



# Educational Interest Inventory: Construction and Standardization

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## ABSTRACT

Teachers need psychological instruments to be able to measure extent of students' educational interests. The present research paper reports efforts related to construction and standardization of an educational interest inventory for measuring students' interests in their academic subjects. The try-out form had 21 situations and each situation had a list of ten tasks. Students were asked to indicate the intensity of their preference for each given activity/task related to each situation by choosing one of the five responses namely- 'very less, less, average, much and very much' Scoring was done by assigning a score of 1, 2, 3, 4 or 5 for 'very less, less, normal, much and very much' responses. Scores on all items related to an area of interest were added together to get ten interest scores. Item analysis was done by calculating Chi-squares and item-total correlations for each item. Final form of the inventory has 15 situations and the 97 items included under them. Test-retest reliability were computed for different dimensions of interest. They were .89 for physical science, .88 for biological science, .98 for commerce, .84 for literary, .78 for social service, .74 for office management, .89 for mathematics, .81 for Religious, .88 for Music, and .78 for home science. Face validity was established.

**Keywords:** Educational interests, Chi-squares, measuring students', academic subjects

Education leads to the development of an equitable, inclusive, and just society. It is fundamental for the development of full human potential. It is a leveller/equalizer, leading to achievement of social mobility. It is essential to provide opportunities for high-quality education. Access

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to education, academic engagement of students and guaranteed support to students' learning are of crucial importance. Bridging of the gap between the current state and the expected level is required. Learning crisis and learning resistance pervade our system of education at various levels. Our focus is to be on education system rooted in Indian ethos leading to transformation of India and on developing knowledge society. Holistic development of good humans is to be ensured. Learning outcomes of education include development of higher order cognitive capacities like- critical thinking, problem solving, mathematical reasoning, memory, observation, data collection, analysis, attention, logical, conceptual understanding, pursuit of knowledge, truth and pragya; dispositions related to self-knowledge, empathy, courage, scientific-temper, resilience, self-confidence, gender sensitivity, health and well-being, citizenship skills; social skills like- respect diversity and local context, cooperation, team spirit, contemporary issues, environmental awareness, emotional-social, moral, respect for others, communication; linguistic competence; digital literacy; and ethical as well as constitutional values. More depth and flexibility in learning are needed. At secondary stage students' interest in various subjects is to be inculcated.

Interests are learned responses. Sax (1974) defined interest as "a preference for one activity over another". Preferences for activities related to a subject of study are indicated along a like-dislike dimension. Tool for measuring interest needs to indicate preference as well as extent of preference for a set of activities. Manifest interests are indicated by voluntary participation of a student in an activity while expressed interests are directly stated by a student. Kuder Preference Record compared interests in different activities. It asked students to indicate most and least preferred activity in a set of activities. Strong Vocational Interest Blank asked students to choose one of the three responses- like, indifferent and dislike, for various items- such as hobbies, subjects, occupational activities, occupations, co-curricular activities, personnel engaged in occupations.

Teachers need psychological instruments to be able to measure extent of students' educational interests. Thrust on use of interactive strategies of teaching, real life experiences in and outside the classroom, and setting of mastery goals for developing interests among students can help students develop characteristic patterns of interests related to various subjects and sustain them. Knowledge of students' typical interest can help counsellors in vocational selection also. So, author tried to develop an educational interest inventory for measuring students' interests in their academic subjects.

### **Preparation of items and item-analysis**

A pool of items meant for assessment of interests was generated by the author as a result of teaching interest to M. Ed. students for three decades and helping them in constructing items for assessment of interests. A try-out form was prepared which had 21 situations

and each situation had a list of ten tasks. Students were asked to indicate the intensity of their preference for each given activity related to each situation by choosing one of the five responses namely- 'very less, less, average, much and very much' and putting a tick-mark in a relevant box in the column related to their response. The try-out form was administered on a sample of 70 students of ninth class of a school. Scoring was done by assigning a score of 1, 2, 3, 4 or 5 for 'very less, less, normal, much and very much' responses. Scores on all items related to an area of interest were added together to get ten interest scores. Chi-squares were calculated for each of the ten items belonging to every situation. Item-total correlations were also computed for each item. They have been shown in table 1 and 2. Item-dimension correlations as given in table 2 show that all items belonging to each of the ten dimensions of interest are worth retaining. Items having item-dimension correlation less than .5 were not accepted for inclusion in the final form of the inventory. Table 1 showed that for 39 items values of chi-squares were not significant at .05 level. So, it was decided to reject these 39 items. Values of chi-squares for 22 items were significant at .05 level and they were not accepted for inclusion in the final form of the Interest Inventory. The remaining items were significant at .01 level. For five situations out of ten items five or more items were not found acceptable. So, these situations were removed from the inventory. For seven situations seven items could be retained while for five situations six items were retained, for one situation eight items were retained and for two situations five items were retained.

