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Pedagogic competence in developing vocational skills of students with intellectual disabilities

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ABSTRACT

This study aims to analyzed the pedagogical competence of teachers in vocational skills for students with intellectual disabilities. Vocational skills teachers at Special Education Schools are required to master the types and characteristics of students with special needs and the basics principles of special education. The research subjects were 37 special schools teachers in West Java Province. The research used a quantitative approach with the type of survey method and used as an evaluative method. This research is intended as validation to measure the effectiveness of the life skills training program model in developing social independence and productive work skills students with mild intellectual disabilities. The data was analysis with percentage and result showed : a) pedagogical competence in planning, quite good (88,5 %); b) the understanding of educators to believe the importance of identifying individual programs (90%); c) educators conditioning the initial learning activities well (90%); d) the understanding of educators in competence to carrying out skills education well (90,5%), including: mastery material component development of systematic training strategies; e)reflection of educators by involving participants (87%), follow up by paying attention to completion of the participant's assignments and by giving directions for enrichment activities or tasks (89).The results of this study have significant implications for the development of the quality of educational services for students with disabilities in schools. In general, this research is expected to: 1). Provide a reference for institutional strengthening, especially in special schools in developing quality educational service instruments. 2). Strengthening teacher competence in using instruments in the process of educational services for mentally retarded students. 3) become material for consideration or material for the government and the business field, to develop aspects of competence in the vocational field for persons with intellectual disabilities.



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Introduction

Teacher's pedagogical competence is an important thing in educational activities, which is attached to the aspect of educators as a key element in developing educational interactions. Pedagogic competence is fundamental in the process of delivering education. Teacher professionalism is significantly related to teacher competence (Anif, Sutarna, Prayitno, & Idrus, 2019); (Djuanda, 2019); (Ramaliya, 2018). Teacher pedagogic

competence is a set of knowledge, skills, abilities, and behaviors that must be internalized and mastered by teachers in educating. Teachers who have pedagogic competence would have ability to managing learning process effectively and achieve the expected goals (Ismail, 2015) The importance of pedagogical competence relate to the ability of educators to understand the character of students, to find effective learning strategies, and to develop learning materials, media and learning resources and to assess the achievement of educational outcomes according to the expected goals. Teacher's quality is the key to optimally achieve the learning goals (Siregar, 2020); (Sri Wahyu et al, 2021).

Pedagogical competence in the curricular context, includes skills in developing aspects of ideal curricular values. According to national regulation regarding pedagogical competence in article 28 paragraph 3 point (a), pedagogical competence in the national standards is defined as the ability to manage students' learning which includes understanding the learner; designing, and implementing, learning outcomes; and developing learners to actualize their potential (Novianti & Nurlaelawati, 2019). It manifest in skill to designing and planning lessons according to the factual needs and conditions of students. Another skill is to implement ideal values in learning activities, by paying attention to various aspects that will affect learning outcomes which will be carried out contextually and constructively. Teacher's pedagogical competence will increase student's learning motivation (Febrianis, Muljono, & Susanto, 2014).

Teachers have a significant contribution in developing student's positive behavior. It consider that teachers are actually the main educational actors that have important role in conditioning learning activities of their students. Thus pedagogical competence is teacher's important skill to achieve educational outcomes optimally. Pedagogic competence is the ability of teachers to manage learning, design and implement learning, evaluate learning outcomes and develop students to actualize their various potentials (Yulianti, 2012); (Jumiati Nur, 2021) Especially in educational activities for students who have difficulties in the learning process. As well as this research is developed in the context of special education whose develop the empowerment of students with intellectual disabilities. Through life long learning individual can improve their work opportunities (Cedefop, 2011).

