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Designing and Validating a Research Questionnaire on Inter-Personal Intelligence

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ABSTRACT

This study presents the systematic design and validation of Inter-personal intelligence questionnaire prepared to evaluate the inter-personal intelligence of 9th standard students of Kozhikode District in Kerala State. The tool development followed steps including expert validation, pilot study, item analysis, validation and reliability. 70 Interpersonal intelligence statements were constructed. After expert panel discussion it reduced to 62. Item analysis (based on difficulty level and discriminating index) and reliability test led to the final selection of 40 statements.

KEYWORDS

Inter-personal Intelligence, questionnaire, pilot study, Item analysis, reliability

INTRODUCTION

Education is channeling knowledge, skills, values, character and human spirit. A lifelong journey of molding human soul, escort towards wisdom, morality and self-exploration. One of the main aims of education is make him/her a social being. To accomplish these goals both the instructional approach as well as social-emotional learning must embody coherence, purpose and creativity. The interpersonal intelligence questionnaire based on the following dimensions. Communication, sensitivity, empathy, co-operation, decision making, sociability, multiple perspective, group work, take initiatives, confidence etc. Students can express their opinion or attitude towards statements by choosing the options agree, strongly agree, disagree, strongly disagree and not decided. The chosen response reflects student's attitudes or opinion on each statement.

METHODOLOGY

Tool Preparation: A preliminary of 80 Inter-personal intelligence statements was developed based on the above-mentioned dimensions. Following expert panel discussion 72 items were subjected to item analysis and reliability check.

PILOT STUDY

Rough draft of the Inter-personal Intelligence tool was prepared and it consists of 80 statements. After expert panel opinion the item reduced to 72. Clear instructions were provided to the learners, including details about the time limit, the method of answering, and other necessary guidelines. The statements were presented to 120 students in X Standard. Each statements includes four responses (strongly agree, agree, strongly disagree, disagree and neutral). Statements includes both positive and negative. based on expert panel's opinion eight statements are removed.

Score Assignment for Positive Statements

Strongly Disagree	1
Disagree	2
Not decided	3
Agree	4
Strongly Agree	5

Score Assignment for Negative statements

Strongly Agree	1
Agree	2
Not decided	3
Disagree	4
Strongly disagree	5

ITEM ANALYSIS

The effectiveness of a test can be enhanced by selecting items with appropriate difficulty levels and discrimination indices. Item analysis involves two key characteristics:

1, Item Difficulty

2. Discrimination Index

Item difficulty indicates the percentage of students who answered an item correctly, while item discrimination measures how well an item differentiates between high and low scorers. To identify high-quality test items, each item was carefully analysed. Based on the item analysis results, certain items were eliminated. The investigator selected items with difficulty values ranging from 0.5 to 0.75 and a discrimination index greater than 0.40. As a result, 40 items were chosen from the original set of 72.

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DIFFECALTY LEVEL AND DISCRIMINATIVE INDEX OF THE PRELIMINARY DRAFT

Item NO	Discriminating Power (D.P)	Accepted/ Modified/Rejected	Difficulty Value (DV)	Accepted/ Modified/Rejected
S1	.56	Accepted	.61	Accepted
S2	.48	Accepted	.66	Accepted
S3	.44	Accepted	.76	Accepted
S4	.52	Accepted	.67	Accepted
S5	.65	Accepted	.50	Accepted
S6	.28	Rejected	.40	Rejected
S7	.38	Rejected	.43	Rejected
S8	.70	Accepted	.66	Accepted
S9	.66	Accepted	.59	Accepted
S10	.17	Rejected	.33	Rejected
S11	.39	Rejected	.43	Rejected
S12	.54	Accepted	.56	Accepted
S13	.33	Rejected	.42	Rejected
S14	.36	Rejected	.33	Rejected
S15	.66	Accepted	.69	Accepted
S16	.73	Accepted	.66	Accepted
S17	.34	Rejected	.44	Rejected
S18	.77	Accepted	.66	Accepted
S19	.33	Rejected	.44	Rejected
S20	.57	Accepted	.66	Accepted
S21	.12	Rejected	.22	Rejected
S22	.49	Accepted	.76	Accepted
S23	.45	Accepted	.65	Accepted
S24	.67	Accepted	.57	Accepted
S25	.17	Rejected	.33	Rejected
S26	.39	Rejected	.44	Rejected
S27	.66	Accepted	.74	Accepted

