Development and Validation of Inventory On Life Skills among Secondary School Students

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Abstract

This paper explains the procedure followed in development and validation of an inventory constructed by the authors to assess the Life skills of Secondary School Students. The inventory has been constructed using the Likert's method of summation to obtain a four point judgment on each item. After a thorough examination of the existing life skill inventories and considering the rapid changes in the society, the authors found the need to develop life skills inventory that can assess the secondary school students' life skill in this technological era. A critical study related to life skill of adolescents, necessitated the consideration of twelve dimensions namely personal self awareness, empathy, effective communication, inter-personal relationships, critical thinking, creative thinking, problem solving, decision making, coping with emotions, coping with stress, learning skills and digital literacy for assessing the life skill of secondary school students. A well structured inventory was administered to the secondary school Students. Initially, the inventory was constructed with 10 items each under 12 dimensions summing up to 120 items for the pilot study. The newly developed and final inventory after item analysis finalized 96 items under 12 dimensions. Content validity, item validity, construct validity were established for the final scale. Reliability of the scale by the test-retest and split half were found to be 0.84 and 0.87 respectively.

Keywords: Life skills, Secondary school Students, Inventory, Tool Development and validation

INTRODUCTION

Education is important in life because it gives people the skills to navigate the world. Without education, people would not be able to read, write, calculate or communicate; they would also not be able to perform jobs competently, accurately and safely. Education also teaches people about the world in which they live, including information about history, philosophy and culture. Education is important in life for reasons beyond basic survival skills. Education is essential for nearly every type of job or career, and in many cases, education makes the difference between being able to perform a job safely and accurately and being unable to perform a job at all. Education plays an important role towards the overall development of human beings. School education helps in the formation of a sound personality in the child.

LIFE SKILLS

The term "life skills" is open to wide interpretation. However, there was a consensus that all participants were using the term to refer to psychosocial skills. Keywords used to describe psychosocial skills were: personal, social, interpersonal, cognitive and affective. Life skills are ability for adaptive and positive behavior, to deal effectively with the demands and challenges of everyday life. Adaptive means that a person is flexible in approach and is able adjust in different circumstance. Positive behavior implies that a person is forward looking and even in difficult situating can find a ray of hope and opportunities to find solution. World Health Organization (W.H.O) has defined life skills as, "the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life". UNICEF (United Nations International Children's Emergency Fund) defines life skills as, "a behavioral change or behavior development approach designed to address a balance of three areas: Knowledge, attitude and skills". Thus, life skills are essentially those abilities that help promote mental well being and competence in young people as they face the realities of life. Life skills have been defined as follows: "Personal and social skills required for young people to function confidently and competently with themselves, with other people and with the wider community" (TACADE, UK). Life skills are the skills necessary for successful living. They are the abilities for adaptive and positive behavior that enable individuals to deal with the demands and challenges of everyday living. Essential life skills include such things as being able to recognize and describe one"s feeling, giving and receiving feedback, recognizing assumptions, setting realistic and attainable goals, and employing problem-solving strategies. In other words Life skills are abilities that facilitate the physical, mental and emotional well-being of an individual and competence in young people as they face the realities of life. W.H.O has given the life of 10 life skills as follows. 1.'Self awareness', 2.'Empathy', 3.'Problem solving',4. 'Decision making', 5.'Effective communication', 6.'Inter personal relationship', 7.'Creative thinking', 8.'Critical thinking', 9. 'Coping with emotions', 10.'Coping with stress',. They can be broadly categorized as follows below:

Categories of Core Life Skills:

      a. Core-Cognitive Life Skills: Core cognitive life skills consisting of six core life skills such as: Self- awareness, Critical thinking, Decision making, Effective communication, Creative thinking and Problem solving.

      b. Core-Affective Life Skills: Core affective life skills consisting of four core life skills such as: Coping with stress, Empathy, Interpersonal relationship and Coping with emotions.

School is the temple of learning. Teachers are the facilitators of learning process. The teacher focuses on overall development of the students. The way of teaching the subjects will influence the student's behavior. It is the duty of the teacher to build the character of a student. Gage defined teaching as a "form of interpersonal influence aimed at changing the behavior potential of another person". The main objective of teaching are, it helps the students to understand the realities and adjust in a better way, enable them to analyze the truth and take decisions, make the students a best worker and best thinker. When we relate this in the context of life skill education we can see a lot of similarities like life skills enables the individual to deal effectively with demands and challenges of everyday life, development of cognitive skills including problem solving, decision making, creative and critical thinking, and finally enabling behavior modification of the individuals.

