

DEVELOPMENT OF A TEST TO MEASURE E-RESOURCES KNOWLEDGE (ERKT) OF HIGHER SECONDARY TEACHERS



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ABSTRACT

An electronic resource (E- Resource) is any information source that the library provides access to in an electronic format. E-Resource consist of e-books,e-journals,e-thesis, e-library, e-databases, e-portfolio, etc.. In this research paper an attempt has been made to construct and standardize the E- Resources Knowledge Test to measure E- Resources knowledge of higher secondary teachers, as there is no suitable questionnaire available to measure the E- Resources knowledge of higher secondary teachers.

INTRODUCTION

Information Technology has introduced considerable changes in almost all walks of life. Yet the journey of innovations and developments by Information technology is not over. This is a fact that information technology is an endless stream of possibilities which cannot be summed up in a book or in an article. It is an acknowledged truth that information technology has dramatically changed the world and we can guess the coming times will introduce many new things.

Technology also has the power to transform teaching by ushering in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning. Online learning opportunities and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time.

Since teachers are the role model of student's community and teachers knowledge very useful to the students. In that time teacher's e-resources knowledge is very must. That is why the researcher feels teachers have enough e-resources knowledge, they can in turn inculcate to their students. Hence the investigator decides to choose higher secondary teachers as the sample for this study.

In order to construct the test the investigator collected a variety of information regarding e-resources from the experts and other sources, Based on that as many as 56 multiple choice questions covering the following dimensions were coined:

1. E-Books
2. E-Journals
3. E-Thesis
4. E-Library
5. E-Databases
6. E-Portfolio
7. E-Governance
8. You tube

METHODOLOGY

This test comprises of 56 items with eight dimensions. There were 7 questions in each of the eight dimensions. The maximum mark for a question is 1 and the minimum mark is 0. Therefore one can get a maximum score of 56 and a minimum score of 0 on this test. After having constructed the E- Resource s Knowledge test the investigator administered this test on a sample of 200 higher secondary teachers for pilot study in order to carry out the item analysis

ITEM ANALYSIS

Item analysis is an important step in the standardization of any test. The two criterion groups with 54 scripts each in the upper (top 27%) and the lower (top 27%) were formed. Then the index of difficulty and the index of discrimination for all the 56 questions were computed.

By convention items with difficulty index higher than 10% or lower than 90% are retained. Similarly, items with index of discrimination above 0.30 are retained. In the present study, only items having index of difficulty in the range of 52% to 81% and index of discrimination ranging from 0.31 to 0.50 were selected. Accordingly 46 items were selected out of 56 items and this constituted the final form of the test. The details of item analysis are given in Table 1.

TABLE 1

ITEM ANALYSIS – INDICES OF ITEM DIFFICULTY & DISCRIMINATION IN PILOT STUDY

S. No	No. of Students (54) in the high group who responded correctly	No. of Students (54) in the low group who responded correctly	Index of item difficulty	Index of discrimination	Item selected
1	33	10	80	0.43	S
2	27	05	59	0.41	S
3	31	07	70	0.44	S

4	32	07	72	0.46	S
5	21	09	55	0.22	NS
6	32	11	79	0.39	S
7	31	07	70	0.44	S
8	32	11	79	0.39	S
9	32	10	78	0.41	S
10	28	06	63	0.41	S
11	32	06	70	0.48	S
12	24	07	57	0.31	S
13	26	08	61	0.33	S
14	30	19	91	0.20	NS
15	32	11	79	0.39	S
16	29	05	63	0.44	S
17	28	05	61	0.43	S
18	35	08	80	0.50	S
19	31	05	66	0.48	S
20	31	09	74	0.41	S
21	31	16	86	0.28	NS
22	28	08	67	0.37	S
23	33	09	78	0.44	S
24	29	06	64	0.43	S
25	29	07	67	0.41	S
26	32	11	79	0.39	S
27	27	07	63	0.37	S
28	29	07	67	0.41	S
29	30	11	78	0.35	S
30	31	16	86	0.28	NS
31	21	09	55	0.22	NS
32	29	11	74	0.33	S
33	24	05	53	0.35	S
34	27	09	67	0.33	S
35	34	07	76	0.50	S
36	33	07	74	0.48	S
37	27	06	61	0.39	S
38	25	05	55	0.37	S
39	33	10	80	0.43	S
40	35	08	80	0.50	S
41	21	11	60	0.18	NS
42	30	19	91	0.20	NS
43	26	09	65	0.31	S
44	32	07	72	0.46	S
45	28	09	69	0.35	S

