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Differentiated Learning Assessment Model to Improve Involvement of Special Needs Students in Inclusive Schools

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Inclusive education is the right of all students without exception. One of the learning strategies for the philosophy of inclusive education is differentiated learning. This study aims to develop differentiated learning assessment tools and carry them to the test in the field. The current study uses the Research & Development method, using the ADDIE approach model. Observation, documentation, the Likert scale, and questionnaires carried out data collection. The participants were 42 teachers and 17 experts for validated differentiated learning assessment tools. Then, the differentiated learning assessment tools were carried out to test in the field, 85 students with special needs from four inclusive schools in West Sumatra, Indonesia. Qualitative analysis was used to develop assessment instruments, while quantitative analysis was used to test instrument validation and measure students' level of involvement with special needs. The results showed that the differentiated learning assessment instrument consisted of four aspects, namely: (1) content, (2) process, (3) product, and (4) learning environment. The validity and reliability of learning assessment instruments are distinguished as being suitable for use with a high level of reliability. Teachers in inclusive schools can assess the readiness, interest, and learning profile of students with special needs. There was an increase in teacher skills in differentiated learning and the involvement of students with special needs in learning.

Keywords: differentiated learning, assessment model, students' involvement, students with special needs, inclusive schools

INTRODUCTION

Implementing inclusive education for all students without exception has become a must. The goal of adopting inclusive education is to give all students the greatest opportunity

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or access to get a high-quality education and to accommodate each learner's unique requirements without bias or discrimination (Ikhwanudin & Suryadi, 2018). Inclusive education provides similar learning experiences and opportunities for all children, including students with special needs (Department of National Education, 2009; Marlina & Kusumastuti, 2019; Setiawan & Apsari, 2019). Indonesia is committed to implementing inclusive education, as can be seen from the increasing number of schools registered as providers of inclusive education (Aurelia, 2021; Indonesia's Ministry of Education and Culture, 2021). In 2021, 57,155 students with special needs study in primary schools providing inclusive education (Indonesia's Ministry of Education and Culture, 2021). As a result, regular teachers are faced with challenges in serving the diverse learning needs of students, such as; understanding the characteristics of children with special needs, modification of learning, and assessment of learning readiness of students with special needs (McLeskey et al., 2014; Pratiwi, 2015; Ru'iya et al., 2021). The need for a learning environment that responds to individual student differences has been a concern for some times (Penrose et al., 2001), even this diversity is imperative in teaching and developing students' abilities (Corno, 2008).

One manifestation of the success of inclusive education is the active involvement of students with special needs in learning. Engagement refers to the investment of physical and psychic energy in various objects (student experience) (Roberts & McNeese, 2010). Involvement will be realized if there is continuous psychosocial and physical energy, both qualitative and quantitative, and what students gain from engagement is directly proportional to the resulting academic achievement (Astin, 1999). Learning outcomes are influenced by student involvement in the learning process in addition to learning methods. Students who are actively engaged in their learning are more likely to succeed in school. On the contrary, if they are not involved in the learning process, their chances of success in learning are low. Students with high involvement motivation have higher learning outcomes than students with low involvement motivation (Rafiq et al., 2022). As they have low self-regulation, children with special needs frequently do not participate positively in class, which negatively affects their capacity to interact and their lack of participation in inclusive classes (Dharma & Hermanto, 2020). Active involvement of students with special needs can be achieved by differentiated learning. Differentiated learning supported by the belief that all students can improve, empowers students with special needs by providing opportunities to develop learning and involvement at an inclusive school.

Differentiated learning has been recognized as a learning strategy that accommodates readiness, learning interest, and different student learning profiles (Carol Ann Tomlinson et al., 2003). There are three aspects of learning in which teachers can differentiate learning: (1) content, (2) process, and (3) product. Content refers to what students developed, such as competencies in core academic areas, goals, and expectations. Process denotes activities that allow students to understand important ideas and principles. Described as a student-centered approach (Elwood, & Klenowski, 2002), learning assessment mediates "intellectual skill development, knowledge building, and student identity formation" (Shepard, 2000). Evaluation of learning, especially in the field of special education with individual students (Shriner, 2000).