Students with intellectual disabilities are individuals who naturally demonstrate delays in cognitive and adaptif behaviour skills. Due to their intellectual disabilities, these students have limitations in developing their independent lives, and having difficulties to adapting and participating socially in society. Vocational education is a form of education that focuses on mastering skills to work (Suharno, Pambudi, & Harjanto, 2020) In accordance with the potential conditions of students with intellectual disabilities, the educational service that must be developed is to prioritizes life / vocational skills education than academic skills. Vocational skills are skills that are associated with certain fields of work in society (Anwar: 2010). In line with the conditions of students with intellectual disabilities / mental retardation, educational service that is important to develop is vocational education that will be useful after graduating from formal school, because students with special needs has problems to continuing to advanced education because of their difficulties in academic proficiency.

Training in vocational skills to students with intellectual disabilities aims to develop the various potentials of students according to their talents and interests so that skills will become provisions for life in society. Vocational skills for special needs students were broken into three main categories, pre employment, job taska and job retention (Woalder, 2017). Vocational skills are more practical than theoretical skills. Individuals learn vocational skills from hands-on experience. Instruction in vocational skills offers hands-on training in a specific trade or job industry (Anggraini, 2016) Also connecting these students to job coaches and job placement programs and services (Naugle, Campbell, & Gray, n.d.)

This study aims to analyzed the pedagogical competence of teachers in vocational skills for students with intellectual disabilities and also to strengthen the results of research on a life skills training program model in developing work independence for students with intellectual disabilities / mild mental retardation.

Method

The research method used a quantitative approach with survey method. Research was conducted in several Special Education School and Social Service in 7 district in West Java Province. Sample determine by purposive sampling techniques. Subject of research are 37 teachers from 13 special education school at level senior high scholl and from 1 social service institution. The data collected by questionnaire istrument and analysis with percentage data. This research is intended as validation to measure the effectiveness of the life skills training program model in developing social independence and productive work skills students with mild intellectual disabilities.

Results and Discussions

The results of research on special education schools show that teachers have a strong understanding of pedagogical competence in planning process, especially those related to their readiness to develop vocational skills for students. These competencies include: conducting examinations (83.49%), conducting assessments (92%), compiling individual programs (90%).

The pedagogic competencies which is observed include their ability to identify the condition of students, conducting assessments, developing individual programs and developing collaborative programs. The results of the study can be seen in the following chart:

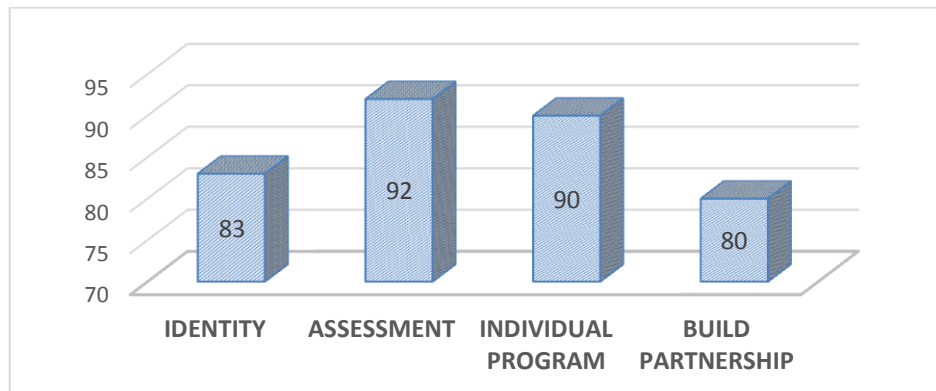


Figure 1. Pedagogical Competence in Planning Vocational Trainings

Based on these data, the ability of teachers in planning vocational training lessons includes: 1. identifying the condition of students (83%), 2. conducting assessments (90%), 3. identifying individual programs (92%), 4. developing partnership program for internships/work distribution (80%). Based on the description of the data, qualitatively the pedagogical competence of teachers in planning vocational training learning, has a "Good" qualification (86.3%).

