A TOOL CONSTRUCTION AND STANDARDIZATION OF ATTITUDE TOWARDS E-LEARNING FOR HIGHER SECONDARY SCHOOL STUDENTS

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Abstract:-The purpose of the paper is to determine the extent to which the higher secondary school students attitude towards e-learning. A well structured questionnaire was administered among higher secondary school students. Initially the tool was constructed with 48 statements in relevant field. To standardize the tool the researcher used for Likert formula to calculate 't' value for each statement and finally 46 statements are retained in this study.

Keywords: attitude, e-learning, questionnaire, constructed,

INTRODUCTION :-

E-LEARNING

Attitude is defined as a psychological tendency to evaluate an entity, and which is composed of emotional, cognitive, and behavioural (or psychomotor) components. The emotional component of attitudes relates to the basic feelings and emotions associated with the attitude object, including those such as sadness, frustration, happiness, and anger. The cognitive component of attitudes relates to beliefs associated with the attitude object. The behavioural component relates to behaviours associated with the attitude object.

In the 21st century has changed traditional teaching and learning system. Now a day the teacher and students are following e-learning system. It is possible for teacher and students get the content or subject material (What? Where? When?) through online. The teacher and students don't meets directly in the four side blocked wall or within campus. The term e-learning, or learning via electronic media, nicely combines this twin concept: first, the changing focus of pedagogy to learning and, second, the new technologies stretching beyond the walls of the traditional classroom. In other words, e-learning for teacher development is learning about, with, and through all electronic media across the curriculum to support student learning. ICT is the means, and e-learning and the effective integration of pedagogy and ICT constitute the goal. There are number of benefits to e-learning. These include any time learning, anywhere learning, asynchronous interaction and group collaboration. Now, the researcher has interested try to know an attitude of pupils so, the researcher selected the topic "Attitude of higher secondary students towards e – learning in relation to certain selected variables" and construct and standardized research tool an above cited topic.

OPERATIONAL DEFINITION OF THE TERMS

The researcher has defined the term attitude "it is a feeling, reaction, idea, view, estimation, judgment on meticulous things or handling objects, subjects or content in our surroundings."

E-LEARNING

Whatever, whenever and wherever we can learn with help of computer, mobile and tabloid for connecting with internet for instruction and learning, become e-learning.

CONSTRUCTION AND STANDARDIZATION OF TOOL

Likert's "Method of Summated Ratings the well-known methods of measuring attitudes:

In the present investigation, in order to measure the attitude of the higher secondary students towards the study of e-learning, the investigator used the Likert Method. This method is generally preferred to the other ones for the following reasons: i. It is not laborious and time-consuming; ii. It does not require the opinions of a group of experts, as to the degree of favourableness or unfavourableness each statement expresses; iii. It is more reliable (Kretch and Crutchfield, 1948); iv. As to the amount of information got, the advantage seems to lie with the Likert-method which gets a five-point judgments on each item rather than the mere acceptance or rejection of the Thurstone item, and v. It is easy to score.

The construction a Likert type scale is to collect a number of statements about a subject. The correctness of the statements is not important as long as they express opinions held by a substantial number of people. After the statements have been gathered, a trial test should be administered to number of subjects. Only those items that correlate with the total test should be retained.

Keeping the above prescriptions in mind, as many as 48 statements revealing the attitude of the higher secondary students towards e-learning were collected from the following sources: (i) As many as 5 computer teachers working in the higher secondary schools in Pondicherry region.(ii) As many as 5 professors in department of computer science in colleges. (iii) As many as 2 Professors of Methods of Teaching computer science in the college of Education. (iv) As many as 5 B.Ed., students studying in Teaching of computer science. This Scale comprised 48 favourable statements in respect of an attitude towards e-learning.

This scale of 48 statements intended for the pilot study was administered to a sample of as many as 200 students studying in urban and rural higher secondary schools in and around puducherry.

The next step is the construction and the standardization of an Attitude Scale after pilot study is to

find out the 't' value of each statement which forms the basis for item selection in order to build up the Final Scale.

ITEM ANALYSIS

The individual Attitude Scale scores for all the 200 students were found out and they were ranked from the highest to the lowest score. Then 27% of the subjects (High) with the highest total scores and 27% of the subjects (Low) with the lowest total scores were sorted out for the purpose of item selection. The high and low groups, thus selected formed the criterion groups and each group was made up of 54 students.

