

Identification Effective Learning Models for Teaching Self-Determination to Individuals with Intellectual Disability: A Systematic Review

Latifa Garnisti Rifani
 Yogyakarta State University
 Yogyakarta, Indonesia
 latifarifani27.2017@student.uny.ac.id

Nur Azizah
 Yogyakarta State University
 Yogyakarta, Indonesia
 nur_azizah@uny.ac.id

Abstract— Outcomes of individuals with intellectual disabilities are still very low, this is due to the lack of ability of self-determination of individuals with intellectual disabilities. While the learning practice of effective self-determination is still very limited. This study aims to identify an effective learning model of self-determination for individuals with intellectual disability. The results of this study can help practitioners to provide effective learning practices of self-determination for individuals with intellectual disabilities and can improve the outcomes of individual intellectual disability. There are six articles regarding the intervention of learning self-determination of individuals with intellectual disability that fit the criteria. Based on the analysis of qualitative descriptive data, found that a) there are several models suggested for practitioners / educators to use depending on the area and aspects of the elements of self-determination that want to be developed, b) Self-determination skills can be applied in all aspects of life, and can be given early. The implication for practitioners is that they can use effective learning models of self-determination in accordance with the areas and elements of self-determination behavior that are to be achieved for individuals with intellectual disability.

Keywords— *self-determination, learning model, intellectual disability*

I. INTRODUCTION

Outcomes for students with mental retardation represent some of the poorest postschool outcomes of any disability group, including being the least likely to (a) leave high school with a diploma, (b) be involved in organized community groups, and (c) be engaged in work, postsecondary education, or work preparation. National Longitudinal Transition Study 2 [NLTS2],[1]. Research indicates that students with an intellectual disability and/or developmental disabilities (I/DD), however do not achieve transition outcomes at the level students without disabilities achieve them [2]. A large number of adults with I/DD continue to live with their parents after high school, by Ross,*et al.*, in [3] with limited friends and few employment opportunities [4].

Research has shown that skills related to self-determination (SD) correlate with positive academic, transition, Roffman, *et al.*, in [5], and employment outcomes Gragoudas & Stelios, in [6] for students with disabilities. Students who are self-determined, “implement strategies that

enable them to modify and regulate their own behavior; and utilize strategies that support them to track their progress toward the goal and to modify either the goal or the action plan as needed” by Wehmeyer, *et al.*, in [7] The skills of self-determination are needed by students with disabilities, especially students with intellectual disabilities, so that they can direct their way of life independently. So that their level of dependence on the surrounding environment can be reduced.

Previous research has discussed the importance of self-determination skills for children with intellectual disabilities [6]. Self-determination has a positive impact on students' academic achievement with intellectual disability [8]. And also have a positive impact on student outcomes after completing secondary education [9]. In addition, there are factors that influence the impact of learning self-determination for students' groups of intellectual disability based on gender, ethnicity and level of disability [10]. This means that the skill of self-determination has an important role in the success of individuals intellectual disability in academic and transitional periods after graduating from school.

Previous research only focused on three things, namely the importance of self-determination for individuals intellectual disability, the impact of learning self-determination on academic achievement and individual outcomes of intellectual disability, as well as factors that influence the impact of learning self-determination for individuals intellectual disability. Whereas the practice of how self-determination is taught to individuals intellectual disability to achieving life's goals has not been widely shown in the literature. And there are no results of best practices that can be applied by educators in providing learning of self-determination for individuals of intellectual disability.

Intellectual disability must be prepared to manage their lives after graduating from school to continue their work or continue to higher education. The skills of self-determination for children intellectual disability can be improved through various learning models that exist today. Seeing the importance of the skills of self-determination to be possessed by individuals intellectual disability, it is necessary to have further research on the practice of learning self-determination for individuals of intellectual disability. There are two questions that will direct the course of this research, namely:

(a) What is the learning model of self-determination that is most effective in improving the skills of self-determination for individuals of intellectual disability ?; and (b) What are the components of the self-determination behavior that can be improved in the model?

This research is a systematic review study on the identification of the most effective learning model to improve the determination skills of individuals with intellectual disability based on evidence of existing practices. This study aims to get the results of best practices in learning self-determination based on evidence of existing research practices. Such as identifying material, strategies and effective learning methods to improve the skills of individual self-determination of intellectual disability. The results of this study can show material, strategies or methods that can be used effectively to improve the skills of individual self-determination of intellectual disability.