LIFE SKILLS IN SCHOOL EDUCATION

Life skills have already been taught in many schools around the world. Some initiatives are in use in just a few schools, whilst in other countries, life skills programmes have been introduced in a large proportion of schools, and for different age groups. In some countries, there are several important life skills initiatives, originating in different groups in the country, eg. non-governmental organizations, education authorities, and religious groups.

Life skills education is applicable for all ages of children and adolescents in school. However, the age group targeted is mainly 10-18, adolescent years, since young people of this age group seem to be most vulnerable to behavior related health, emotions and social problems and as adolescents mature cognitively, their mental process becomes more analytical. They are now capable of abstract thinking and of developing an independent ideology.

The Life Skills program is central to the life and ethos of the High School. Indeed, it could be argued that the whole of the school day is involved in the delivery of Life Skills. Both inside and outside the classroom all members of the school community are working together to raise boys into young men who are prepared and keen to take their places in society. Life Skills are therefore crucial to everything that we seek to achieve at the school.

Life skills education means of empower young people in challenging situations. Life skill education refers to an interactive process of learning which enables learners to acquire knowledge and to develop attitudes and skills which support the adoption of healthy behaviours. Life skill education programme for the youth to understand self and able to asses their skill, abilities and developments. Life skills are skills to deal with real and perceived threats that confront a persons life. Life skills help youth strengthen their overall development and contribute to the motivation and skills to develop and maintain healthy behaviour. By encouraging the school children and adolescents in house hold activities they are enable to strengthen their life skills.WHO initiated life skills education. The CBSE introduced in our schools in the early part of the present decade.

NEED FOR DEVELOPING THE LIFE SKILLS INVENTORY IN THE PRESENT CONTEXT:

Life skills education is a very important and integral part of educational system worldwide. In Indian schools however, life skills education is yet to be fully initiated and recognized as an integral part of the curriculum. Shiela Ramakrishnan, in her article in Teacher Plus, says that in most schools, value education is confused with life skills education. According to her most schools have value education as part of the curriculum as it is one of the requirements of the NCF (National Curriculum Framework) though there is not much emphasis on life skills education. The Central Board of Secondary Education (CBSE) asserts that life skills education has been introduced in class 6th in 2003-4, in class 7th in 2004-5 and subsequently in classes 8th, 9thand 10th. The CBSE has presently introduced (in 2012) life skills training programme as part of Continuous and Comprehensive Evaluation targeted at the adolescent students between 10-18 years of age. Sarva Shiksha Abhiyaan (SSA) has under its agenda life skills training for the upper primary girls along with providing quality elementary education. Yet, classroom observations of Government schools in few districts of Tamil Nadu, have revealed that life skills education has often been confused with vocational education. When asked about the details of life skills education being offered in the government schools, pat comes the reply from teachers that the girl students are being taught to make dolls, stitch frocks, make candles and napkins. These data indicate that the Indian education system has not yet awakened to the necessity of life skill training programmes in its schools

The research studies in Karnataka context which bring out the life skills education problems ,implementation of life skills education programme and progress of life skills education, status of the life skills education, need and importance of life skills education in the part of Karnataka state board school education curriculum are not available, need assessment of life skills education is pivotal role in attainment and facing the mental health and social problems among school students. The present studies focus on development level and

requirement of life skills among high school students. Hence, the researcher has made a modest attempt to take up the present study.

Preparation of the Preliminary Form:

Researcher was pooling of the statements under each of the dimensions of the scale to be constructed. Based on the personal experience of the investigator and experience of review of literature and the discussions with experts, initially 160 statements distributed over the above four dimensions that had theoretical relevance to the frame of reference of attitudes towards value orientations were pooled. A few these statements were taken from the scales constructed by others. At this stage the number of items was kept to be rather high taking into cognizance of the anticipated item mortality. Then these draft items were given to 15 select judges, who were well versed in teaching as well as in the constructions of attitude scales, with a request to review the statements for their content coverage, duplication, editorial quality and to suggest addition, deletions and modifications of the items based on the criteria mentioned above. These judges were given sufficient time for this task. Based on 80 percent unanimity of the judges' suggestions a few items have been edited, a few deleted and a few added. This process resulted in having one hundred twenty statements(120). Their distribution under each of the dimensions was follows: self awareness(10), Empathy(10), Effective Communication(10), Inter personal Relationships(10), Critical thinking(10), Creative thinking(10), Problem solving(10),Decision Making(10),Coping with emotions(10),Coping with stress(10), Learning skills(10) and Digital Literacy(10). The descriptions of the dimensions are given below.

