Development Of Learning Style Inventory For Secondary School Students Of Kashmir

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Abstract
The study was conducted with a purpose to construct learning style inventory to assess the learning styles of secondary school students. At the first step, 60 items were drafted and released for the expert's opinion to judge the worth of each item. After modification the initial draft of 45 items was administered to 200 secondary school students from various schools of Kashmir division of J&K state. After item analysis the scale was further confined to 30 items. The major types of validity i.e. content validity and concurrent validity were used to ensure the validity of the Learning style inventory. In order to find out reliability of the test, split half method and test-retest method was employed. The study can be of significant importance to educators and curriculum developers.

Key Words: Learning Style, Secondary School Students, Auditory style, Visual Style, Kinaesthetic Style.

INTRODUCTION
Humans have their own natural or habitual pattern of acquiring and processing knowledge in learning situations. The common ways through which people learn are known as their learning styles. Individuals differ the way they learn. The idea of individualized learning styles was initiated in 1970s and it has much influence on education.
A person's preferred method of processing new information for efficient learning is referred to as their learning style (Huston JL, Huston TL 1995). The concept of learning style was defined by Rita Dunn as "a unique approach established by students when he or she was learning new and difficult facts" (Dunn RS, Dunn KJ 1993). It's more about how pupils learn than what they learn when it comes to learning style. Each student's learning process is unique; even in the same educational setting, learning does not occur at the same degree or quality for all students. Individuals have varied approaches to learning, according to research, and a single technique or approach was unable to create

optimal learning circumstances for everybody. This could be due to the diversity of students' origins, abilities, weaknesses, interests, objectives, degrees of motivation, and study methods (Felder RM, Brent R 2005). Educators should become more aware of these various approaches in order to improve the quality of education. Learning styles may be effective in both students and educators in understanding how to enhance their learning and teaching methods.

As everyone is different from others, learning style is bound to vary. Therefore the knowledge about learning styles is important for many reasons. Teachers may use different techniques in an effective way to teach according to the learning styles. Being aware of learning styles of their students, psychological qualities and motivational differences teachers can regulate the teaching-learning process in desirable direction. The review of the related literature reveals that learning style plays an important role in the academic success of the students (Yazici HJ, 2016). Agrawal and Chawla (2005) revealed that the Co-operative Learning Strategy Based Material was effective in improving the level of academic achievement.

There are varieties of learning style models that can be determined based on previous research. Learning styles models by Salmes, Felder-Silverman, Dunn & Dunn, Kolb, Honey, and Murnford, and VARK (Visual, Aural, Read or Write, and Kinaesthetic) are among them.

Considering the fact that identifying the pupil learning styles, such as visual, auditory, reading/writing, and kinaesthetic, and aligning your overall curriculum with these learning styles, will benefit the entire classroom and there are no prior publications in the literature that report the problem in the context of the locale selected by the investigator an attempt was made to develop the learning style inventory to serve the purpose.

Method
This learning style inventory (LSI) has been designed to assess the learning styles of secondary school students. At the first step, 60 items were drafted by analysing books, research papers, theses, internet resources and other materials. Apart from it various experts including teachers, principals and educational administrators were consulted for the collection of valid information. The prepared draft was then released for the expert's opinion to judge the worth of each item.

Based on the suggestions and remarks, some of the items were modified and some omitted. As a result the initial draft of LSI contained 45 items. This inventory assesses three learning styles namely Audio, Visual and Kinaesthetic learning styles.

Try out
The initial draft of LSI (Learning style inventory) was administered to 200 secondary school students from various schools of Kashmir division of J&K state. After receiving response sheets from the students scoring was done.

Item analysis

In order to make inventory homogeneous, Item analysis of the inventory was done using Pearson Product Moment Correlation Technique. The items having correlation of less than and equal to 0.30 with the total test were omitted. Total of 15 items were eliminated from the initial draft making the number of items of the inventory 30 (Annexure-1).

S.No	Coefficient of Correlation	S.No	Coefficient of Correlation
1	0.41	24	**0.15***
2	0.62	25	0.60
3	0.44	26	**0.09***
4	0.66	27	0.40
5	**0.02***	28	0.48
6	0.54	29	**0.21***
7	0.35	30	0.68
8	0.66	31	**0.29***
9	**0.21***	32	0.59
10	0.48	33	0.50
11	0.67	34	**0.26***
12	**0.06***	35	0.39
13	0.46	36	**0.11***
14	0.51	37	0.66
15	**0.28***	38	**0.19***
16	0.67	39	0.53
17	**0.15***	40	0.62
18	0.62	41	0.53
19	0.43	42	**0.28***
20	0.51	43	0.38
21	**0.22***	44	0.63
22	0.58	45	**0.11***
23	0.56		

In order to eliminate the effect of eliminated items, correlation between the scores of remaining items and total score was again computed. It was found that correlation of remaining items with the total score was above 0.46.