The rest of this paper is organized as follow: Section II presents proposed method. Section III presents the obtained results and following by discussion. Finally, Section IV

concludes this work and highlights limitation & future works.

II. PROPOSED METHOD

Initially the location of the search for articles using an electronic database (SAGE Journals) was first determined. The time period for the search for articles was limited to articles published in the last 10 years, namely 2008-2018. Search uses three key terms, namely "intellectual disability", "self-determination", and "learning models". Then the article was selected based on the following criteria: (a) articles relating to the topic of self-determination, (b) target populations including individuals with intellectual disability, (c) articles written in English, (d) articles published in the last 10 years, (e) related articles with learning and or intervention, (f) articles selected using experimental research methods or treatment, and (g) articles using standard measuring tools regarding self-determination skills. The results, 6 journal articles are obtained that match these criteria, namely, Wehmeyer, *et al.*, [11], Palmer, *et al.*, [12] in Lee, *et al.*, in [13], by Wehmeyer, *et al.* in [14], [15].

TABEL I. SUMMARY OF LEARNING SELF DETERMINATION ARTICLES

Reference	Design	Participants	Intervention Program	Material	Procedure	Measure	Result
Wehmeyer <i>et al.</i> , [11]	Randomized Control Trial	419 (27% ID, 6% ASD, 37% LD, 8% EBD, 22% Others) with range age from 11.3 to 21.8 years	Whose Future Is It Anyway? (WFA Curriculum)	Self-direct	6 Sections (Getting to know you, making decisions, how to get what you need, goals, objectives and the future, communication, thank your honorable chairperson)	The Arc's Self-Determination Scale and The AIR Self-Determination Scale	The increase in the transition of knowledge and skills, the length of time the treatment affects the increase, the age range does not affect the increase.
Palmer <i>et al.</i> , [12]	Randomized Control Trial	312 (30% ID & 70% LD) with range age from 13.5 to 21.3 years	Self-Determined Learning Model of Instruction	Problem Solving, self-direct learning	3 phases instructional (identify the problem, identify potential solutions to the problem, and identify educational supports that can be used to enable students to self-direct learning)	The Arc's Self-Determination Scale and The AIR Self-Determination Scale	An increase in the outcome of the outcome of self-determination, the result of the intervention of LD> ID.
Palmer <i>et al.</i> , [12]	Quasi-Experimental	109 (100% ID) with range age from 17.2 to 21.8 years	Beyond High School Model	Planning and decision making, problem solve, set and achieve goals	3 stages (establish short- and long-term goals based on personal preferences, person centered planning with stakeholders to refine goals, and implement the plan)	The Arc's Self-Determination Scale	Increases in Self-selected goals and post-school outcomes. Direct instruction, many opportunities, and high expectations can maximize positive outcome.
Lee <i>et al.</i> , [13]	Quasi-Experimental	168 (14% ID, 4% ASD, 63% LD, 11% EBD, 8% others) with average age 13.89	Whose Future Is It Anyway? (WFA Curriculum)	Self-efficacy, transition planning	Unknown	The Arc's Self-Determination Scale and The AIR Self-Determination Scale	Increases in self-efficacy and expected outcome outcomes
Wehmeyer <i>et al.</i> , [14]	Quasi-Experimental, control group	371 (28% ID & 72% LD) with range age from 14 to 20 years.	Self-Advocacy Strategy, Whose Future Is It Anyway? (WFA Curriculum), Self-Determined Learning Model of Instruction, NEXT S.T.E.P	Self-determination and the outcome	Self-Advocacy Strategy (7 instructional stages), Whose Future Is It Anyway? 'WFA Curriculum' (5 sessions), Self-Determined Learning Model of Instruction (3 phase instructional process), NEXT S.T.E.P Curriculum (4 unit that consists of 16 lessons)	The Arc's Self-Determination Scale, The AIR Self-Determination Scale, Self-Direct IEP and Questionnaire of WFA	Multi-component model learning is considered important, improvement in goal setting, problem solving, decision making
Shogren <i>et al.</i> , [15]	Quasi-Experimental	100% ID with range in age from 10 to 21 years	SDLMI, SDLMI mix WFA	goal setting, problem solving, decision making, planning, initiation	Self-Determined Learning Model of Instruction (3 phase instructional process), WFA (15 chapters)	Self-determination Inventory: Student Report (SDI: SR), Parents/Teacher Report (SDI: PTR)	SDLMI Intervention Results> SDLMI & WFA, SDLMI (improving each aspect individually / more focused) SDLMI & WFA (improving certain aspects such as the transition of elementary knowledge and skills but not too significant).