Dimensions of self awareness are: Self realization, Self knowledge, Self confidence, Self talk, Self motivation, Self esteem, Self image, Self control, Self purpose, Individuality and uniqueness, Personality, Values, Attitude, Character.

Dimensions of Empathy are: The affective / emotional dimension, The moral dimension / relational, The cognitive dimension, The behavioral dimension.

Dimensional of effective communication are: Words, Body language, Voice, Facial expressions.

Dimensions of inter personal relationships are: Control, Affixation, Activation.

Dimensions of Critical thinking are: Experience, Interpretation, Indulgence, Analysis

Dimensions of creative thinking are: Chaotic and specific, Specific and abstract, Specific and structured, Abstract and structured.

Dimensions of problem Solving are: Figure out and regularly revaluate your goals, purposes and needs, Identify your problems explicitly, then analyze them, Figure out the information you need and actively seek that information, Carefully analyze interpret and evaluate the information you collect, Figure out your options for action and evaluate them, Adopt a strategic approval to the problem and follow through on that strategy, When you act monitor, the implications of your action as they begin to emerge.

Dimensions of decision making are: Bias and performance, Adopting and changing, Thinking and analyzing, Motivating and influencing factor.

Dimensions of coping with emotions are: Pleasure (Positive, negative), Focus (internal, external), Direction (attraction, repulsion), Intensity, Arousal (low arousal emotions, high)

Dimensions of coping with stress are: Mental Behavior, Physical Behavior, Body Behavior.

Dimensions of learning skills are: Auditory learning, Visualization learning, Esthetic learning, Reading learning, Learning to be, Learning to do, Learning to know.

Dimensions of Digital Literacy are : Technology / technical skill using ability, Information and communication skill, Using of ICT awareness.

Scaling Technique:

All the statements were reviewed and edited based on the 10 criteria suggested by Wang(1932), Bird (1940), Edwards and Kilpatrick (1948) and Thurstone and Chave (1929) and four point scale was finalized.

Scoring key:

Of the total 120 statements, thus finalized, Each statement was provided with four alternative responses on a 4 point scale that range from 1 to 4, where 1 represents never, 2 represents rarely, 3 represents sometimes and 4 represents Always. So the final high scores indicate that the respondents have good Life Skills, while low scores indicate that the respondents have comparatively poor Life Skills. The total score obtained by the individual can be represented in terms of individuals with high score, average score and low score on LSI.

Pilot study:

The120 statements were randomized and were provided with standard directions and administered on the sample of 243 secondary school students, selected at random from the schools in the Hassan District. The investigator visited the schools and administered the items personally. For try-out of the statements, a two-stage stratified proportionate random sampling design.

After scoring, the 217 protocols were arranged in ascending order based on the total scores obtained by each respondent. The top hundred protocols (the top 27 per cent) and the bottom hundred protocols (bottom 27 per cent) were taken to form the upper and lower groups. These two groups provided the criterion groups. One way of finding out the discriminating power of statement is by finding out the significance of the difference between the means of the two groups, the top and the bottom, on the assumptions, that the two groups would provide the criterion groups in terms of which the individual statements may be evaluated. As suggested by Edwards (1969, pp. 152-153) 't' values for all the 120 statements were calculated. The number of statements as given in the tried out form and their 't' values were given in Table-. Edwards (1969) suggests that a statements that has its 't' value equal to 1.75 or greater than it can be retained on this criterion 96 items have been retained as their 't' values were equal to or greater than 1.75 and the remaining three statements were discarded as they had 't' values less than 1.75. The statements retained were also checked with respect to their level of significance in one-tailed test as the purpose here had been to see how much more the upper group mean was from that of the lower group mean. The 96 statements retained six were significant beyond the 0.05 level (table value for one tailed 't' at the 0.05 level being 1.65 for df 198), and the remaining ninety statements were significant beyond the 0.01 level (table value for one-tailed 't' at the 0.05 level being 2.35 for df 198). These 96 items that were significant (beyond the 0.05 and 0.01 levels) were included in the final form to establish their validity and reliability.