It may be recalled that each statement is followed by five different responses of "SA", "A", "UD", "DA", and "SDA" in the Attitude Scale. As already indicated, weights are given for the response category in respect of each statement favourable or unfavourable. Then each statement was taken individually and the number of students who responded "SA", "A", "UD", "DA" and "SDA" was found out in both the High and Low groups separately. Thus for all the 48 statements, the number of students coming under each category was found out separately for both the High and Low groups. The following formula was utilized to calculate the 't'-values.

$$t = \frac{X_H - X_L}{\sqrt{\dfrac{S_H{}^2}{N_H} + \dfrac{S_L{}^2}{N_L}}}$$

RANK ORDER OF ITEMS IN THE ATTITUDE SCALE (e-Learning) BASED ON "t" VALUES
Table - 1

RANK ORDER	NATURE OF THE STATEMENT	"t" VALUE	S.NO.
1	Selected	5.76	27
2	Selected	5.17	43
3	Selected	5.11	45
4	Selected	5.05	13
5	Selected	4.94	28
6	Selected	4.88	26

7	Selected	4.88	29
8	Selected	4.58	6
9	Selected	4.52	3
10	Selected	4.41	9
11	Selected	4.17	22
12	Selected	4.05	1
13	Selected	4.05	48
14	Selected	3.94	19
15	Selected	3.94	20
16	Selected	3.88	7
17	Selected	3.88	46
18	Selected	3.82	17
19	Selected	3.82	36
20	Selected	3.70	42
21	Selected	3.64	8
22	Selected	3.58	11
23	Selected	3.58	37
24	Selected	3.52	10
25	Selected	3.47	2
26	Selected	3.47	14
27	Selected	3.47	44
28	Selected	3.4	16
29	Selected	3.35	18
30	Selected	3.29	24
31	Selected	3.23	40
32	Selected	3.23	47
33	Selected	3.17	30
34	Selected	3.11	38
35	Selected	3.05	25
36	Selected	3	21
37	Selected	2.76	39
38	Selected	2.70	12
39	Selected	2.41	5
40	Selected	2.35	23
41	Selected	2.23	33
42	Selected	2.23	31
43	Selected	2.05	4
44	Selected	2	35
45	Selected	2	41
46	Selected	2	34
47	**Rejected**	0.64	15
48	**Rejected**	-0.35	32

SCORING PROCEDURE

The Likert type Scale calls for a graded response to each statement on a five – point scale ranging from "Strong Agreement" to Strong Disagreement". The points are usually denoted by "Strongly Agree (SA)", "Agree (A)", Undecided (UD)", "Disagree (DA)", and Strongly Disagree (SDA)". The different points on the scale are assigned arbitrary weights- for examples 5,4,3,2 and 1 in the order of "Strongly Agree" response to "Strongly Disagree" response for the all statements. The total scores of the test ranges from 48 to 240 as final test consists 46 questions.

RELIABILITY AND VALIDITY

The attitude towards e-learning among higher secondary school students tool has construct validity as the items were selected using 't' value. The face validity of the tool was found by experts in the field of computer science and educational technology. The reliability of the tool was found out with a sample of 100 higher secondary school students using test retest method and it was found to be 0.83. Hence the tool has validity and reliability.

Norms

The percentile norms(table-2), Z – scores and T- Scores(table-3) have been calculated and are given in the following tables.

Table - 2

Percentiles	Scores
P_{90}	217.2
P_{80}	210.6
P_{70}	203.6
P_{60}	164.4
P_{50}	181.5
P_{40}	165.6
P_{30}	159.7
P_{20}	147.8
P_{10}	137.4

Table - 3

Raw Scores	Z- Scores	T-Scores
230	1.606	66.06
229	1.575	65.75
229	1.575	65.75
225	1.454	64.54
222	1.363	63.63
222	1.363	63.63
221	1.333	63.33
220	1.303	63.03
220	1.303	63.03
219	1.272	62.72
217	1.212	62.12
217	1.212	62.12
216	1.181	61.81
216	1.181	61.81
216	1.181	61.81
215	1.151	61.51
213	1.090	60.9
213	1.090	60.9
212	1.060	66
211	1.030	60.3
210	1	60

210	1	60
210	1	60
209	0.969	59.69
208	0.939	59.39
207	0.909	59.09
207	0.909	59.09
207	0.909	59.09
206	0.878	58.78
205	0.848	58.48
203	0.787	57.87
203	0.787	57.87
201	0.727	57.27
201	0.727	57.27
201	0.727	57.27
199	0.666	56.66
199	0.666	56.66
199	0.666	56.66
198	0.636	56.36
198	0.636	56.36
197	0.606	56.06
196	0.575	55.75
195	0.545	55.45
195	0.545	55.45
194	0.515	55.15
194	0.515	55.15
194	0.515	55.15
192	0.454	54.54
192	0.454	54.54
191	0.424	54.24
191	0.424	54.24
191	0.424	54.24
190	0.393	53.93
190	0.393	53.93
173	-0.121	48.79
173	-0.121	48.79
171	-0.181	48.19
171	-0.181	48.19
170	-0.212	47.88
170	-0.212	47.88
170	-0.212	47.88
167	-0.303	46.97
167	-0.303	46.97
166	-0.333	46.67
165	-0.363	46.37
165	-0.363	46.37
165	-0.363	46.37
164	-0.393	46.07
161	-0.484	45.16
161	-0.484	45.16
161	-0.484	45.16
161	-0.484	45.16
160	-0.515	44.85
160	-0.515	44.85