III. RESULTS AND DISCUSSION

From the Table I above, Articles that have been collected are grouped according to the learning model of self-determination used. Based on the six articles collected, there are five learning models, namely as follows: (a) Whose future is it anyway? (B) Self-determination of learning model of instruction (c) Beyond high school models, (d) Multi-component Learning Models, and (e) SDLMI & WFA.

A. *Whose Future Is It Anyway? (WFA)*

There are two articles that use the WFA learning model, namely Wehmeyer, *et al.* in [11], [13]. The WFA model consists of 6 sections as follows: (a) Getting to know you, (b) making decisions, (c) how to get what you need, (d) goals, objectives and the future, (e) communication, and (f) thank you honorable chairperson. This learning model focuses on the transition of skills and knowledge as preparation for students to face the transition period from school to work or high school. Based on the two studies, it is known that the improvement of the prominent aspects after treatment is the transition of knowledge and skills, self-efficacy, and expected outcomes. Based on the research of Wehmeyer, *et al.*, [11] the age of participants did not have any influence, the influence was the length of treatment / intervention given to individuals intellectual disability.

B. *Self-Determination Learning Model of Instruction*

There are two articles that use the SDLMI learning model, namely Wehmeyer, *et al.*, in [7] and Shogren, *et al.*, in [15]. SDLMI consists of 3 instructional phases, namely (a) identifying problems, (b) identifying potential solutions to problems, and (c) identifying educational support that can be used to enable students to learn independently. This Learning Model focuses on self-regulate, problem solving, goal setting, self-monitoring, and self-evaluation. SDLMI learning model can be used in various fields of learning, ranging from academic, vocational, career, social interaction, self-management skills, and other things that students can think of by Shogren *et al.*, in [16]. According to Shogren *et al.*, in [15] the SDLMI learning model can improve every aspect of self-determination in a focused manner, because this model focuses on the abilities of everyone. But in its implementation, it can be done widely or classically.

C. *Beyond High School Model*

Beyond High School Learning Model is used in the study of [12]. This learning model consists of three stages, namely (a) establishing short- and long-term goals based on personal preferences, (b) people-centered planning with stakeholders to improve goals, and (c) implementing plans. Based on the research of Palmer, *et al.* in [12], this model can increase the self-selected goals and the results of post-school outcomes. In addition, direct instructions, many opportunities, and high expectations can maximize positive outcomes. This learning model can be applied in IEP design, where this learning model emphasizes students' decisions in determining the steps and goals of future learning.

D. *Multicomponent Model Learning of Self-Determination*

This learning model is applied by Wehmeyer, *et al.*, [11], where the applied model is a mixture of various learning models of self-determination. These models are Self-Advocacy Strategy, Whose Future Is It Anyway? (WFA Curriculum), Self-Determined Learning Model of Instruction, and NEXT S.T.E.P. Wehmeyer, *et al.*, in [14] assume that multi-model learning is important. Students need to learn and practice various kinds of skills and have many experiences that touch on aspects of self-determination. This multi-component model enhances the goal setting, problem solving, decision making aspects.

E. *Self-Determination Learning Model of Instruction and Whose Future is It Anyway?*

There is one article that uses two types of learning models as an intervention of self-determination for individuals of intellectual disability, namely the article [15]. Shogren, *et al.* in [15] uses two learning models, namely SDLMI and WFA. This model can only improve certain aspects such as the transition of knowledge and skills of self-determination, but the increase obtained is not too significant. With the presence of the WFA in the SDLMI learning model, making learning of self-determination does not focus too much on individuals like the characteristics of SDLMI itself. Based on the six articles reviewed, almost all articles focus on the transition period of the child to work or college. Whereas according to Wehmeyer, *et al.* in [17] that self-determination skills aim to achieve quality of life (QOL). Where quality of life is not only identified by having a job after graduating from school. Stewart *et al.*, in [18], stated that it is important to remember that the satisfaction of all the quality of life does not only come from having a job or being a self-reliant individual, but based on the joining of individuals into work that is meaningful for themselves and the individual is active in citizenship. In line with this opinion, another opinion states that the balance between support for community autonomy / competence and support for the needs of the community to synergize with each other, this is the meaning of expected quality of life by Anderson *et al.*, [19]. While other opinions state that services need to be designed to provide opportunities for teenagers and young adults to apply self-determination skills that will improve all aspects of their lives. Some of these opinions lead to the conclusion that self-determination needs to be applied in all aspects of an individual's life, not just focusing on the transition from school to work or higher education.