However, the main challenge for creating the involved students by differentiated learning is none comprehensive assessment can reveal the characteristics and learning needs of students with special needs (Harris, K., & James, 2006; Marlina, et al., 2019) and ensure the acquisition of skills to be independent, creative, and productive (Elsaheli-Elhage & Sawilowsky, 2016). Assessment is the foundation for making program decisions, which is, of course, a supportive and complex learning. Assessment focuses not only on learning problems that arise from students, but also on the entire set of supporters of the causes of these problems, as well as the symptoms that arise and the possibilities that may arise in the future (Kartika & Aprilia, 2022). A comprehensive assessment is a benchmark for learning differentiation for students with special needs. Learning that carried out without starting an evaluation will not follow the characteristics and learning needs of students with special needs as the result in knowledge.

Many previous researchers have developed differentiated learning measurement instruments focused on regular students and gifted students. Therefore, it is essential to make a distinction between differentiated learning and individualized learning. Individualized learning emphasizes particular interventions related to special services provided to students (Landrum & Mcduffie, 2010; Morgan, 2014). Meanwhile, differentiated learning emphasizes a reliable assessment of students' readiness, interests, learning profiles, and learning environment (Gheyssens et al., 2020; McTighe & Brown, 2005; Shareefa et al., 2019). In other words, differentiated learning focuses on learning that accommodates students' potential, characteristics, and needs in learning. This research is essential to carry out various assessments needed to apply differentiated learning in inclusive schools.

As the results of the analysis of theory study, it was found that there are three components in assessing differentiated learning in students with special needs: (1) assessment of students with special needs, (2) assessment of profiles and learning styles, and (3) assessment of differentiated learning. The concept was developed based on (Tomlinson et al., 2003) theory. First, the teacher's ability to recognize and understand students with special needs is the foundation for understanding learning needs and profiles. Students with special needs will learn based on the ability modalities that they still have according to their specific needs. Second, students' differences regarding learning profiles and styles will add dimensions of interest, readiness, and learning profiles. Third, differentiated learning includes aspects of content, processes, products, and the learning environment.

ADDIE (Analysis, Design, Development, Implementation dan Evaluation) are one of research and development approach that can be used as developing the assessment instrument (Branch, 2009). The ADDIE instructional design process is a widely used approach in the development of instructional courses and training programs (Gagne, Wager, Gola, & Keller, 2005). This method provides educators with useful, clearly defined stages for effective instruction implementation. Consist of 5 phases, there are analysis, design, development, implementation, and evaluation (Peterson, 2003). The five steps of the ADDIE model have distinct characteristics. The Analysis phase entails

investigating learner, content, and task influences on instructional design. The Design phase focuses on how instructional goals and objectives influence strategy development. The tools and processes used to create instructional material are addressed in the Development phase. The Implementation phase is concerned with carrying out the instructional materials or program. The Evaluation phase includes both formative and summative evaluation (Lohr, 1998).

The purpose of this research is to develop the instruments that can improve students' involvement by implementing the differentiated learning. As there is none of assessment design model for differentiated learning on purpose of create the involved students by differentiated learning and provide students with special need to develop themself by their abilities, interests, and learning styles, we developed an assessment instrument called the Differentiated Learning Assessment Instrument and Readiness, Interest, and Learning Profile Survey Instruments.

METHOD

Research Design

The current study utilized the Research and Development Method to develop Differentiated Learning Assessment Tools. One of the research and development models that can be used is ADDIE. (Peterson, 2003). After the model of Differentiated Learning Assessment Tools has been developed, the research is continued with a quantitative approach. The quantitative approach stage measures the Relationship of Differentiated Learning Assessment with the Involvement of Students with Special Needs in Inclusive Schools.

The ADDIE instructional design process is a widely used approach in the development of instructional courses and training programs. This method provides educators with useful, clearly defined stages for effective instruction implementation. Consist of 5 phases, there are analysis, design, development, implementation, and evaluation (Peterson, 2003). ADDIE has coherent stages that are easy to understand and implement. It can be used in every tipe of instruction development (Ozdilek & Robeck, 2009). This method is also suitable for this study. This study aims to develop a product using a differentiated learning assessment model.