Thus, the final form of the inventory has 15 situations and the 97 items included under them range from five to eight. The serial numbers of selected items belonging to various dimensions of interest have been shown in table 3. For finding scores on each dimension of interest, users can add scores assigned to students' responses on items belonging to each dimension of interest on different situations. A score of 5, 4, 3, 2, and 1 should be given to responses namely- "very much, much, average, less and very less" respectively,

**Table 1:** Chi-square values for various items of Educational Interest Inventory

Item no.	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10
Chi Square	39.286**	45.429**	12.286*	4.143	6.143	0.169	20.429**	30.000**	29.000**	15.429**
Item no.	2.01	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10
Chi Square	3.857	21.286**	11.571**	20.143**	3.429	20.714**	5.143	42.857**	32.429**	42.429**
Item no.	3.01	3.02	3.03	3.04	3.05	3.06	3.07	3.08	3.09	3.10
Chi Square	14.429**	44.714**	12.143*	28.857**	29.857**	7.000	8.714	48.143**	26.714**	16.143**
Item no.	4.01	4.02	4.03	4.04	4.05	4.06	4.07	4.08	4.09	4.10
Chi Square	2.857	12.714*	16.000**	6.143	19.857**	6.714	6.143	5.286	5.143	5.571
Item no.	5.01	5.02	5.03	5.04	5.05	5.06	5.07	5.08	5.09	5.10

Chi Square	12.429**	18.286**	15.571**	16.429**	15.714**	2.571	0.429	10.429*	9.286	13.143**
Item no.	6.01	6.02	6.03	6.04	6.05	6.06	6.07	6.08	6.09	6.10
Chi Square	5.000	15.571**	21.143**	11.429**	23.429**	23.571**	14.000*	19.571**	23.286**	30.429**
Item no.	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.09	7.10
Chi Square	26.429**	31.000**	23.429**	8.714	42.714**	24.714**	12.286*	25.857**	8.143	15.000*
Item no.	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08	8.09	8.10
Chi Square	10.857*	25.143**	23.857**	25.286**	39.571**	33.143**	6.714	8.857	19.000**	23.857**
Item no.	9.01	9.02	9.03	9.04	9.05	9.06	9.07	9.08	9.09	9.10
Chi Square	3.857	37.429**	4.143	17.857**	44.857**	16.714**	9.000	9.571*	12.429*	30.714**
Item no.	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09	10.10
Chi Square	15.000**	24.714**	6.714	9.571*	51.543**	15.286**	1.286	14.571**	18.714**	12.857**
Item no.	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08	11.09	11.10
Chi Square	7.571	21.286**	19.000**	12.000*	38.286**	16.143**	2.143	20.714**	11.857*	15.143**
Item no.	12.01	12.02	12.03	12.04	12.05	12.06	12.07	12.08	12.09	12.10
Chi Square	24.286**	22.271**	15.143**	20.2571**	19.000**	10.429*	8.429	9.571*	11.143*	17.714**
Item no.	13.01	13.02	13.03	13.04	13.05	13.06	13.07	13.08	13.09	13.10
Chi Square	13.714**	29.857**	23.943**	6.857	8.000	5.714	9.000	13.143*	15.857**	4.429
Item no.	14.01	14.02	14.03	14.04	14.05	14.06	14.07	14.08	14.09	14.10
Chi Square	12.714*	16.143**	16.857**	28.000**	16.429**	31.143**	10.714*	11.857*	21.714**	9.571*
Item no.	15.01	15.02	15.03	15.04	15.05	15.06	15.07	15.08	15.09	15.10
Chi Square	6.857	17.286**	13.143*	13.000*	21.571**	10.857*	18.143**	6.229	12.429*	13.000*
Item no.	16.01	16.02	16.03	16.04	16.05	16.06	16.07	16.08	16.09	16.10
Chi Square	18.857**	19.857**	10.429*	14.143**	11.000*	13.857**	14.429**	5.286	25.286**	6.143
Item no.	17.01	17.02	17.03	17.04	17.05	17.06	17.07	17.08	17.09	17.10
Chi Square	19.871**	18.714**	13.714**	24.143**	11.714*	20.714**	6.286	28.143**	21.571**	7.714
Item no.	18.01	18.02	18.03	18.04	18.05	18.06	18.07	18.08	18.09	18.10
Chi Square	5.286	10.000*	29.429**	19.857**	13.857**	15.714**	16.000**	24.429**	45.286**	11.714*
Item no.	19.01	19.02	19.03	19.04	19.05	19.06	19.07	19.08	19.09	19.10
Chi Square	16.429**	16.571**	10.714*	21.714**	16.571**	12.571*	19.000**	19.000**	16.857**	10.714*
Item no.	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09	10.10
Chi Square	15.000****	24.714**	6.714	9.571*	51.543**	15.286**	1.286	14.571**	18.714**	12.857**
Item no.	21.01	21.02	21.03	21.04	21.05	21.06	21.07	21.08	21.09	21.10
Chi Square	23.286**	13.429**	17.429**	17.714**	17.429**	12.571*	14.286**	14.143**	21.000**	