When looking at the statement above that self-determination needs to be applied in all aspects of life, the subject who can receive learning of self-determination can begin from an early age to adulthood. Not only is the age range ranging from teenagers to adults as the six article applies. Increasingly research realizes that the provision of self-determination skills needs to be given from childhood to adulthood by Palmer & Wehmeyer, in [20]; [18]. Children can accumulate skills and abilities over time, rather than expecting that autonomy can be achieved in a short time. In other words, self-determination skills need to be taught to an individual from an early age. Especially for

children with intellectual disabilities who have the characteristics of low thinking skills, so that it is expected that by providing skills in self-determination skills early on it can increase the chances of achieving self-skills in children with intellectual disabilities.

In addition, when looking at the learning model of self-determination skills from six research articles reviewed, there are six different models of self-determination learning. Of the six learning models, there are three learning models namely WFA, Self-Advocacy, and NEXT S.T.E.P which in its application only focus on the transition of students from school to the world of work or higher education. Whereas when looking at the need to learn the skills of self-determination in all aspects. The three learning models are less able to facilitate educators to provide skills of self-determination in all aspects of life. For learning models Beyond High School and SDLMI have advantages compared to the four other learning models. SDLMI learning models can be used in various fields of learning, ranging from academic, vocational, career, social interaction, self-management skills, and other things that students can think of [16]. In line with SDLMI, the BHS learning model can also be applied to other learning fields not just careers. The BHS learning model can be applied during the IEP design period when children will receive education at school. If you look at the needs of educators and students of intellectual disability in the field to provide learning skills for self-determination skills in all aspects of life, then the Beyond High School learning model and SDLMI become more appropriate choices for educators to use

TABLE II. OVERVIEW OF LEARNING MODELS, FOCUS AREAS AND PARAMETERS OF SUPERIOR ASPECT

Model	Focus of Learning Area SD	Parameters of Superior Aspect
WFA	Preparation for the transition period from school to work or high school	transition of knowledge and skills, self-efficacy, and expected outcomes
SDLMI	Academic, vocational, career, social interaction, self-management skills, and other matters	self-regulate, problem solving, goal setting, self-monitoring, and self-evaluation
BHS	Various fields, can be applied in the design of the IEP	self-selected goals and outcomes post school

Based on the Table II above, six articles, there are four articles with three different learning models. Where the model gets the impact of learning significant self-determination skills, namely WFA, SDLMI, and BHS (see Table II). The four articles have a learning model that can be used to improve the skills of self-determination regarding various elements of self-determination behavior for individuals with intellectual disability. While the other two articles use several models of learning as an intervention for individuals with intellectual disability. The first study by Wehmeyer *et al.*, in [14], found an increase in goal setting, problem solving, decision making. Aspects that increase only slightly when compared to the number of learning models used in the study. So that the implementation is

deemed ineffective and unbalanced between business and results obtained. The second study is a study by Shogren *et al.*, [15], which states that the use of two models namely SDLMI and WFA does not get significant results and instead eliminates the advantages of SDLMI itself.

IV. CONCLUSION AND RECOMMENDATION

This study has presented a systematic review on identification effective learning models for teaching self-determination to individuals with intellectual disability.

A. Limitation

In this study there are several obstacles faced. First, there are not many research articles discussing intervention or learning of self-determination of individuals with intellectual disability. This is due to the intervention or learning of self-determination of individuals intellectual disability is research that requires a long time in researching or giving treatment. Based on the six articles reviewed, the time span of the research conducted was 10 weeks - 3 years. Second, based on the six articles not clearly explained the target elements of self-determination behavior to be achieved. Third, the standard measuring instrument that is used functionally measures the components of self-determination behavior components, but the presentation of the components does not convey what elements of components have been and have not been clearly achieved. The article only addresses the main objectives of the area of learning that are taught.

B. Recommendation

In accordance with what was presented in the discussion, there are several models that are recommended for use by practitioners / educators depending on the area and aspects of the elements of self-determination to be developed. In addition, learning material for self-determination cannot only be applied to the transition period from school to work or high school, but also all aspects of life that can be referred to as Quality of Life (QOL). Learning good self-determination is given early, to get the ability of optimal self-determination skills.

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