The first stage is Analysis, which performs performance analysis and needs analysis of the differentiated learning assessment model for children with special needs in inclusive schools. Performance analysis is carried out by examining the assessment model and the components of learning differentiation of students with special needs in inclusive schools. Need assessment took the needs analysis to determine the suitable model for differentiated learning from a questionnaire distributed to teachers in selected inclusive schools.

The second step is Design, namely, creating the differentiated learning assessment model. This phase was carried out by analyzing the data from the needs analysis, which was used as the basis for developing the differentiated learning assessment model for students with special needs in inclusive schools.

The third step is Development; in this stage of developing and creating the model in the form of a differentiated learning assessment model for students with special needs in inclusive schools. The syntax of the differentiated learning assessment model is contained in the guidebook for using differentiated learning models in inclusive schools (https://bit.ly/bukuPB). Furthermore, the model has been developed by testing expert subjects' practicality, feasibility, and usability.

The fourth step is Implementation; namely, the teacher stage uses a differentiated learning assessment model for students with special needs in inclusive schools; subsequent research will use a single experimental design for the implementation phase and test the model more thoroughly. Such research will provide an overview of the effectiveness of the differentiated learning assessment model in inclusive schools on the involvement of special needs children in learning.

The fifth step is Evaluation, which is to assess the differentiated learning assessment model given to teachers in inclusive schools.

Respondents

Respondents were grouped into need assessment respondents in Table 1, expert respondents who validated the differentiation learning assessment model in Table 2, and students with special needs respondents in Table 3. Need assessment respondents were selected based on the following criteria: (1) a minimum of five years of teaching in inclusive schools, (2) willing to be involved in this research as evidenced by filling out a letter of willingness as research respondents. The executive recruitment of respondents is based on data from the Special Education Office of the West Sumatra Province Education Office. Then, respondents were contacted by phone and message to verify their willingness to become respondents. For the candidate who not willingly to attempt as respondent, we can not force them and we accept their decisions. The recruitment process was carried out for one month so that 42 respondents (Teachers) were selected from elementary school, junior high school, and senior high school. Expert respondents consist of four professions. The responses of students with special needs are chosen based on the identification results using the Student Identification Tools with Special Needs (Marlina, 2015).

Table 1
Respondents needs assessment

No	Profession	Frequency	Percentage
1.	Principal	4	10%
2.	Regular Teachers	32	76%
3.	Special Teachers	6	14%
	Total	42	100%

Table 2
Expert respondents

No	Profession	Frequency	Percentage
1.	Lecturer	5	29%
2.	Principal	4	24%
3.	Educational Psychologist	2	12%
4.	Special Teacher	6	35%
	Total	17	100%

Table 3
Demographic conditions of students with special needs based on school

No	School	Students with SN	Categories							
			1*	2*	3*	4*	5*	6*	7*	8*
1.	SMKN 4	16	0	2	2	2	3	1	3	3
2.	SMPN 23	34	1	1	0	4	10	3	13	2
3.	SDN 17	15	0	0	0	0	6	0	9	0
4.	SDN 09	20	0	0	0	3	7	3	7	0
		85	1	3	2	9	23	7	32	5

Description:

1*. Students with visual impairment
2*. Students with hearing impairment
3*. Students with physical handicapped
4*. Students with EBD
5*. Slow learner
6*. Students with ADHD
7*. Students with LD
8*. Students with autism

Instruments

To measure the feasibility of the differentiated learning assessment model developed, we analyze using a questionnaire. Meanwhile, to measure the involvement of students with special needs, a questionnaire is used, which consists of initiation and investigation, persistence, anticipation, discovery, curiosity, and responsiveness. Regular teachers filled out both instruments.

Data Collection and Analysis Techniques

The preparation of the assessment instrument begins with an assessment of the appropriate assessment model for children with special needs in an inclusive setting. One of the suitable models in differentiated learning is a curriculum-based assessment (CBA). CBA is a comprehensive data collection procedure on student progress in the curriculum, used to confirm attainment and forms of effective learning interventions.

