Construction and Validation of Life Skills Scale for Primary Students with Mild Intellectual Disabilities

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Abstract

Life skills for students with intellectual disabilities refer to a set of functional skills important for independent living. The purpose of this study was to develop a Life Skills Scale (LSS) for students with mild intellectual disabilities, particularly, in the age group of 7 to 11 years, considering their limitations in intellectual functioning and in adaptive skill areas. The items for the inventory were generated via Focused Group Discussion of experts. The feedback obtained from pilot testing resulted in reframing the likert scale as well as framing items in measurable and observable terms. To ascertain the reliability of the items and the Inventory itself, it was administered to 150 students with mild intellectual disabilities studying in special schools in Kerala. The result obtained was subjected to a co-relation test and Cronbach's alpha. The findings indicated that the Life Skills Scale is highly reliable. The final tool consisted of 100 items with 10 domains each domain have 10 items. The maximum score of the scale will be 400, minimum score will be 100 and R=300. It can be used to assess life skills achievement level as well as planning for new life skills programme.

Keywords: Life Skills, mild intellectual disabilities, Primary Students.

Introduction

Life Skills are an important part of the holistic development of an individual. These skills are "the abilities individuals can learn that will help them to be successful in living a productive and satisfying life" (Hendricks, 1996). A typically growing child, at the age of six or seven, develops the foundation of life development. Children learn these skills in a deductive manner from day-to-day experiences and trial and error methods that they employ in their play activities. Powell (1985) identifies life skills as an integral aspect in the process of human development 'the life-coping life skills consonant with the developmental tasks of the basic human development processes, particularly those life skills necessary to perform the tasks for a given age and sex within the following areas of human development: psychosocial, physical-sexual, vocational, cognitive, moral, ego, and emotional'. Various theories of human development consider these specific skills as an essential component of healthy development (Mangrulkar, Vince Whitman & Posner, 2001).

In 1997, Word Health Organization (WHO) proposed ten core life skills that are important for healthy living in the home, school, community, and employment settings namely, self-awareness, empathy, critical thinking, creative thinking, decision making, problemsolving, effective communication, interpersonal relationship, coping with stress, and coping with emotions. World Health Organization gives a comprehensive definition of Life skills as "a group of psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build relationships, healthy

empathize with others, and cope with and manage their lives in a healthy and productive manner" (WHO,1997).

Life skills may be directed toward personal actions or actions toward others, as well as toward actions to change the surrounding environment to make it conducive to health." Life Skills Education program is a very important and integral part of the education system worldwide. It should enable pupils to respond positively to opportunities, challenges, and responsibilities, to manage risk, and to cope with change and adversity (White, 2004). Generally, life skills are part of a hidden curriculum - unwritten, unofficial, and often unintended lessons. The hidden -curriculum concept is based on the recognition that students absorb lessons in school that may or may not be part of the formal course of study, for instance, decision-making skills, interpersonal skills, dealing with issues, appropriate behaviors, etc. (Moss, 2019)

Generally, in research, students with mild intellectual disabilities receive less individual attention as they are aggregated with students with moderate and severe intellectual disabilities or students with other high incidence disabilities' (Bouck, Taber &Savage, 2015). In schools, the curriculum for students with intellectual disabilities aims at developing different abilities, skills, and attitudes required for independent living. Besides functional skills training, it is pertinent that a holistic curriculum is in use for children with intellectual disabilities focusing on training life skills that facilitate mental well-being and competency in children as they face the realities of life (Subasree &Nair, 2014). The purpose of this study is to develop an inventory to assess life skills in children with mild intellectual disabilities and to serve as a curriculum for life skills training.

