

Digital Portfolio Assesment: A Self-Reflection Way for Teachers and Special Need Students

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Abstract: Technology and the internet are useful in learning recently. One of them is through digital portfolio assessment as a whole part of learning for special needs students. The purpose of this study is to find out a theory that digital portfolio is not only useful for figure out the progress of achievement of special needs students, but also become a way of self-reflection for teachers and students in learning. The method used in this study was a grounded theory approach with the following steps: 1). Theorization of research by collecting theories on portfolio/digital portfolio assessment as well as self-reflective teachers and students in inclusive school, 2). Collecting data and relevant theoretical samples to the topic, 3). Data analysis to produce a new theory. The results showed that the digital portfolio assessment benefits for increasing the achievement of the development of special needs students as well as self-reflection for teachers and special needs students. As a self-reflection, digital portfolio assessment fulfills the following elements: 1). Increase emotional intelligences, 2). Connecting knowledge and feelings with learning experiences, 3). Emotional engagement with learning experiences.

Keywords: digital portfolio assessment; self-reflection learning; special need students.

INTRODUCTION

UNESCO explicitly states that inclusive education is a child's right, not a privilege given to children with special needs. Inclusive education promotes quality and equity in education for all, including those who are potentially marginalized by special learning needs or social position (Junaidi et al., 2022; Ediyanto et al., 2023, Amka et al., 2023; Wulan & Sanjaya, 2022). Based on this statement, awareness for equality rises about the rights of children with disabilities to have access to the same educational services as normal children (UNESCO, 2021; Kartini & Aprilia, 2022; Iswari et al., 2023; Ediyanto & Kawai, 2023).

Through formal school which is referred to as inclusive schools, special needs students get learning like students in general. They also get learning materials with adapted curriculum in inclusive schools, so that the Individual Education Program (IEP) is always different from one child to another (Kurniawan, 2019).

In turn, inclusive schools also conduct assessments for children with special needs. School assessment has actually come a long way. As in America, which has the slogan No Child Left Behind which results in standardized assessments for each student. Then in Indonesia there is a National Examination which was later abolished in 2020 (Nehru, 2020). The National Examination then be replaced with a minimum competency assessment that will be implemented in 2021 for students.

Meanwhile, the assessment in inclusive school also follows the assessment in the 2013 curriculum. There are three assessment domains in that curriculum; affective, cognitive, and psychomotor which may be a bit inconvenient for teachers to conduct in reality (Setiadi, 2016). The techniques used in attitude assessment are through observation, self-assessment, peer assessment, and journals, cognitive assessment through written tests, oral tests, and assignments, and skills assessment through practice, projects, and portfolios.

Assessment of special needs students is actually still a debate. Assessment for special needs students should be focused on how curriculum modifications can affect the reliability

of student performance, and not merely an assessment system based on the goals and progress of special needs students. Furthermore, the assessment of special needs students is not only about the administration of assessments that show student progress, but also the alignment of learning content and instructions that can be applied in their daily lives (Perner, 2007). In this conventional assessment there is no relationship between learning outcomes and learning scores on the progress of the development of special needs students.

Whereas special needs students should receive an assessment tailored to the inclusive school system. Broadly speaking, the inclusive school system has the following features: 1). A whole systems approach, 2). Comprehensive educational environment, 3). Individual approach, 4). Teacher support, 5). Mutual respect for differences, 6). Friendly learning environment, 7). Effective transition, 8). Recognition from partners, 8). Monitoring (United Nation, 2006). Furthermore, the inclusive education model is carried out by modifying curriculum content, teaching methods, approaches, structures, and strategies in education to overcome barriers to special needs students.

On the other hand, assessment has a role in inclusive education, especially in early identification and screening which special needs students require comprehensive evaluation and which special needs students are provided with additional services (Frey, 2019). While the assessment process is carried out after special needs students receive treatment in learning at inclusive schools. The purpose of this assessment is to determine the ability or disability of special needs students, difficulties, and obstacles, as well as the problems they face so that their needs are determined. One of them is self-determination skill which is traditionally measured by comparison before and after intervention (Jex, 2019).