The above procedure of item discrimination established determines the extent to which each item 'goes along with' or measures the same thing as the total test in which it is included. The above

index of discrimination is a measure to which each statement contributes to the total test. Item total correlation is another method followed for item selection. Some researchers compute both the discrimination indices one based on criterion groups and the other based on item total correlation for the same items and select the items that stand selection in both the methods. The researcher did not resort to this procedure as it is not necessary. Murphy and Likert (1937) found for example, that the rank ordering of the statements upon the basis of the magnitude of the difference between the means of a high and low groups agreed very well with the ordering of the same statements in terms of the magnitude of the correlation between the item responses and total score. Sharma (1972, p.22) also found that the ordering of the 24 items of Likert's type scale based on 'r' values agreed with the ordering of items based on 't' values.

Table-4: 't' Values of the Statements of the Life Skill Inventory

Sl. No. of the statements in the tried out form	't' values	Significant level
1	5.3	P less than 0.0005
2	9.3	P less than 0.0005
3	1.05	NS
4	10.58	P less than 0.0005
5	9.8	P less than 0.0005
6	6.1	P less than 0.0005
7	1.23	NS
8	10.58	P less than 0.0005
9	7.79	P less than 0.0005
10	6.58	P less than 0.0005

11	7.34	P less than 0.0005
12	1.02	NS
13	7.23	P less than 0.0005
14	10.67	P less than 0.0005
15	8.90	P less than 0.0005
16	2.15	P less than 0.025
17	5.36	P less than 0.0005
18	9.08	P less than 0.0005
19	1.22	NS
20	9.65	P less than 0.0005
21	9.63	P less than 0.0005
22	1.23	NS
23	8.45	P less than 0.0005
24	6.97	P less than 0.0005
25	5.36	P less than 0.0005
26	2.31	P less than 0.005
27	7.56	P less than 0.0005
28	6.60	P less than 0.0005
29	1.32	NS
30	8.89	P less than 0.0005
31	6.56	P less than 0.0005
32	2.29	P less than 0.025
33	5.36	P less than 0.0005
34	1.12	NS

35	7.56	P less than 0.0005
36	7.89	P less than 0.0005
37	1.32	NS
38	6.97	P less than 0.0005
39	6.36	P less than 0.0005
40	2.87	P less than 0.01
41	7.25	P less than 0.0005
42	1.32	NS
43	6.78	P less than 0.0005
44	6.35	P less than 0.0005
45	4.98	P less than 0.0005
46	6.32	P less than 0.0005
47	5.87	P less than 0.0005
48	6.39	P less than 0.0005
49	5.38	P less than 0.0005
50	1.36	NS
51	6.89	P less than 0.0005
52	6.54	P less than 0.0005
53	2.21	P less than 0.025
54	6.35	P less than 0.0005
55	5.67	P less than 0.0005
56	7.67	P less than 0.0005
57	1.05	NS
58	1.36	NS

59	5.36	P less than 0.0005
60	7.56	P less than 0.0005
61	8.45	P less than 0.0005
62	1.03	NS
63	7.34	P less than 0.0005
64	6.32	P less than 0.0005
65	1.32	NS
66	5.26	P less than 0.0005
67	6.32	P less than 0.0005
68	6.76	P less than 0.0005
69	6.85	P less than 0.0005
70	8.45	P less than 0.0005
71	2.35	P less than 0.01
72	2.38	P less than 0.01
73	1.45	NS
74	5.98	P less than 0.0005
75	7.89	P less than 0.0005
76	1.25	NS
77	5.36	P less than 0.0005
78	5.67	P less than 0.0005
79	6.78	P less than 0.0005
80	7.89	P less than 0.0005
81	8.25	P less than 0.0005
82	5.67	P less than 0.0005
83	8.89	P less than 0.0005

84	1.36	NS
85	7.78	P less than 0.0005
86	2.38	P less than 0.01
87	9.08	P less than 0.0005
88	1.25	NS
89	5.67	P less than 0.0005
90	7.78	P less than 0.0005
91	8.78	P less than 0.0005
92	5.67	P less than 0.0005
93	1.09	NS
94	7.67	P less than 0.0005
95	2.38	P less than 0.01
96	1.36	NS
97	5.56	P less than 0.0005
98	7.78	P less than 0.0005
99	8.80	P less than 0.0005
100	5.45	P less than 0.0005
101	1.22	NS
102	6.67	P less than 0.0005
103	8.89	P less than 0.0005
104	9.08	P less than 0.0005
105	10.23	P less than 0.0005
106	4.56	P less than 0.0005
107	7.78	P less than 0.0005
108	8.80	P less than 0.0005
109	7.45	P less than 0.0005