The next stage is to do the instrument design. At this stage, a curriculum-based assessment instrument is designed. What is done is to determine the measured aspects of an instrument. After that, expert validation was carried out. The aspects that were assessed to determine the instrument's feasibility were the aspects of readability, construction, and content suitability. Then made improvements according to input from experts. The revised assessment instrument was then handed over to teachers of inclusive schools (elementary school, junior high school, and senior high school) to obtain responses to improve the instrument; then, analysis was carried out.

Questionnaires at the analysis stage considering the COVID-19 pandemic situation were distributed via a Google form, and research distributed the questionnaire links to respondents via WhatsApp app. For the need assessment questionnaire, we sent it through the inclusive education's WhatsApp group, the special teacher community, inclusive education speakers, the Faculty of Education, UNP lecturer group and Telegram for the community. Questionnaires were distributed for one month to obtain data on differentiated learning assessment model needs.

At the implementation stage, the research collected data through a questionnaire to test the validity of the differentiated learning assessment model. The validation test questionnaire was conducted by five validators, as presented in Table 4. This questionnaire is provided via Google form. The model validation test questionnaire consists of four aspects, namely usability, feasibility, accuracy and courtesy. The number of items for the validation test questionnaire is 20 items. The differentiated learning assessment model that has been declared feasible and valuable will be tested for its practicality and effectiveness through experiments.

Table 4
Results of expert validation on the design of differentiated learning assessment instruments

No	Instrument Design Aspects	Score
1.	Clarity of the purpose of the assessment instrument (operational, specific, realistic)	4
2.	The relevance of the assessment objectives with curriculum aspects	5
3.	Scope and depth of assessment objectives	4
4.	The appropriateness of using the aspects assessed for the assessment	5
5.	The ability of the assessment instrument to reveal the strengths of students	4
6.	The ability of the assessment instrument to reveal the limitations of students	4
7.	Suitability of statement items with the purpose of the assessment	4
8.	Clarity and detail of statement items	5
9.	Representation of instrument items for measuring the measured aspects	4
	Total Score	39
	Mean Score	4,33

The research analyzed the data descriptively to describe the characteristics of the distribution of scores of each respondent in the validation activity of the differentiated learning assessment model guidebook. The needs analysis questionnaire used a Likert scale with a score of 1 = never, 2 = sometimes, 3 = often. As for the method, respondents who answered per category were multiplied by the category score divided by the maximum score. The validation test questionnaire uses a Likert scale with a score of 1 = disagree, 2 = disagree, 3 = agree.

The research analyzed the overall data by calculating the average value of the expert assessment results. The method is the expert assessment score divided by the number of experts who judge multiplied by the number of criteria and then multiplied by 100%. Validity is categorized into five categories. Practical data analysis was carried out with

descriptive statistics. Data analysis obtained the final score by calculating the score received divided by the maximum score multiplied by 100%. These values are categorized into five practicality categories, as shown in Table 5.

Table 5
Five practical categories

Achievement Rate (%)	Category
85-100	Very practical
75-84	Practical
60-74	Quite practical
55-59	Less practical
0-54	Not practical

FINDINGS

Analysis results of need assessments

The needs assessment questionnaire was analyzed quantitatively and qualitatively. The needs assessment results were carried out by calculating the mean for each item and the overall score of the questionnaire. Items are sorted based on the average value, which is grouped into three, namely: (1) low (less than 1.65); (2) medium (1.66-2.32); and high (2.33 and above).

Tabel 6
Teacher readiness in conducting differentiated learning assessment

No	Aspects of Differentiated Learning Assessment	Result		
		High	Medium	Low
1	Content	0%	43%	57%
2	Process	0%	20%	80%
3	Product	0%	30%	70%
4	Learning environment	0%	20%	80%

Table 6 shows that the inability of teachers to use differentiated learning in inclusive classrooms is caused by teachers not understanding what to prepare before carrying out learning, which can be seen from several aspects.