Self-determination skills involving curriculum-based tests utilize the following eight components: (a) choice/decision making, (b) goal setting/achievement, (c) problem solving, (d) self-evaluation, observation, and reinforcement, (e) self-advocacy, (f) inclusion of individual education programs (IEP), (g) relationships with others, and (h) self-awareness (Jex, 2019). However, a potential shortcoming in this assessment program is the lack of reflection on the final product because this assessment is only seen as a result and not on the continuity of the process.

As it is known that sustainability is one of the characteristics of the assessment issued by the 2013 Curriculum of the Ministry of Education and Culture of the Republic of Indonesia. This momentum can be shifted to using the transition portfolio as physical evidence that can assist students as they move through their individual transitions.

Portfolios is nothing new to student assessment. Portfolio is an assessment of the learning process by collected of files as physical evidence of students during and after study (Suherman, 2007). The purpose of portfolio assessment also varies depending on the school, teachers, and students themselves. Often the purpose of portfolio assessment is to document the learning process that shows student progress or student's best work in the portfolio showcase (Clancy & Gardner, 2017).

The word portfolio comes from the Italian "portafogli" in the early eighteenth century. 'Portãre' refers to 'to carry', while 'foglio' means leaves and sheets. In general, portfolio means a person who carries loose papers, artifacts, and documents in a portable case. Pedagogically, the portfolio is meaningful as a running note for students to review, reflect, and improve performance in their learning process (Lam, 2018).

Previous research has shown that both portfolios and digital portfolios have a good impact on learning. Digital portfolio/e-portfolio is able to develop professional skills and life skills in students (Alajmi, 2019). In addition, e-portfolios are also able to increase self-reflection that supports student learning (Ebil et al., 2020).

Therefore, this study reveals digital portfolios that inclusive schools may be able to do for self-reflection in students. The findings of this study demonstrate that digital portfolios can serve as a powerful tool for self-reflection in special needs students and their teachers. In addition to providing a comprehensive assessment of student progress, digital portfolios offer a platform for students and teachers to engage in reflective practices that promote emotional intelligence, connect learning experiences with emotions and knowledge, and foster emotional engagement with the learning process. As such, inclusive schools can leverage digital portfolios to not only improve academic outcomes for special needs students but also to support their holistic development as reflective learners. By integrating digital portfolio assessment into their teaching practices, inclusive schools can create a more student-centered and emotionally supportive learning environment that enables all students to thrive.

METHOD

This study uses a grounded theory approach with qualitative procedures used to produce a theory that explains a broad conceptual level, process, action, or interaction between topics (Creswell & Creswell, 2017). In this case, researching digital portfolios as a self-reflective assessment for teachers and special needs students.

Data collection was taken from two sources, primary sources and secondary data. Primary data comes from interviews with teachers and special needs students in MTs. Terpadu Ar-Roihan Lawang Malang (inclusive school) while secondary data comes from books, journals, and documents which are analyzed continuously.

Data collection for this study was carried out using both primary and secondary sources. The primary data was gathered through interviews with teachers and special needs students at MTs. Terpadu Ar-Roihan Lawang Malang, an inclusive school known for its innovative approaches to teaching and learning. The interviews were conducted in-person and followed a semi-structured format, allowing for open-ended discussion and exploration of the topics related to digital portfolio assessment and self-reflection. The interviewees were selected based on their experience and expertise in teaching and learning in inclusive settings.

The secondary data, on the other hand, was collected from a variety of sources, including books, journals, and documents related to digital portfolio assessment, self-reflection, and inclusive education. The collected materials were analyzed continuously throughout the study to identify relevant themes and theoretical perspectives that informed the development of the grounded theory approach used in this research.