The first pedagogical competence is Planning. Things to do by special education teachers in planning vocational training lessons are identify the conditions of students, as follows: 1). conduct recruitment by collecting information about the identity of participants. The identified aspects are information about self-identity, educational development, physical development and social development. 2). Finding out the participants' intelligence barriers, including aspects of physical characteristics, intelligence, language skills, social skills, personality, ability to do work. The dominant tendency from this aspect, which was developed by educators for students with intellectual disabilities, was mainly to identify barriers to social and personality abilities. 3). Identify the type of skill. Identification of the types of skills includes: digging up information on the types of skills that exist in the environment of people with intellectual disabilities / mental retardation; dig up information on the types of skills that exist within the institution; dig up information on various home industries or carpentry around the environment of students.

The second pedagogical competence is conducting assessments (92%). Assessment pursued to assess the basic potential of students, including: collecting information about the strengths and weaknesses of participants, collecting information about the special needs of participants, exploring the interests and talents of participants. Those activity intend to predict and determine the placement of the program for each individual and determine the types of skills to be developed. The dominant element of the assessment process carried out by educators is to identify aspects: information about the strengths of participants and determine the types of skills to be developed.

The third pedagogical competence in planning vocational training lessons is identifies individual programs (90%), which include: individualized transition plan (ITP) aspects, namely identifying the desired/expected outcomes by participants based on informal and formal assessments, which are carried out manually and collaborative with the family. Designing learning models, compiling task analysis, preparing learning media, compiling learning evaluations, preparing follow-up learning programs.

The fourth pedagogical competence is planning vocational training plans to develop partnerships for the implementation of internships and distribution of work results from training (80%). The process of building partnerships is carried out through the following activities: identification of the business and the industrial field in the immediate environment, identification of the types of skills relevant to intellectual disabilities, and identification of collaboration with the business or industrial field.

Implementation of Learning

The pedagogical competence of in implementing vocational learning is observed based on the following elements: the implementation of technical guidance for the training instructors, the implementation of the training process, the implementation of assessments, the implementation of internships and the implementation of follow-up after the apprenticeship process. The results of the study show a description of the data as shown in the following chart:

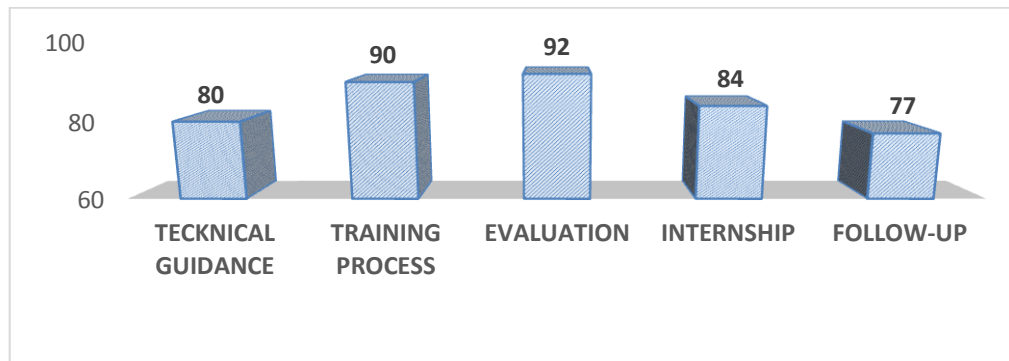


Figure 2. Pedagogic competence in the implementation vocational training

Teacher's pedagogic competence in implement vocational training learning, qualitatively, has a "Good" score (84.6%). The value was obtained from the average value of pedagogical competence in the aspects of: technical guidance of training instructors (80%); implementation of the training process (90 %), implementation of assessment (92 %), implementation of internships (84%) and implementation of follow-up internships (77%). Pedagogical competence in the process of implementing technical guidance includes the following elements: 1). understanding of the characteristics of intellectual disabilities; 2). Provision of teaching materials, and 3). technical guidance on the process of implementing the training. Meanwhile, pedagogical competence in the aspect of the training process was observed for the competence to develop initial learning activities, core activities and final activities.

