlation with self-evaluation, suggesting that boys evaluated their performance more optionally than girls. It was discovered that, with regard to gender disparities, male and female students had different preferred learning modalities that correspond to their proficiency in mathematics. Therefore, it can be considered that the learning styles of men and women are different and distinct. The findings corroborate the current study's focus on competence level and consideration of the effects of gender on mathematics learning according to teaching methods.

Table 7

Test of difference of learning styles when grouped according to profile variables

Profile	SS	df	MS	F	p	Decision
Sex	2.11	2.000	0.242	2.144	0.056	Reject
Educ	2.09	2	0.36	2.62	0.07	Reject
Father Educ	3.60	2	1.94	0.71	0.52	Reject
Mother	0.36	2	2.29	0.07	0.91	Reject
Father	0.90	2	0.52	0.68	0.68	Reject
Occupation						
Income	2.35	2	0.33	2.80	0.07	Reject

$\alpha = 0.05$

D. Proficiency level of students in basic concepts in Mathematics

Table 8

Frequency and percentage distribution of respondents in terms of proficiency level in Mathematics

Descriptive Value	Proficiency Scores	Frequency	Percentage
Excellent	85-99	0	0%
Very Good	75-84.9	4	3.21%
Good	65-74.9	22	23%
Acceptable	50-64.9	73	73%
Low	0-49.9	1	1%
Mean= 27.63 (Acceptable)			

The percentage distribution of respondents with respect to their level of expertise in fundamental mathematical concepts is shown in Table 8. It is evident that, of the 100 respondents, 73 percent of the pupils perform at a low proficiency level, and 3.21 percent perform at a high proficiency level. Furthermore, the average skill level of the responders is 27.63, indicating a low degree of mathematical proficiency. In a similar vein, the findings demonstrated that Libya kids continue to struggle in science and math. It was noted that Libya pupils performed best in probability, data analysis, and representation on the math test.

E. Relationship between respondents' learning styles and proficiency level

Table 9

Test of relationship between respondents' learning styles and proficiency level in Mathematics

Variables	Probability Value	Pearson Correlation	Statistical Decision
Proficiency learning	0.04	0.001	Reject

$\alpha = 0.05$

Table 9 presents the correlation between the learning styles of the pupils and their level of proficiency in the fundamental principles of mathematics. The findings indicate a moderate relationship between students' learning preferences and their level of understanding of mathematics' foundational ideas. The calculated r, which equals 0.06, and the tabular value, which equals 0.04, demonstrate this. This result suggests that how pupils learn also have an impact on their math competency level. found among participants in the fifth grade, there is a relationship between their learning methods and level of mathematical skill. Because of this, it is crucial that students develop a distinct learning style in order to reach a high degree of competency in mathematics since this will also increase their academic performance. Additionally, the results showed that ACT scores and cumulative grade point average increased in tandem with the shift in learning style scores from dependent to independent.

3. Conclusion

The study's findings led to the following conclusions being made: The majority of the time, Bani Waleed Schools' sixth-grade pupils learn by listening. Talking during class and listening to lectures helps them understand more effectively. As a result, pupils learn mathematics classes most effectively when they pay attention to their lecturers' lectures. The pupils don't show that they fully grasp the fundamental concepts of mathematics. They lack mathematical proficiency as a result. A moderate correlation has been observed between the educational approach of pupils and their level of skill in fundamental mathematical concepts.

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