By utilizing both primary and secondary data sources, this study was able to gather a rich and diverse range of perspectives on the use of digital portfolios for self-reflection in special needs students and their teachers. The data collected from interviews provided unique insights into the experiences and perceptions of those directly involved in teaching and learning, while the secondary data helped to contextualize these perspectives within broader theoretical frameworks and research findings in the field of inclusive education.

The ultimate goal of this research is to produce a theory based on data and evidence (Sugiyono, 2013) so the grounded theory research steps are: 1). Theorization of research by collecting theories on portfolio/digital portfolio assessment as well as self-reflective teachers and students in inclusive schools, 2). Collecting data and theoretical samples relevant to the topic, 3). Data analysis to produce a new theory.

Theorization of research, in this first step, the research team collected theories related to digital portfolio assessment, self-reflection, and inclusive education. This involved conducting a comprehensive review of the relevant literature, including academic journals,

books, and other scholarly sources. The goal of this step was to identify existing theories and frameworks that could inform the development of a grounded theory approach.

Collecting data, once the theoretical foundations were established, the research team began to collect primary data through in-depth interviews with teachers and special needs students at MTs. Terpadu Ar-Roihan Lawang Malang, an inclusive school. The interviews followed a semi-structured format, allowing for open-ended discussion of topics related to digital portfolio assessment and self-reflection. Secondary data was also collected from books, journals, and other documents relevant to the topic.

Data analysis, the final step in the grounded theory approach was to analyze the data collected in step 2 to develop a new theory. This involved coding and categorizing the data to identify recurring themes and patterns, as well as exploring the relationships between these themes. The research team used a variety of analytical techniques, including constant comparison and theoretical sampling, to refine and develop the theory over time.

RESULT AND DISCUSSION

Result

Digital Portfolio in MTs. Terpadu Ar-Roihan Lawang

During the COVID-19 pandemic, learning has shifted in many ways. Previously, the challenges in inclusive schools were not as severe as during the COVID-19 pandemic. The existence of a limited pattern of interaction between teachers and special needs students and the absence of teachers in fully observing learning are one of the many aspects of the study of online learning.

On the other hand, special needs students still must get services and the right to get lessons and knowledge while they are at home. Although some get limited face-to-face learning, these conditions are not optimal.

The availability of technology and the internet has created a place for digital “collected artefacts” or what is known as digital portfolio/e-portfolio. The internet-based portfolio is a way to capture the process of achieving the learning development of special needs students through the project-based learning method. This digital portfolio also contributes positively to learning and becomes self-motivation for special needs students (Clancy & Gardner, 2017).

By this change, digital portfolios can provide special needs students in transition to determine lesson plans, Individual Educational Programs (IEP), or parent conferences. Through a digital portfolio, it is recommended for special needs students to participate in learning, including as a preparation tool for IEP, communication tools, and projects aimed at school graduation (Glor-Scheib & Telthorster, 2006).

Digital portfolio providers on the internet are also getting wider now. Teachers and special needs students, as well as parents can use google sites, weebly, pinterest, flickr, kreavi, and others. Some of these online portfolio service providers are free and some are paid. And there are levels of complexity of each. For beginners, a digital portfolio can be done in the following steps: 1). Determine the purpose of digital portfolio, 2). Choose the right platform, 3). Simplify the design, 4). Writing behind the scenes portfolio (Sakina, 2020).

In the course of this research, the research conducted interviews with special needs teachers at MTs. Terpadu Ar-Roihan Lawang Malang, an inclusive school known for its innovative approaches to teaching and learning. These teachers shared their experiences using digital portfolios with the Google Sites platform, a service that provides a space for teachers, students, and parents to interact.

I am really helped by this digital portfolio because usually parents always ask about their child's development, so just looking at the portfolio they already get what they are looking for, their child can do many things than before. (Teacher 1).