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S28	.30	Rejected	.38	Rejected
S29	.45	Accepted	.56	Accepted
S30	.67	Accepted	.56	Accepted
S31	.33	Rejected	.47	Rejected
S32	.55	Accepted	.75	Accepted
S33	.45	Accepted	.68	Accepted
S34	.38	Rejected	.45	Rejected
S35	.56	Accepted	.76	Accepted
S36	.36	Rejected	.22	Rejected
S37	.33	Rejected	.48	Rejected
S38	.66	Accepted	.74	Accepted
S39	.76	Accepted	.66	Accepted
S40	.59	Accepted	.73	Accepted
S41	.65	Accepted	.66	Accepted
S42	.12	Rejected	.23	Rejected
S43	.35	Rejected	.34	Rejected
S44	.55	Accepted	.74	Accepted
S45	.67	Accepted	.66	Accepted
S46	.25	Rejected	.22	Rejected
S47	.11	Rejected	.30	Rejected
S48	.65	Accepted	.56	Accepted
S49	.55	Accepted	.65	Accepted
S50	.56	Accepted	.66	Accepted
S51	.27	Rejected	.32	Rejected
S52	.33	Rejected	.44	Rejected
S53	.34	Rejected	.45	Rejected
S54	.45	Accepted	.67	Accepted
S55	.55	Accepted	.67	Accepted
S56	.66	Accepted	.55	Accepted
S57	.55	Accepted	.67	Accepted
S58	.34	Rejected	.40	Rejected
S59	.35	Rejected	.49	Rejected
S60	.55	Accepted	.69	Accepted

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S61	.65	Accepted	.68	Accepted
S62	.35	Rejected	.41	Rejected
S63	.34	Rejected	.39	Rejected
S64	.34	Rejected	.49	Rejected
S65	.32	Rejected	.31`	Rejected
S66	.55	Accepted	.67	Accepted
S67	.17	Rejected	.28	Rejected
S68	.50	Accepted	.66	Accepted
S69	.54	Accepted	.67	Accepted
S70	.48	Accepted	.70	Accepted
S71	.19	Rejected	.23	Rejected
S72	.34	Rejected	.44	Rejected

RELIABILITY AND VALIDITY PROCESSOF INTERPERSONAL INTELLIGENCE TOOL

Using the split-half method, the test was separated into two comparable halves, and the correlation between them was computed. The reliability coefficient was calculated using the odd/even procedure. The procedure involves forming two sets of scores by combining alternate items from the test. The first set represents performance on the odd-numbered items (1, 3, 5, 7, 9, etc.). The second set represents performance on the even-numbered items (2, 4, 6, 8, 10, etc.)

Method	Sample	Correlation Coefficient
Split Half Method	40	Pearson's Coefficient .81
Split half Method	40	Spearman-Brown prophecy Coefficient .83

Split Half Reliability Test

Face Validity

The final test items were presented to four experts, who were asked to provide their opinions and judgments on the appropriateness of each item. As none of the experts raised any concerns, face validity was thus established.

Content Validity

Content validity was established by consulting 10 experts in the field of psychology, including 5 associate professors and 5 professional psychologists. All the statements were reviewed by the experts, and they unanimously reported that none of the statements were deviating from the intended content. Thus, content validity was ensured.

EDUCATIONAL SIGNIFICANCE

- Enhance teaching strategies
- Improves classroom interactions
- Foster Social and Emotional Learning
- Assist in personal Development
- Encourage inclusive education

TOOL FOR THE FINAL STUDY

According to the item analysis, items with a Difficulty Index ranging between 0.50 and 0.75 are considered acceptable, while for the Discrimination Index, values of 0.40 or higher are deemed acceptable.

CONCLUSION

The study effectively designed and validated a questionnaire to assess interpersonal intelligence. By employing a scientific approach to item selection, reliability testing, and validation, the tool demonstrates a strong alignment with the curriculum and cognitive learning objectives. The final set of 40 items offers a reliable and valid assessment tool that educators can utilize for both classroom evaluation and academic research.

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