In the initial learning activities, teachers start learning process by raising motivation and apperceptions related to previous learning experiences. Data shown that their competence very well (90%). In the initial activity teachers preparing the important components for learning activities. The elements are preparing students condition both physically and psychologically, motivating, conducting apperception and providing learning guidance. Pedagogical competence in developing the training process is carried out with learning conditioning, namely providing real learning experiences to students to supporting students' life skills.

Pedagogical competence in the aspect of mastery of the materials includes: adapting the material to the purpose of skills training, linking the material with previous knowledge and the newest development of science and technology, and skills to presenting materials in a systematic ways. While the aspects of the training strategy include the following elements: implementing educational training strategies, carrying out training in accordance with the competencies to be achieved, carrying out activities in a coherent manner, carrying out contextual activities, carrying out training that stimulating the growth of positive habits. At the end of the learning/training activity, the educator conducting reflection activity by involving the participants, and paying attention to the completion task of students by giving directions for activities or enrichment tasks.

To measure the achievement of the ability to acquire the results of the training, teacher conducts an assessment of the aspects of the process and the achievement of learning outcomes. The assessment of the skill aspect is higher than the knowledge aspect. In the aspect of the learning process, teacher observes the attitudes and behavior of students in participating through learning activities, with very good grade qualifications. Skills assessment is carried out in individual activities and group activities. Teacher document the results of the assessment, as achievement files of students' abilities.

Internship and Follow-Up Program

For students who have good skills, they are facilitated to look for business institutions in the public sector, according to their abilities, and for those who are less encouraged to do business independently with their families. Follow-up activities are carried out in the form of facilitating apprenticeship/ internship activities to work in business activities. Preparing students for the workforce is an important role for schools, especially for students with special needs (Levinson & Palmer, 2005). Institutional vocational education provides supportive environment as a partnership in follow-up programme (Nanjwan, 2021) In the process of internship activities, teacher carry out the following activities: deliver information on the conditions and

abilities of intellectual disabilities, collect information on the development of the participation of students with intellectual disabilities while participating in internship activities (91%), provide guidance for the internship participants so that they can do well and encounter the problems well (92%). The results of the student internship process become a consideration for helping the distribution of student work to formal business / industrial institutions. Follow-up is also carried out by teachers with activities: communicating the results of training to parents (89%), marketing the products of the training program given as a reward / appreciation for their learning abilities and being motivation to build self-confidence in developing their lives (70%). These outcomes can be addressed by tackling both the supply side and demand side constraints on skills and employment. The latter may be delivered in partnership with other technical agencies (Apaydın, 2018)

The Important Values of Pedagogic Competencies for Developing Vocational Skills

Understanding the characteristics of students

Teachers / Educators in the context of education, have an important role in developing the potential of students with various internal and external backgrounds, to be developed towards the expected goals. Teachers should understand the characteristics of their students' goals, so that they can interact effectively in communicating the meaningful values that are expected, to obtain the development of his skills. The results showed, Teacher in special education school (SLB) for intellectual disabilities / mental retardation, pay attention to the characteristics of students with intentional and having high awareness and full desire to direct education to optimize the achievement of the abilities of their students. Intentional teacher are teachers / educators who always think about the desired results for their students and how the decisions they make can move towards these results. The challenge of improving competence and professional development of teachers is also continuous and dynamic (Anif et al., 2019) Teachers / educators who are intentional focus their thoughts on goals that are in accordance with the needs and expectations desired by the students; teaching materials that are in accordance with the abilities and needs of their students, learning strategies that can motivate and be effective in achieving the goals expected by students, planning an assessment of students' learning progress according to the expected goals.