Reliability

In order to find out reliability of the test, Split half method was employed. The split half reliability coefficient was found by dividing the scores into odd and even groups. The final Learning styles inventory was administered on 200 secondary school students to calculate the reliability of the test. The coefficient of correlation thus obtained was 0.82

The Test-retest reliability was also employed to find out the reliability of the learning style inventory. The final format of learning style inventory was employed on 200 students at the interval of 30 days. After scoring the coefficient of correlation between the scores obtained on two administrations was calculated. The coefficient of correlation was found to be 0.87

Validity

The major types of validity i.e. content validity and concurrent validity were used to ensure the validity of the Learning style inventory. Content validity of the test was ensured through logical analysis of the experts. Concurrent validity of the test was found by using another scale namely Learning Style Questionnaire developed at University of California, Merced Student Advising and Learning Centre and the validity coefficient was found to be 0.81

Scoring Procedure

The table below represents the items divided into three categories namely Auditory, Visual and kinaesthetic. Assign the following point values for each question: Always-3, Sometimes-2, Never-1

Auditory		Visual		Kinaesthetic	
Item No.	**Pts**	**Item No.**	**Pts**	**Item No.**	**Pts**
2		1		3	
5		4		6	
7		8		10	
9		12		11	
13		14		16	
15		18		20	
17		19		23	
21		22		24	
26		27		25	
29		30		28	
Total Score:		**Total Score:**		**Total Score:**	

Now add the points of the three sections separately and record below. The maximum score in any section will determine the preferred learning style.

Conclusion

Finding out a student's learning style reveals details about their particular preferences. Understanding learning styles can make it simpler to construct, alter, and create curricula and educational programmes that are more effective. It can also stimulate students to enrol in these programmes and further their professional development. As a result,

identifying learning preferences is crucial for enhancing learning effectiveness. Data on how pupils learn and solve problems can be found by researching learning styles.

References

Abidin, M. J. Z., Rezaee, A. A., Abdullah, H. N., & Singh, K. K. B. (2011). Learning styles and overall academic achievement in a specific educational system. International Journal of Humanities and Social Science, 1(10), 143-152.

Agrawal, R. and Chawla, N. (2005) Influence of cooperative learning on academic achievement. Journal of Indian Education, XXXI (2), 52-59.

Barsch, J.R. (1996) Barsch Learning Style Inventory. Academic Therapy Publication. Novato, CA: USA. Retrieved

Dunn RS, Dunn KJ. Teaching secondary students through their individual learning styles: practical approaches for grades 7–12. New Jersey: Prentice Hall; 1993.

Erton, I. (2010). Relations between personality traits, language learning styles and success in foreign language achievement. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 38(38), 115-126.

Felder, R. M., & Brent, R. (2005). Understanding student differences. Journal of engineering education, 94(1), 57-72.

Gardner D. L. James, W. B. (1995). Learning styles: implications for distance   learning. New Directions for adult and Continuing Education, 67, 19- 32.

Huston, J. L., & Huston, T. L. (1995). How learning style and personality type can affect performance. The Health care supervisor, 13(4), 38-45.

Yazici, H. J. (2016). Role of learning style preferences and interactive response systems on student learning outcomes. International Journal of Information   and Operations Management Education, 6(2), 109-134.

Annexure-I
Learning Style Inventory (LSI)

S.No.	Statements	Always	Sometimes	Never
1.	I understand better when the information is presented with the help of visual aids.			

2.	I like to remember things by hearing rather than seeing or reading.			
3.	I prefer learning by direct involvement rather by listening or writing only.			
4	In order to be focussed in the class, looking at the teacher while listening helps me a lot.			
5.	I learn to spell better by repeating the words loudly.			
6.	I like to move a lot when I am studying.			
7.	I better understand news by listening rather than by reading.			
8.	If I had to remember list of items, I remember it best if it is written.			
9	I best obtain information on any subject by listening rather than reading.			
10.	It helps me to understand the solution if someone else does it first.			
11.	For description to others, I use gestures and movements.			
12.	While remembering anything, I try to get a picture of it in my mind.			
13.	I am at ease solving a problem by talking myself about it.			
14.	It makes me feel better to work in a quiet place.			

15.	I am good at discussing any topic orally rather than writing on it.			
16.	I enjoy, learning by doing method of teaching.			
17.	I listen to the people's point of view before giving my own.			
18.	Seeing things to remember is better than hearing.			
19.	Written directions make me feel better than hearing.			
20.	I prefer teachers who use real life examples to explain things.			
21.	I am good at remembering names but I forget faces easily.			
22.	I like to use coloured highlighters to colour code texts and notes.			
23.	I like to participate in Seminars, group presentations, student interactions and dialogues.			
24.	I remember best how to do things after I have done them at least once.			
25.	I feel bored studying on a desk.			
26.	I lose concentration easily when it is noisy			
27.	While in class, I like to take notes.			

28.	To memorise information, I close my eyes and write the information in the air on a surface with my finger.			
29.	I whisper and murmur while reading.			
30.	I recognise words by sight rather by listening repeatedly.			