**Table 2:** Item-dimension total correlation for various items of Educational Interest Inventory

ITEM NO.	Interest dimension									
	PHY	BIO	COM	LIT	SOC	OFF	MAT	REL	MUS	HOM
1.01	.379	.452	.435	.477	.387	.557	.618	.572	.431	.580
2.01	.633	.473	.476	.557	.361	.547	.708	.529	.549	.502
3.01	.580	.473	.501	.516	.576	.583	.703	.664	.543	.410
4.01	.703	.734	.555	.444	.515	.592	.666	.416	.669	.549
5.01	.641	.688	.423	.505	.589	.533	.779	.700	.645	.591
6.01	.739	.733	.493	.485	.672	.332	.526	.650	.618	.701
7.01	.579	.608	.553	.564	.471	.536	.648	.541	.690	.605
8.01	.679	.692	.559	.690	.442	.529	.771	.642	.705	.449
9.01	.726	.641	.569	.489	.385	.577	.496	.457	.705	.570
10.01	.657	.540	.487	.296	.337	.584	.735	.560	.717	.677
11.01	.737	.744	.554	.601	.645	.659	.631	.585	.636	.733
12.01	.690	.697	.633	.555	.698	.631	.730	.657	.739	.744
13.01	.727	.711	.535	.735	.608	.629	.766	.720	.759	.768
14.01	.747	.668	.584	.674	.453	.516	.539	.530	.595	.768
15.01	.832	.784	.691	.677	.530	.607	.651	.703	.792	.725
16.01	.780	.759	.581	.685	.529	.595	.684	.590	.616	.612
17.01	.716	.698	.535	.534	.507	.533	.532	.597	.559	.563
18.01	.807	.813	.511	.467	.622	.642	.566	.494	.642	.745
19.01	.773	.702	.624	.504	.613	.520	.598	.663	.749	.687
20.01	.757	.725	.599	.510	.358	.566	.731	.716	.663	.738
21.01	.506	.634	.651	.516	.578	.605	.551	.609	.576	.366

**Table 3:** Showing items belonging to various dimensions of interest in the final form of Educational Interest Inventory

Sl. No.	Interest Dimension	No. of items included	Serial nos. of items belonging to each dimension of interest															
1	Physical science	9	1.1	2.1		4.1	5.1	6.1		8.1		10.1	11.1		13.1			
2	Biological science	12		2.2		4.2	5.2	6.2	7.1	8.2	9.1	10.2	11.2		13.2	14.1	15.1	
3	Commerce	10	1.2		3.1	4.3	5.3		7.2		9.2	10.3	11.3	12.1			15.2	
4	Literary	10	1.3		3.2		5.4		7.3	8.3	9.3	10.4	11.4		13.3		15.3	
5	Social service	09	1.4	2.3	3.3				7.4	8.4				12.2	13.4	14.2	15.4	

6	Office management	11				4.4	5.5	6.3	7.5	8.5	9.4	10.5	11.5	12.3		14.3	15.5
7	Mathematics	7			3.4	4.5					9.5	10.6		12.4	13.5		15.6
8	Religious	11	1.5		3.5	4.6	5.6	6.4	7.6	8.6			11.6		13.6	14.4	15.7
9	Music	12	1.6	2.4	3.6		5.7	6.5			9.6	10.7	11.7	12.5	13.7	14.5	15.8
10	Home science	6		2.5	3.7	4.7		6.6	7.7							14.6	

## Reliability and validity

Test-retest reliability were computed for different dimensions of interest. They were .89 for physical science, .88 for biological science, .98 for commerce, .84 for literary, .78 for social service, .74 for office management, .89 for mathematics, .81 for Religious, .88 for Music, and .78 for home science. Face validity was ascertained by seeking opinion of four M. Ed. students who opined that all items belonging to each situation assess interest in the subject area related to them.

## Interpretation of scores

Users are advised to calculate average scores for each dimension of interest by dividing raw scores for each dimension of interest by the number of items belonging to the concerned dimension. Then level of interest in the dimension can be decided with the help of following table 4.

Score range	Up to 1	1.01 to 2.00	2.01 to 3.00	3.01 to 4.00	More than 4
Level of interest	LEAST	LESS	AVERAGE	HIGH	VERY HIGH

For example, if a student has obtained a score of 41 on 'Music' dimension of interest. 41 shall be divided by 12 to get 3.41. So, the student has high level interest in Music.

## REFERENCES

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