a. In terms of content, teachers have not provided support and opportunities for students with special needs to reflect on their learning outcomes, provide books according to the material being studied, and provide regular remedial time. In addition, the teacher also has not provided subject matter in the form of other media (for example, cassettes, audio), has not explicitly designed the material, has not identified students who have completed and who have not used information technology, have not used visual demonstration aids. These videos follow the learning needs of students with special needs.
b. In the process aspect, the teacher has not allowed students to be creative, has not accommodated learning developments into the curriculum, has not documented a challenging learning process, has not used the team teaching system in explaining a topic, and has not freed students to choose the material they want to learn further.

c. In the product aspect, the teacher has not linked the material to everyday life, has not carried out learning that is adapted to student characteristics, has not stimulated students to think critically and creatively, has not guided students according to student needs, has not evaluated students according to student learning modalities, and still giving the same assignments and the same expectation of results to all students.
d. In the environmental aspect, the teacher has not modified the environment according to the characteristics of the students. In this case, the teacher does not understand that learning must be carried out by paying attention to the learning profile of students with special needs; for example, students with mental retardation get a place in the front because they must be monitored so as not to be bullied by friends because they will be angry if their items lose; students with physical disabilities are given a place not close to the wall so that they can move more freely. In addition, teachers do not understand student profiles, student readiness, and students' initial abilities before learning so that the expectations given are the same for all students.

Comprehensive mastery of information and understanding of the characteristics and learning needs of students with special needs are the basis for developing appropriate learning programs. We also gave questionnaires to teachers to find out what challenges teachers face in differentiated learning, as presented in Table 7.

Table 7
Challenges facing teachers in differentiated learning

No	Statement	Mean	Level
1	Manage class	1,61	Low
2	Changing the role of teacher to facilitator	1,45	Low
3	Choose a suitable strategy in learning	1,62	Low
4	Have differentiated learning assessment skills	1,21	Low
5	Make a good lesson plan	1,47	Low
6	Need training on how to use differentiated learning strategies	1,87	Medium
7	Accommodating student learning needs	1,66	Medium
8	Providing technology-based learning media	1,23	Low
9	Availability of administrative support in planning curriculum	1,12	Low
10	Availability of administrative support for parents and caregivers	1,10	Low

Table 7 shows that most teachers have challenges in implementing differentiated learning. This challenge stems from the teacher's inability to understand their students' characteristics and learning needs, which results in teacher difficulties in managing classes, selecting and using media, setting learning strategies, and using adaptive technology.

Design of the Differentiated Learning Assessment Instruments

The assessment instrument is preceded by instructions for filling in and explaining the types of items on the instrument. The instrument developed is a Likert scale with choices often, sometimes, and never. This instrument aims to measure how teachers differentiate their learning which consists of four aspects, namely content, process, product, and learning environment. This instrument was developed from the theory

(Carol Ann Tomlinson et al., 2003; Carol Ann Tomlinson & Moon, 2014). The number of items developed is 39 items.

The validation test results for the design of the differentiation learning instrument were obtained from four experts to test the feasibility of each indicator item being tested. Expert test assessment uses a Likert scale consisting of 5 categories, according to Table 5. The validation data from the expert assessment can be seen in table 8.

Tabel 8
Differentiated learning assessment instrument model validation results

No	Aspects Measured	Average Validity	Criteria
1.	Usability	89	Very valid
2.	Eligibility	88,5	Very valid
3.	Accuracy	80	Valid
4.	Courtesy	86	Very valid
Average	85,87		

Design of the Readiness, Interest, and Learning Profile Survey Instruments

This instrument explores learning readiness, interest in learning, and student learning profiles. This instrument is in the form of a survey filled in by students, filling in with the number 1 if the statement follows the student's self-description, and it is blank if the statement does not match the student's self-description. This instrument consists of eight sections containing 80 statement items. Before being tested on students, experts have assessed this instrument, which is presented in table 9 and the results of the validity and reliability of the instrument of readiness, interest, and learning profile were analyzed with Cronbach's Alpha di table 10.