Regulation of Minister of Education No. 16 of 2007, concerning pedagogical competence related to the characteristics of students that must be mastered including physical, social, cultural, emotional and intellectual aspects. Implementation in the development of learning for students with intellectual disabilities, developed practically by paying attention to physical development, educational development, and social development. Teachers have high competence in paying attention to the characteristics of their students, it is observed from their understanding in developing educational planning by considering the potential personal characteristics of students, including identification of students' conditions, about self-identity, educational development, physical development and social development, with high value (83, 49%). In detail, the characteristics considered are to find out the intellectual barriers of participants, including aspects of physical aspects, intelligence, language skills, social skills, personality, ability to do work. It is important to find out special characteristics of the students because through training students with special needs we can develop interest and any other development (Dasel & Marcus, 2019)

Children with intellectual disabilities are underdeveloped in adjusting to the environment, less competent in thinking about complex things that are difficult and convoluted and have significant impact for the quality of life (Alshamri, 2018) Likewise, the DSM-V, Diagnostic and Statistical Manual of Mental Disorders shows that intellectual development disorders or mental retardation are developmental disorders that include a lack of intellectual and adaptive function in the conceptual, social, and practical (del Barrio, 2004). Thus, to prepare a good life for people with intellectual disabilities / mental retardation is to facilitate with life / vocational skills training. The goals of vocational education for children with special needs include developing skills and adapting them to a job. The competencies of children with intellectual disability and not to their limitations or "deficiencies", and on the other hand to the possible ways for the enhancement and activation of their potential (Stavroussi, Papalexopoulos, & Vavougiou, 2010)

Psychological and sociological characteristics of students with intellectual / mental disabilities, determine the orientation of educational services more than regular students. To prepare a good life for persons with intellectual disabilities in adulthood, an assessment is carried out to assess the basic potential of students, including: potential strengths and weaknesses, special needs interests and talents to predict program placement, determine the types of skills to be developed.

Teachers' understanding of the psychological characteristics and potentials of students with intellectual disabilities affects the preparation of learning planning as well as the implementation of learning and learning assessments.

In planning activities, identification of training objectives orientation is carried out, strategies for providing appropriate training program services, conducting assessments and individual program services to develop appropriate skills education programs according to the needs of persons with mental retardation.

Teachers also understand the importance of developing partnerships for the implementation of internships and job fair. However, the results of observations in general are related to partnerships with the business and industry, not much has been done, it is more dominant to only fostering students in the school environment. Partnership and Internship programs and channeling work to the industry have only been carried out by the West Java Social Affairs Agency and a few schools.

Skills to communicate effectively, empathically, and politely

Education is a process of interaction and communication between educators and students with purpose and value. This means that educational activities contain a reciprocal relationship between educators and students which contains messages to make meaningful / valuable changes. In the context of communication, classification of the function of speech into 3 types; transmission, interaction, and transaction (RI, 2008). The transmissional approach believes that communication is an activity to deliver information from one to another person in order to change or strengthen attitudes / behavior as expected by the sender. The interactional approach, in the process of conveying information between sender and receiver, it is possible for feedback between recipients to senders. Transactional perspective, believes that there is no such recipient as a recipient, but both also act as senders as well as receivers. Based on this communication perspective, educational activities are included in interactional activities, namely the process of communication between educators and students in an unequal position as adults and immature ones, in order to allow the development of students' abilities to be independent and responsible.

Positive communication interactions will achieve optimal quality learning outcomes. Furthermore, the pattern of communication will provide students mutual trust that will strengthen positive behavior. When practitioners using behavior method in this field, we can improve outcomes for individual with disabilities (Woalder, 2017). Likewise in the educational process of students with intellectual disabilities / mental retardation, the teacher / educator factor is important, because the teacher is a facilitator, motivator, to direct their learning process. Children with mental retardation are a condition of children whose intelligence is far below the average and characterized by limited intelligence and inadequacy in social communication (Widodo, Azizah, & Ikhwanudin, 2019); (Khoeriah, Nur'aeni, Lestari, & Romadonna, 2020). Obstacles occur naturally due to impaired intelligence development. Children with intellectual disabilities are characterized by intellectual impairment and developments well below the average normal child, experiencing backwardness or deficiency in behavioral adaptation to the environment, and occurring within a period of development (Pristiwaluyo, 2017). However, students with intellectual disabilities / mild mental retardation can learn to read, write, simple arithmetic, can be educated to become semi-skilled workers, if they are trained they can work in factories with little supervision. Specific communication competence takes place in successful particular ones of learning (Mechling & Ortega-Hurndon, 2007).