According to the teachers, the Google Sites platform has been a useful tool for creating and storing digital portfolios in the form of photos, videos, and documents. They noted that the platform was easy to use and allowed them to organize portfolios according to specific learning goals or projects. The platform also allowed for easy sharing of portfolios with parents, who could access their child's work and progress from home.

In addition to its practical benefits, the teachers also highlighted the value of digital portfolios as a tool for self-reflection and assessment. By having students collect and curate their own work, they were able to develop a deeper understanding of their learning and growth over time. The digital format also made it easy to provide feedback and constructive criticism, allowing for continuous improvement.

Overall, the use of digital portfolios with the Google Sites platform was seen as a valuable and effective tool for supporting teaching and learning in inclusive settings. The platform's user-friendly interface and flexible design made it a popular choice among the teachers, and its ability to promote self-reflection and assessment helped to enhance student learning outcomes.

It should be underlined that digital portfolios have been the most successful in increasing student reflection, improving communication and collaboration between teachers and parents, aligning unit projects with student goals, and creating increased opportunities for project-based learning (Clancy & Gardner, 2017).

In addition, with a digital portfolio, assessment for special needs students no longer experiences obstacles. In the conditions of the covid-19 pandemic where students must study online, portfolio assessments can still run well.

Assessment in Inclusive Education Today

Generally, the objectives of the assessment in inclusive schools include: 1). Identify students who may need additional information about learning progress or who may have a high risk of academic achievement (screening), 2). Diagnosing student differences and needs in additional education services (classification), 3). Plans on learning and learning interventions (interventions), 4). Monitoring student progress (monitoring), 5). Informing the development of students and the improvement of appropriate education (informing), 6). Provide assessment accountability (accountability)(Frey, 2019).

Assessments conducted in inclusive schools also refer to the curriculum made by that school. The curriculum created is the result of curriculum adaptation for special needs students (Mitchell, 2004) which includes: 1). Duplication, duplicating is duplicating the curriculum for students with academic needs who are capable, 2). Modification, modifying the curriculum according to the conditions of special needs students, 3). Omission, removing some of the basic competencies of the curriculum that are not appropriate for students, 4). Substitution, replacing the right basic competencies for special needs students.

The first part of the assessment in inclusive schools is the early identification of special needs students (Pratika, 2019). This early identification determines the types, conditions, and interventions that will be used at the next stage of student learning. This assessment is a diagnosis that affects how much curriculum adaptation will conduct to special needs students.

In some places, inclusive schools still rely on formative and summative assessments as evaluation programs. Formative assessment is carried out during the learning process which aims as learning feedback, while summative assessment is carried out at different

times and aims to obtain data on the extent to which students understand the lesson and make decisions about students going to pass the grade.

Both tests seem to only meet learning outcomes without looking at the processes that occur during learning for special needs students. Formative tests may provide information to teachers about students' understanding in real time learning. However, there may be misconceptions by the teacher regarding the understanding of special needs students because it only provides a glimpse of learning mastery (Clancy & Gardner, 2017).

Evidence shows that authentic assessment based on adaptive and functional skills through learning projects is more positive in the lives of special needs students. Portfolios become the new hope for the authentic assessment. Portfolio is clearly different from other tests because it is able to represent various materials that students can do, both individually and collaboratively, improve effort improvement, and this project can be carried out outside the classroom. Portfolio assessment strongly supports special needs students to develop life skills at school and at home.

Portfolio Assessment

Portfolio ideas is related to the collection of files or artifacts with a specific purpose and meaning as a person's efforts, developments, and achievements (Lam, 2018). Portfolio is used as authentic assessments which are intended to highlight the "real world" in the context of assessments and assignments. The portfolio is very supportive of learning and reflection, including during formative tests (Bryant & Timmins, 2002). If the purpose of the assessment is only to measure the level of success, then conventional tests or assessments can be used. However, if the improvement in the results of the performance want to measure, then a better portfolio assessment is used.