Life Skills Education among Children with Intellectual Disabilities

The constructs of intelligence and adaptive behavior play a key role in understanding the concept of intellectual disability. According to DSM – V (2013), Intellectual disability (ID) is a neurodevelopmental disorder that occurs during the developmental age of an individual. It is characterized by significant difficulties in cognitive functioning and in 'conceptual, social and practical areas of living'. The severity of the

condition is denoted by different terms such as 'mild', 'moderate', 'severe', and 'profound' on the basis of IQ. Individuals with mild ID are slower in all areas of conceptual, social, and activities of daily living. These individuals can learn practical life skills and can lead an independent life in their community (Boat & Wu, 2015). Mangrulkar, Vince & Posner has identified cognitive skills, social competency, and emotional coping skills as important survival skills for an individual (Mangrulkar, Vince Whitman & Posner, 2001).

Research shows that despite delay and limitations in skill achievement, individuals with intellectual disabilities can learn skills when evidence-based strategies are used. Direct social skill instruction, use of behavior modification techniques, modeling appropriate behavior can enable them to acquire social skills (Gargiulo & Bouck, n.d.). Agheana et al. (2015) conclude in their study on developing logical operators in students with intellectual disabilities that though they exhibit difficulties in the process of ordering, classification, and ranking, they learn new cognitive skills through a structured approach. When given moderate and relevant guidance and opportunities to display their ability, individuals with ID can learn to handle more complex situations in life (Erez et.al., 2001). A study on self-concept development in children with mild intellectual disabilities states that self-concept development is similar to what can be expected in typically-growing children (Donohue, WIse, Romski, Henrich, & Sevcik, 2010).

Referring to Kohlberg's (1968) "Richer General Experience Hypothesis", (Traff et. al., 2020) discuss in their study that 'older children with intellectual disabilities have a richer general experience (e.g., years of schooling) than younger children of the same mental age. The richer general experience of children with ID may enhance certain aspects of their cognitive capacity over and above their mental age'. Students with mild intellectual disabilities are qualitatively and quantitatively unique and deserve unique consideration. They present different cognitive profiles. In their study on identifying differences between mild intellectual disability and other disability categories, (Bouck, Taber, & Savage, 2015) observed that across achievement tests, students with mild intellectual disability consistently scored higher Jaison M Peter 3346

than moderate/severe ID, but lower than students with learning disabilities.

Students with disabilities can learn to identify problems and possible solutions if they are helped with problem-solving instruction. They sufficient require time, repeated opportunities, and guided practice in problemsolving skill acquisition and generalization (Glago, 2005; Glago, Mastropieri, & Scruggs, 2009). A unique project in Israel, 'Equal in uniform' involved providing opportunities for people with intellectual disabilities to serve in the military. Individuals ranging from mild to moderate ID were included in the program. The study highlights the achievement of social and work skills, a sense of empowerment, and increased feelings of self-esteem. In addition, the high motivation of soldiers with ID impacted the motivation of soldiers without ID (Werner The conclusion of the et. al., 2018). aforementioned studies emphasizes the fact that if given systematic intervention in cognitive, social, and emotional skill areas, individuals with mild ID can achieve skills, though at a slow pace.

Objective

1. To develop and validate the Life Skills Scale (LSS) for students with mild intellectual disabilities at the primary school level.

Methodology

Method

Normative survey method was employed in this study

Sample

Sample included 150 primary school students from special school in Kerala with mild intellectual disabilities, in the age group of 7 to 11 years. Random sampling technique was used in the study Table 1 provides demographic details of the sample.

Table-1 Demographic details of the sample

Sl No	Demographic Variables	Category	N	%
1	Gender	Male	86	57.3
		Female	64	42.7
2	Age	7	28	18.7
		8	24	16.0
		9	27	18.0
		10	33	22.0
		11	38	25.3
3	Economic	Low	68	45.3
	status	Middle	71	47.3
		Upper	11	7.3
4	Locality	Rural	82	54.7
		Urban	68	45.3

The sample consisted of participants with mild intellectual disabilities within the age group of 7 to 11 years from different economic statuses and locality. Within the age group, 7 years constituted 18% (N=28), 8 years 16% (N=24), 9 years 18 % (N-27), 10 years 22 % (N=33), and 11 years 25.3% (N=38). The major portion of participants (93.6%) belonged to low and middle economic status, 45.3% (N=68) and 47.3% (N=71) respectively, whereas only 7.3% were of upper economic category. More than half percent of the sample were residents of rural communities 54% (N=82), and 45.3% (N=68) were from urban areas.