Based on the psychological condition of students with intellectual disabilities / mental retardation, the pedagogical competence in implementing vocational skills education should pay attention to the following matters: 1). Understand the psychological characteristics and development tasks of mentally retarded persons, 2). Doing humanistic tutoring interactions that bring warmth of communication 3). use of simple language and avoid complex language and does not contain multiple interpretations; d). Carry out technical learning guidance and supervise the achievement of learning outcomes. Teachers must develop communication skills to exchange information, feelings, and meaning through verbal and non-verbal messages (Studies & Bedir, 2019). The next factor is the collaboration of teachers and parents such as working together to help overcome the constraints of physical conditions experienced by subject (Darling-hammond et al., 2020).

Assessment Skills

Assessment is a qualitative process to state the value of the quality of the achievement learning measurement results. Measurement itself is comparing something with a certain relevant measure. Assessing learning process start from assess securing employment (include; identifying desirable vocations, completing applications, interviewing), general vocational skills (following instructions, managing time and navigating job site), job specific skills, job related social skills (caregiver or staff interviews checklist and verbal report). (Grob, Lerman, Langlinais, & Villante, 2019). To produce the right decision-making on the achievement of the abilities obtained by their students, educators must be able to carry out an assessment of the process and learning outcomes on an ongoing basis. Process assessment takes place during the learning / training activity, through verbal interaction or through observation in assessing learning attitudes and behavior. Assessment indicators include : assessment of the learning process and assessment of learning outcomes, development of independence through internships, and follow up based on the results of the assessment.

Thus the procedure for developing an assessment includes the following: 1). consider and compile measurement instruments in accordance with the objectives of the assessment to be achieved as specified in the activity planning, 2). carry out the assessment using observations with the task analysis instrument, 3). communicating the results of the assessment to students in order to know the achievement of the learning outcomes they have; 4). analyze the results of the assessment to be used as a basis for decision making (evaluation) in improving the quality of learning, enrichment or remedial, 5). reflecting results of the learning assessment to observe the independence and responsibility of students with intellectual disabilities / mental retardation in carrying out a job, observing the quality of their skill products, and observing the possibility of product marketing and channeling students to field of work.

The results of this study have significant implications for the development of the quality of educational services for students with disabilities in schools. In general, this research is expected to: 1). Provide a reference for institutional strengthening, especially in special schools in developing quality educational service instruments. 2). Strengthening teacher competence in using instruments in the process of educational services for mentally retarded students. 3) become material for consideration or material for the government and the business field, to develop aspects of competence in the vocational field for persons with intellectual disabilities

Conclusions

The development of vocational skills is important for students with intellectual disabilities/mental retardation. This type of skills is a kind of subject that may be carried out to help the readiness of life and independence for students. Consider obstacles that are caused by intelligence factors which are difficult for the development of cognitive competencies. In the context of educational activities, teachers as educators have a big share in developing positive behavior and a quality life for their students, considering that educators are facilitators, dynamists, managers who have a role to empower their students' abilities. The primary pedagogical competence in educational services for students with intellectual disabilities is to have understanding about psychological characteristics as well as the barriers and difficulties, both intellectual, physical and social aspects. The understanding of the characteristics of individuals with intellectual disabilities will be a guidance for teacher to find out their educational needs, such as teaching materials, potential development materials and appropriate learning methods / strategies. Another important pedagogical competencies are the ability to communicate positively, educatively and constructively to motivate, assistance, and empowering. Also the ability to carry out objective assessments of students achievements as a consideration for developing their post-school life readiness. (Nurmalita & Febrian Kristiana, 2019).

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