46	32	05	68	0.50	S
47	21	12	60	0.16	NS
48	32	08	74	0.44	S
49	21	08	53	0.24	NS
50	31	11	77	0.37	S
51	29	05	63	0.44	S
52	26	05	57	0.39	S
53	23	06	54	0.31	S
54	31	17	88	0.25	NS
55	34	08	78	0.48	S
56	31	06	68	0.46	S

(S – Selected ; N.S – Not Selected)

Reliability and Validity of the Test

The reliability of the test has been established by using the test-retest method and was found to be 0.69; the intrinsic validity has been calculated by taking the square root of the reliability of the co-efficient, i.e., $0.69 = 0.83$. Thus from the two co-efficient it may be inferred that this test is highly reliable and valid.

Norms for the E-Resources Knowledge Test

The 'Z' score and the 'T' scores are given in Table 2.

TABLE 2

Z AND T SCORES OF THE SAMPLE ON THE E-RESOURCES KNOWLEDGE TEST

S. No	Raw Scores X	$Z = \frac{X - M}{\sigma}$	T = 10 Z + 50
1	52	-0.1456	48.544
2	51	-0.2168	47.832
3	50	-0.2905	47.095
4	49	-0.3626	46.374
5	48	-0.4352	45.648
6	47	-0.5075	44.925
7	46	-0.5810	44.2190
8	45	-0.6525	43.475
9	44	-0.7252	42.748
10	43	-0.7971	42.029
11	42	-0.8696	41.304
12	41	-0.9421	40.579
13	40	-1.0145	39.855
14	39	-1.0890	39.110
15	38	-1.1595	38.405
16	37	-1.2316	37.684

17	36	-1.3042	36.958
18	35	-1.3764	36.236
19	34	-1.4484	35.516
20	33	-1.5233	34.767
21	32	-1.5937	34.063
22	31	-1.6651	33.349
23	30	-1.7395	32.605
24	29	-1.8112	31.888
25	28	-1.8845	31.855
26	27	-1.9123	31.321
27	26	-1.9921	30.764
28	25	-2.1423	30.254
29	24	-2.1921	29.912
30	25	-2.2465	29.342

The percentile norms are presented in Table 3 below.

TABLE 3
PERCENTILE NORMS FOR THE E-RESOURCES KNOWLEDGE TEST

Percentiles	ERKT
10	29
20	31
30	33
40	35
50	42
60	46
70	50
80	52
90	56

The final version of the E- Resources Knowledge test has been prepared with the 46 valid items. The maximum possible score will be 46 and the minimum will be zero. Higher the score in the test, greater is the E- Resources Knowledge of the candidate.

REFERENCES

1. Ebel, R.L., Measuring Educational Achievement, New Delhi; Prentice Hall of India (P) Ltd., 1966.
2. Garrett, H.E., Statistics in Psychology and Education, Hyderabad; International Book, Bureau, 1979.
3. Guilford, J.P., psychometric Method (2nd Edition) Bombay, Tata Mc Graw Hill Publishing Company Ltd., 1954.
4. Lindman, R.H., Educational Measurement, Bombay; Tara Porevala Sons, 1971.
5. Naga Subramani P.C. and Kulasekara Perumal pillai S., (2008). "Development of a test to measure Environmental Knowledge of B.Ed. Trainees", A Journal of Educational Research and Extension, V.45, n3, P. 57-66.
6. Remmers, h.H., et.al., A Practical Introduction to Measurement and Evaluation, Delhi University Book Stall, 1967.