The new paradigm of assessment also supports portfolio assessment because students can learn more independently, they gain the advantage of self-control, and are free to explore lessons. Even through this assessment students are also able to use diverse and broad learning styles and can demonstrate them.

Some of the benefits of portfolio assessment compared to conventional, such as: 1). Portfolios involve students for more effective performance in gaining knowledge, while conventional assessments tend to reveal whether students can memorize and remember lessons, 2). Portfolios present students to be more challenged in determining learning activities such as projects, research, products, and others, while conventional assessments are only limited to questions and answers, 3). Portfolios show products and their explanations, while conventional assessments only provide written answers, 4). The rubric of portfolio assessment criteria will be more varied than conventional assessments that rely on right or wrong answers.

The principles used in portfolio assessment emphasize more on broader aspects than conventional assessments. Some of these include: teachers and administrators must be trained how to plan portfolio assessments, this assessment requires a fairly good allocation of resources and energy from teachers and students, teachers must be part of the team on portfolio assessments and not just assessors, parents must also understand portfolio assessment so that they can support their children, portfolio documentation is also carried out in-depth analysis, the teacher's role is very vital in this assessment, portfolio assessment is a developmental process for both teachers and students, a new perspective in learning, self-evaluation including self-assessment reflection is an integral part of the portfolio.

Implications of Digital Portfolio in Education

When digital portfolios are widely used in educational settings, a study of the implications must also be implemented. As evidence that digital portfolios/e-portfolios improve learning performance apart from being an assessment tool.

The data shows that digital portfolios make teachers and students satisfied with the results obtained. Students who have graduated feel that the digital portfolio is a learning tool that is able to bridge between teachers and students (Shea & Parayitam, 2019). Teachers who use assessments in digital portfolios are indirectly involved emotionally with special needs students.

Special needs students also have a positive perception of digital assessment. They also argue that digital systems are more accessible, especially when there are mobility problems (Noguera et al., 2018). The easiness of access to digital portfolios is also an advantage in this assessment model.

In addition, digital portfolios also have an impact on the development of professional standards and student life skills (Alajmi, 2019). It also encourages teachers to be more aware of trends, trends, and other interests when preparing projects for special needs students. Research findings show that the use of digital portfolios/e-portfolios improves students' abilities, skills, and knowledge.

Digital Portfolio as Self-Reflection

Reflection is a term for "looking back" on something that has been done in the past with the aim of avoiding the same mistake. Reflection also encourages exploration of thoughts and feelings, looking more "inside", and maximizing self-awareness that is bound up in powerful processes (Helyer, 2015).

The practice of reflection learning is an effective way to increase moral awareness, cognitive understanding processes, and be more perceptive on the reception of daily moral experiences (Hedberg, 2017). Basically, self-reflection learning involves more feelings and moral values related to learning activities.

Theoretically, self-reflection learning includes three things: 1). Emotional intelligence which includes self-awareness, impulse control, persistence, motivation, empathy, and sympathy, 2). Feelings with material subjects that come from external experience, 3). Feelings and involvement in the learning process (Moon, 2013).

The implications of self-reflection learning are: helping to forge a student's identity and ensuring sustainable competencies are developed effectively, changing students' preconceived perspectives and social preferences to encourage new action plans in decision making, promoting understanding of one's personal strengths and limitations, modifying beliefs, attitudes, and everyday student behavior to develop competencies that will ultimately result in increased sustainability (Colomer et al., 2020).

Through self-reflection, special needs students can understand what the meaning of the learning they have received and how that meaning is implied in everyday real life. The implementation of self-reflection is carried out jointly between teachers and special needs students after they carry out a project or learning whose results are stored in a digital portfolio/e-portfolio.

In relationship terms, self-reflection is seen to place the process of "internal experience" that implies meaningful learning about new material. For special needs students, self-reflection through their digital portfolio will be associated with understanding new meaningful learning, learning from meaningful learning processes, learning in situations where processing ideas that have been explored.