Procedure of Scale Development

The Life Skills Scale (LSS) has 10 core life skills areas that were proposed by the World Health Organization (WHO,1997). While generating items in each skill area, the main characteristics of intellectual disability were considered i.e., 'significant limitation in intellectual functioning and adaptive behavior skills' (Schalock, Luckasson & Tassé, 2021). The process of LSS development consisted of two phases such as

1. Development of Scale

2. Validation of Items.

Phase1: Development of Scale

Item generation: In the initial phase of drafting inventory, a Focus Group Discussion with experts was organized. This group is comprised of five experts, three from the field of Special Education and two from Psychology, with research experience. The LSS included 10 domains. (Self-Awareness, Empathy, Critical thinking, Creative thinking, Decision making, Problem solving, Interpersonal relationship, Effective communication, Coping with stress and Coping with emotions) with varying numbers of items, totaling 128. 4 point Likert scale pattern was adapted. All the items in each skill area were presented in constructive notes, excluding negative or undesirable behaviors. A pilot study was conducted to establish content validity.

Content Validity: A pilot study was conducted on 15 students with mild Intellectual Disabilities in the age group of 7 to 11 years. The LSS was sent to 8 Special educators and was instructed to provide inputs on practicability, appropriateness of items, and ease of administration. Based on their feedback, 35 items were restructured by expressing them in observable and measurable terms, and some of them were irrelevant, repetitive, and ambiguous in nature. After revision, LSS contained 128 items;. The inventory was also revised in terms of scoring patterns. Experts noted that the Likert scale adopted for the LSS was more of subjective nature, as Special educators provide their view of the student. Therefore, a 4-point scale was introduced in LSA; does not yet do (1), does with a lot of help (2) does with a little help (3), and does independently (4). The reliability of each item was established by corrected itemtotal correlation method. Table 2 represents the correlation score of selected items.

Table 2 Test item and corrected item-total correlation of selected item

Test	Corrected	Test	Corrected item-	Test	Corrected item-	Test	Corrected item-
Item	item-total	Item	total Correlation	Item	total	Item	total
	Correlation				Correlation		Correlation
1	0.561	26	0.658	51	0.700	76	0.614
2	0.645	27	0.667	52	0.707	77	0.714
3	0.609	28	0.685	53	0.606	78	0.622
4	0.577	29	0.627	54	0.593	79	0.621
5	0.627	30	0.631	55	0.620	80	0.665
6	0.549	31	0.585	56	0.690	81	0.659
7	0.639	32	0.648	57	0.558	82	0.605
8	0.740	33	0.585	58	0.601	83	0.720
9	0.654	34	0.580	59	0.630	84	0.778
10	0.616	35	0.603	60	0.634	85	0.529
11	0.697	36	0.526	61	0.552	86	0.580
12	0.594	37	0.550	62	0.559	87	0.576
13	0.697	38	0.592	63	0.689	88	0.637
14	0.740	39	0.601	64	0.563	89	0.667
15	0.697	40	0.718	65	0.647	90	0.512
16	0.629	41	0.691	66	0.683	91	0.524
17	0.691	42	0.643	67	0.637	92	0.635
18	0.708	43	0.553	68	0.546	93	0.660
19	0.729	44	0.718	69	0.717	94	0.517
20	0.774	45	0.627	70	0.689	95	0.581
21	0.658	46	0.706	71	0.631	96	0.504
21	0.651	47	0.785	72	0.701	97	0.674
22	0.584	48	0.747	73	0.564	98	0.683
24	0.700	49	0.642	74	0.599	99	0.664
25	0.603	50	0.555	75	0.685	100	0.566

In this correlation test of each item, the score was above 0.4 which indicates the reliability of the items to measure life skills. The items with

the score 0.4 and above are selected. Rest of the items are rejected (Vijayalakshmi, S., & Mohanasundaram, K, 2016).