Table 9
Results of expert validation on readiness, interest, and learning profile survey instruments

No	Instrument Design Aspects	Score
1.	Clarity of the purpose of the assessment instrument (operational, specific, realistic)	4
2.	The relevance of the assessment objectives to the aspects being measured	4
3.	Scope and depth of assessment objectives	3
4.	The appropriateness of using the aspects assessed for the assessment	5
5.	The ability of the assessment instrument to reveal the strengths of students	4
6.	The ability of the assessment instrument to reveal the limitations of students	4
7.	Suitability of statement items with the purpose of the assessment	4
8.	Clarity and detail of statement items	4
9.	Representation of instrument items for measuring the measured aspects	4
	Total Score	36
	Mean Score	4

Table 10
Validity and reliability of the instrument of readiness, interest, and learning profile

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Readiness	244.8256	700.473	.516	.580	.646
Interest	249.1541	781.577	.601	.395	.603
Visual Learning Profile	243.2178	945.695	.343	.294	.705
Auditory Learning Profile	244.3606	792.037	.594	.502	.607
Kinesthetic Learning Profile	241.7281	1003.383	.304	.290	.715

Based on the corrected item-total correlation, the tested validity can be said to be valid if the total score obtained is > 0.3 or a slight tolerance of up to 95% (0.05) (Priyatno, 2010). Based on the statistical test data, the corrected item-total correlation value was obtained for the learning readiness variable 0.516, interest variable 0.601, VLP variable .343, ALP variable 0.594, and KLP variable 0.304. Overall, the results concluded that the instruments tested on students regarding learning readiness, interests, and learning styles (VLP, ALP, and KLP) could be said to be valid.

Table 11
Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.708	.707	5

Table 11 show internal consistency reliability test results using correlation are considered good if the value of Cronbach's Alpha > 0.7 (Priyatno, 2010). A value of 0.7 or greater is used to indicate good internal consistency in the data. Based on the data obtained, Cronbach's Alpha value is 0.806. This value indicates a positive influence between readiness, interest, and learning profile in implementing differentiated learning in inclusive schools.

The Relationship of Differentiated Learning Assessment with the Involvement of Students with Special Needs in Inclusive Schools

The questionnaire results involving students with special needs that students filled out with or without special needs showed that most of them reported that they felt more involved in learning after assessing differentiation learning. Details are presented in Figure 1. In figure 1, the pretest score is lower than the posttest score.

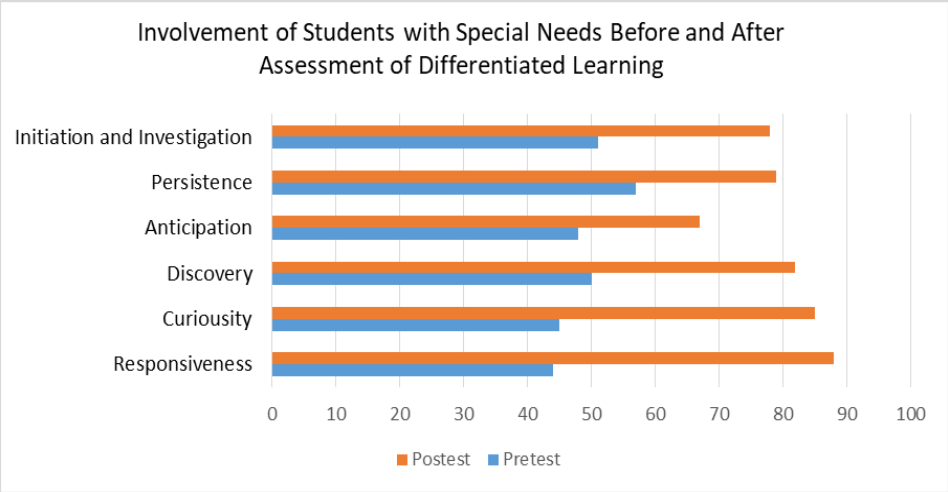

Figure 1
Involvement of students with special needs (before and after).