159	-0.545	44.55
159	-0.545	44.55
158	-0.575	44.25
158	-0.575	44.25
157	-0.606	43.94
157	-0.606	43.94
155	-0.666	43.34
151	-0.787	42.13
150	-0.818	41.82
148	-0.878	41.22
147	-0.909	40.91
147	-0.909	40.91
145	-0.969	40.31
143	-1.030	39.7
142	-1.060	39.4
142	-1.060	39.4
141	-1.090	39.1
140	-1.121	38.79
140	-1.121	38.79
140	-1.121	38.79
139	-1.151	38.49
123	-1.636	33.64
123	-1.636	33.64
123	-1.636	33.64
123	-1.636	33.64
123	-1.636	33.64
123	-1.636	33.64
120	-1.727	32.73
120	-1.727	32.73
119	-1.757	32.43
119	-1.757	32.43
118	-1.787	32.13
118	-1.787	32.13
117	-1.818	31.82

CONCLUSION

This tool is very much useful to get the opinion from higher secondary school students in puducherry region. E-learning, now it's spreading all industry but, more importance is given in our education field. In this tool, now and become very massive role in our society so, the researcher has followed appropriate procedure for constructed and standardized on the tool. Below herewith the researcher attached standardized tool for attitude towards e-learning.

Attitude towards e-learning Standardized Tool
Table -4

S. No.	Particulars	SDA	D	UD	A	SA
1	I like very much online games.					
2	Electronic mail is an effective means of disseminating class information and homework.					
3	The use of E-mail provides stimulus for the course.					
4	E-learning enables me to do more interesting and imaginative work with my learning.					
5	I know e-learning create opportunities to learn many new things.					
6	Dealing with e-learning increases relationship between students.					
7	I believe that e-learning is very important for me.					
8	The e-learning is gateway of employment opportunities.					
9	The use of e-learning is useful for students.					
10	Finding your way around a web site is harder than finding your way around a book.					
11	The use of e-learning will help to complete the work smoothly.					
12	The use of e-learning will help to complete the work more quickly than usual.					
13	I would like to learn from a book than from a web site.					
14	The use of e-learning increases the student productivity.					
15	The use of e-learning improving the quality of the work of students.					
16	Web sites will take over books in the future.					
17	The use of E-mail makes the course more attractive.					
18	E-learning needs great efforts to acquire the skill to use.					
19	Computer lessons are a favorite subject for me.					
20	Dealing with e-learning increases the interaction between students and teachers.					
21	Students are getting acquisition of new knowledge from e-learning.					
22	I could probably teach myself to use an e-learning system.					

23	Online is supportive for learning.					
24	The use of e-learning will enable me to do my studies.					
25	E-learning is very challenging and exciting for me.					
26	I would use e-learning regularly throughout my school campus.					
27	E-mail provides better access to the instructor.					
28	I think it is easy to use e-learning.					
29	Interaction with e-learning requires a lot of mental effort.					
30	Increased use of e-learning is a successful idea.					
31	E-learning can't function without online.					
32	The use of E-mail helps the student to learn more.					
33	I think that e-learning is very easy to learn.					
34	sharing of information through e-mail is speedy					
35	The use of e-learning is an appropriate method.					
36	The web assisted activity horrified me.					
37	. E-learning is a part of online course.					
38	I avoid coming in contact with e-learning system in the college.					
39	I enjoy e-learning lessons.					
40	The use of e-learning is useful for students.					
41	I would like to learn with online.					
42	Online learning is difficult to use.					
43	The use of E-mail helps provide a better learning practice.					
44	I have a lot of self-confidence when I learn with online.					
45	The information gathering is very easy from online than books.					
46	E-learning is bored topic.					

REFERENCES

1.Garrett, Henry. E. (1981) Statistics in Psychology and education, Vakils, Effer and Simons Ltd., Bombay.
2.John W. Best and James V. Kahn (2012) Research in Education, PHI learning private limited, New Delhi.
3.Pandian and Ramachandran (2012) "A Study of high school students' attitude towards social science in relation to anxiety and risk taking behavior" Ph.D Thesis, Annamalai University, Tamilnadu.
4.Mangal, S.K. (2009). Essentials of Educational Psychology, PHI Learning Private Limited, New Delhi.
5.Rajasekar, S. (2009). Attitude Towards Using New Technology scale, National Psychological Corporation, Agra. India.

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