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Phase 2: Validation of Items

Face Validity: The LSS was analyzed by two experts and ascertained its validity in terms of appropriateness of items to adequately measure each skill of the 10 domains.

Internal Reliability: Internal consistency of the scale was measured using Cronbach's alpha. Domain-based reliability and the consistency of LSS were established and the analytical report is represented below:

Table 3 Domain-based reliability

Domain	Number of items	Cronbach's alpha
Self-Awareness	10	0.917
Empathy	10	0.950
Critical thinking	10	0.939
Creative thinking	10	0.876
Decision making	10	0.920
Problem solving	10	0.915
Interpersonal relationship	10	0.909
Effective communication	10	0.915
Coping with stress	10	0.901
Coping with emotions	10	0.918

The co-efficient scores of each domain indicate that the items are highly reliable in nature. All the domains except creative thinking scored above 0.9. An insignificant difference noted in the creative thinking domain may be attributed to the difficulty of individuals with intellectual disabilities in the areas of creativity and innovation.

Table 4 Reliability of Life Skills Scale

	Number of items	Threshold	Cronbach' s alpha
Life skills	100	0.7	0.987

The Life Skills Scale scored 0.987 in Cronbach's Alpha test, with a threshold value of 0.7. This value indicates that the reliability of the scale is

in the 'Excellent' category as the coefficient score is between 0.65 and 0.8. (Nunnally & Bernstein, 1994; Cortina, 1993). The scale has 10 dimensions with total of 100 items. The final scale has100 of items with 4 point scale. The maximum score of the scale will be 400. The minimum score of the scale will be 100. R=300

Discussion

The attempt to construct and validate an inventory to assess the life skills of students with mild intellectual disabilities was undertaken, understanding the absence of such a tool for this group of students. Central Board of Secondary Education (CBSE), Indian Certificate of Secondary Education (ICSE), and National Council of Education Research and Training (NCERT) have devised life skills education checklist and program for typical students and have incorporated life skills training within the curriculum. So far, the inclusivity of appropriate life skills for students with intellectual disabilities is not specified in any of these life skills programmes. Besides, the curricula for students with intellectual disabilities give more emphasis on life skills, which give more priority to essential functional skill areas like self-care, domestic and functional academics (Hunt & Marshall, 2012). Now, the life skill scale is used to assess the life skills of primary school students with mild intellectual disabilities.

The final scale has 10 dimensions with the total of 100 items and with 4 point scale. The maximum score of the scale will be 400. The minimum score of the scale will be 100. R=300.

This scale adopts Teacher Rating on 4 – point Likert scale, focusing on different levels of skill achievement i.e., cannot do, prompt dependent, and self-sufficient, through observation of target skills in various situations in the school setting. Evidently, the scale can also serve as a curriculum for life skills training for students with intellectual disability. Since the items are specified in behavioral terms, teachers can plan activities to address each life skill. The reliability of the Inventory was ascertained using the Co-relation test and Cronbach's alpha.

Various studies support learning of cognitive, social, and emotional skills - self-concept development, self-esteem, ability to handle complex situations, generalization, and work

skills – among students with mild ID when provided with repeated instruction, guided practice, and extra time and opportunities in a structured manner (Gargiulo & Bouck, n.d.; Agheana et al., 2015; Erez et al., 2001; Glago, 2005; Glago et. al., 2009; Werner et. al., 2018). Therefore, this inventory has great significance for students with mild intellectual disabilities in the general and special education system, using along with functional and general education curriculum. The 4-point scale informs the current level of performance of each student with mild ID in life skill areas and teachers can take further steps towards enhancement of these skills.

The result obtained from this study shows that the Life Skills Scale (LSS) for students with mild intellectual disabilities is a simple, reliable, and valid measure of the life skills of students with mild intellectual disabilities. To our knowledge, the Life Skills Scale represents a unique standardized life skills measure for this group. It has many potential applications for research, outcome measurement, and helping tailor specific interventions for individual children.

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