Self-reflection on learning reveals the extent to which special needs students are aware of the learning process. They will also be open to express their ideas, constructive impressions, hopes, and criticisms of the project, product, or even the learning process.

Meanwhile, digital portfolios in the form of documents, photos, and videos provide a real picture that there is a process that has been undertaken by special needs students during their studies. From there self-reflection will arise and change the idea that the portfolio file is only a form of test.

Discussion

In some cases, digital portfolios have succeeded in becoming more constructive and humanist assessments, such as increasing motivation (Ismaeel & Al Mulhim, 2019), improve life skills for students (Alajmi, 2019), and become self-reflection to support learning (Ebil et al., 2020). The findings of this evidence also support the existence of a digital portfolio assessment held on special needs students in MTs. Ar-Roihan Lawang Malang.

Digital portfolio as part of authentic assessment has roles such as: supporting classroom learning, collecting evidence from various activities, promoting learning and teaching in participants, reflecting on values, controls, and standards. The difference with the standard test is that the digital portfolio assessment is not only intended for short-term tests, but a long-term learning/long life learning (Paris & Ayres, 1994).

Not only supporting learning, the digital portfolio is also a self-reflection for teachers and special needs students. As it is known that for special needs students, the purpose and meaning of learning must be clear. This self-reflection can also be a self-determination of their views into the future (Jex, 2019). Digital portfolio puts special needs students understand their potential achievement.

Teachers, students, and parents work together to carry out "collection of artifacts" of learning in the form of various activities. The internet has provided a lot of free space that can be managed as a digital portfolio/e-portfolio. However, the preparation in this assessment depends on the readiness of the teacher and the team (Glor-Scheib & Telthorster, 2006) to make digital portfolios meaningful and become self-reflection learning.

Self-reflection of special needs students with intervention from the teacher will further help motivate students and develop the ability to learn how to learn (Machado & Boruchovitch, 2021). Then from there students will find self-study that is useful throughout life.

In education, portfolios are a collection of files or artifacts that have a specific purpose and meaning. They can showcase a person's efforts, developments, and achievements, providing a comprehensive view of a student's progress over time (Lam, 2018). Portfolios are commonly used as authentic assessments, which are intended to highlight the "real world" in the context of assessments and assignments.

One of the main advantages of using portfolios is their support for learning and reflection, including during formative assessments (Bryant & Timmins, 2002). By collecting and organizing their own work, students can better understand their learning and growth over time. Portfolios can also help teachers identify areas where students need additional support or guidance, allowing for personalized and targeted interventions.

The new paradigm of assessment also supports portfolio assessment because it allows students to learn more independently and take control of their own learning. Portfolios provide a flexible and personalized way for students to demonstrate their learning and understanding of concepts. Additionally, portfolios can accommodate diverse and broad learning styles, as students can choose the format and type of work, they include in their portfolio.

Overall, portfolio assessment provides a more holistic view of a student's learning and development compared to traditional assessments. Portfolios allow for student-centered learning and provide opportunities for self-reflection and assessment, which are critical for fostering lifelong learning and growth. As education continues to evolve and adapt to new technologies and teaching methods, portfolios will continue to be a valuable tool for assessing and supporting student learning.

CONCLUSION

Teaching and learning have changed during the COVID-19 pandemic, as well as inclusive education. Currently, online learning that relies on the internet is a temporary solution for education so that learning which includes assessment in it also uses digital, one of which is a digital portfolio as an assessment for special needs students.

The conclusion of this research is beside the various benefits to get performance improvement for special needs students, project-based digital portfolio assessments, it turns out that self-reflection learning also plays a role in this assessment. Digital portfolio makes teachers and students can self-reflection in increase emotional intelligences, connecting knowledge and feelings with learning experiences, and emotional engagement with learning experiences.

Special needs students are unique individuals who are different from one to another. For further research, researchers need to link the digital portfolio to the personal goals of each of the different special needs students.

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