110	1.04	NS
111	8.78	P less than 0.0005
112	6.67	P less than 0.0005
113	1.05	NS
114	8.67	P less than 0.0005
115	6.89	P less than 0.0005
116	0.78	NS
117	6.89	P less than 0.0005
118	6.78	P less than 0.0005
119	6.45	P less than 0.0005
120	6.45	P less than 0.0005

NS= Not significant

Note: Table Values for 't' (one-tailed)

df	0.025	0.01	0.005	0.0005
	1.980	2.358	2.617	3.373
	1.960	2.326	2.576	3.291

Bruce W. Tuckman, Conducting Educational Research, New York: Harcourt

Brace Jovanovich, Inc, 1972, p. 370.

Reliability of the Scale:

The reliability and validity of the scale have been established on a sample of 180 secondary school students selected at random from 27 schools in the Hassan District. The sample selection for this purpose was also based on a two-stage stratified proportionate random sampling technique. At first stage, 22 schools were selected at random. A precaution observed at this stage of cross validation of the tools was that the schools and students selected for inclusion in the sample for the item analysis were excluded while selecting the schools and teachers from the sample chosen for

reliability and validity of the tools. "Test validity be computed on a different sample of persons from that on which the items were selected. This independent determination of the validity of the entire test is known as cross validation"(Mosier, 1955). "Any validity coefficient computed on the same sample that was used for item-selection purpose will capitalize a chance error within that particular sample and will consequently be spuriously high. In fact, a high validity. In fact, a high validity coefficient could result under such circumstances even when the test has no validity at all in predicting the particular criterion"(Anastasi, 1968, p. 181).

For the value orientation scale two types of reliability have been established, the test re-test reliability and the split half reliability.

i). Test-Retest Reliability: Test-retest reliability is a measure of stability of a tool. Error variance in this type of reliability is carried by time sampling and this error variance corresponds to the random fluctuation of performance from one test session to the other. The test-retest reliability coefficient for the scale was found to be 0.84 with a time gap of 16 days between the two administrations. Though this is satisfactory, it might have been higher had the time gap between reduced, as retest correlations increases progressively as time interval between the two administrations decreases.

ii) Split-half Reliability: This is inter-consistency reliability. It provides a measure of consistency with regard to 'content sampling'. No temporal statibility enters this reliability and as such this is entirely a different type of reliability. The split-half reliability computed from the protocols obtained from the first administration was 0.76. After applying the spearman-Brown Prophecy Formula the reliability coefficient went upto 0.87.

As both these coefficients of reliability were satisfactory it may be said that the scale possessed a fair degree of reliability.

Validity of the Scale: The sample for establishing validity of the scale was 180 secondary school students and the details of its selection were given earlier under the heading 'Reliability of the scale'. Different types of validity have been established for the scale and each of these are explained below:

• **Content Validity:** The dimensions of the inventory and the statements under each area were fully adequate, representing behavior domain to be measured. The dimensions and the statements have been arrived at after making a thorough review of the related literature. Also, 15 select judges authenticated these dimensions and the statements under each area in respect of their adequacy.

• **Item validity:** only those statements that were highly discriminating (90 items beyond the 0.01 level of significant and 6 items beyond the 0.05 level of significance) were alone included in the final form of the scale. Such that these items had item validity.

• **Intrinsic validity:** the degree to which a test measures what it measures may be called its intrinsic validity. This definition can also be stated in terms of how well the obtained scores measures the tests' true score components. This validity is indicated by the square root of the proposition of true variance, in other words, the square root of its reliability. Another name for this statistics is the index of reliability (Guilford, 1954, p.399).

The reliability-coefficients calculated for the 'test' using test retest is 0.71 and 0.75 using split-half method. The square roots of these two indices respectively are 0.842 and 0.866 which are fairly high. These measures indicates a fairly high intrinsic validity of the scale.

Internal Consistency of the Scale:

The internal consistency of the Inventory as expressed by the inter-correlations of the dimensions and the area-total correlations has been established.

Conclusion:

As secondary school students at this stage are more inclined towards peer group, it is the school teachers who can notice many early signs of changes in their behavior, attitude and hence their Life Skill condition. The Life skill inventory(LSI) developed and validated by the authors can be used to assess the Life skill Status of secondary school students and screen them for providing further assistance in enhancing their Life Skill as early as possible as its items are found consistent and reasonably dependable for the purpose for which it is used.

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