DISCUSSION

The current study has developed a Differentiated Learning Assessment Model that can increase the involvement of students with special needs in Inclusive Schools. Learning in inclusive schools will be more meaningful if it is based on a comprehensive assessment, so an assessment instrument is needed that is rooted in the needs and characteristics of students with special needs. Indeed, before learning begins, the teacher must conduct an identification followed by a comprehensive assessment. Assessment is the foundation for making program decisions, which is, of course, a supportive and complex learning. Assessment focuses not only on learning problems that arise from students, but also on the entire set of supporters of the causes of these problems, as well as the symptoms that arise and the possibilities that may arise in the future (Kartika & Aprilia, 2022). This assessment provides a way for teachers to gather essential information about what students know and can do prior to teaching and what students' interests and learning styles are (Marlina, et al., 2019; Setiono et al., 2019). They provide evidence to help teachers effectively match learning to student needs, including decisions about content, pace, materials, groupings, and learning activities.

Every teacher knows that all students are different and have their strengths and learning needs. When teachers plan a learning unit and curriculum, they reflect on what they have learned about student learning from previous experiences with the topic to be studied (Marlina, et al., 2019). This information is valuable and essential as a basis for planning, but it is only the beginning. Each student has a varied understanding according to their learning readiness, interests, and learning profile. Results of assessment become the basis for teachers to teach their students to new topics (Chueachot et al., 2013). Assessment has significant benefit if the teacher conducts an assessment before learning. Students feel more recognized, valued, and studied according to their characteristics and

learning needs (Tomlinson et al., 2014). These findings indicate that the assessment of differentiated learning has a positive effect on student engagement because it pays great attention to readiness, interest, and learning preferences (Shareefa, 2023). In other hand, the differentiated instruction also give significant impact for teacher knowledge (Moosa & Sahreefa, 2019). Learning will become more challenging to students' curiosity, the responsiveness with special needs will also increase, and teacher anticipation in learning will also increase (Joseph et al., 2013); it can even increase student motivation (Tomlinson, et al., 2001). It is possible that these results are related to the implementation of rolling assessments so that students' abilities and learning needs are appropriately accommodated. As a result, it also positively impacts teachers because evaluations are carried out to get direct feedback on learning. Teachers are also satisfied because the learning targets set can be achieved by students well (Joseph et al., 2013). In addition, students are challenged at an appropriate level based on the students' knowledge and skills. It impacts students' ability to demonstrate continuous learning progress and growth. Students can engage using their interests, learning styles, and previous experiences (Marlina, 2016). The way to find truth in knowledge can contribute to individual critical thinking (Ku & Au, 2021).

However, the interviews show that teachers face many challenges in assessing differentiated learning, especially those related to the characteristics of students with special needs (Westwood, 2001). Another challenge is that differentiated learning is still new in Indonesia. There are no schools that implement differentiated learning well. Some of the reasons include the paradigm of thinking that demands the curriculum to be achieved by all students. Teachers still believe that students must master the same material in the same way and simultaneously. Therefore, training is needed to conduct a comprehensive and integrated differentiated learning assessment so that teachers can understand students' learning readiness, interests, and learning profiles so that learning follows students' characteristics and learning needs (Marlina & Kusumastuti, 2019). A thorough understanding of the content, process, product, and learning environment is essential for teachers so that students with special needs feel valued, involved, and taught according to their abilities.

This research has produced two assessment instruments used in differentiated learning in inclusive schools. The two instruments are (1) a differentiated learning assessment instrument and (2) an assessment instrument for readiness, interest, and learning profile. The results of the expert validation test stated that the two instruments were suitable for use in inclusive schools. Statistical calculations for validity and reliability tests with Cronbach's Alpha also showed a positive effect on applying the two instruments in inclusive schools.

CONCLUSION

This study found two types of instruments that were indispensable for differentiated learning in inclusive schools, which consisted of two instruments, namely (1) an assessment instrument for differentiated learning; and (2) an instrument for assessing readiness, interest, and learning profile. The expert validation test results indicated that the two instruments were appropriate for use in inclusive schools. Statistical calculations

for validity and reliability tests using Cronbach's Alpha revealed that using the two instruments in inclusive schools had a positive effect. Although teachers in inclusive schools have challenges in implementing differentiated learning, with the application of this assessment instrument, the difficulties faced by teachers will be well minimized. The teacher's comprehensive understanding of students with special needs, characteristics, and learning needs is the basis for planning quality learning in inclusive schools. This study is still far from perfection, to future researchers, we hope to conduct further research on this instrument to improve the instrument.

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