



Portfolio Assessment to Measuring Capabilities Communications and Collaborations of Grade V Students in Elementary School

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ABSTRAK

Salah satu bentuk penilaian yang dapat menilai kemampuan siswa secara keseluruhan, proses dan hasil, adalah penilaian portofolio. Permasalahan dalam penelitian ini bermula dari hasil analisis kebutuhan terhadap penilaian belajar siswa. Penelitian ini bertujuan untuk menghasilkan penilaian portofolio yang layak dan efektif untuk mengukur keterampilan komunikasi dan kolaborasi siswa kelas V sekolah dasar. Penelitian ini merupakan jenis penelitian Research and Development (R&D), pengembangannya dilakukan mengacu pada teori Borg & Gall. Alat pengumpulan data menggunakan penilaian portofolio yang valid dan reliabel. Teknik analisis data menggunakan uji t berpasangan dengan hasil hitung sebesar 0,000 atau kurang dari 0,05 yang berarti terdapat perbedaan antara hasil pretest dan postes siswa. Berdasarkan penelitian ini dapat disimpulkan bahwa penilaian portofolio efektif dalam meningkatkan kemampuan komunikasi dan kolaborasi siswa. Berdasarkan kesimpulan di atas, saran peneliti mengenai kemampuan komunikasi dan kolaborasi siswa dapat ditingkatkan dengan cara siswa berlatih soal sesering mungkin dan bersungguh-sungguh mengikuti proses pembelajaran sesuai aspek penilaian.

ABSTRACT

One form of assessment that can assess students' abilities as a whole, process and results, is portfolio assessment. The problem in this study originates from the results of a needs analysis on student learning assessments. This study aims to produce a feasible and effective portfolio assessment to measure the communication and collaboration skills of fifth grade elementary school students. This research is a Research and Development (R&D) type of research, the development was carried out referring to the theory of Borg & Gall. The data collection tool uses a valid and reliable portfolio assessment. The data analysis technique uses a paired t test with a calculated result of 0.000 or less than 0.05, which means that there is a difference between the pretest and post-test results for students. Based on this research, it can be concluded that portfolio assessment is effective in improving students' communication and collaboration skills. Based on the conclusions above, suggestions from researchers regarding students' communication and collaboration skills can be improved by students practicing questions as often as possible and being serious about following the learning process according to the assessment aspects.

1. INTRODUCTION

The role of educators is very important as a facilitator, therefore an educator is expected to be a professional educator who is able to plan learning, lead learning activities, assess the progress of the learning process, utilize the results of assessments in improving the learning process (Gemnafle & Batlolona, 2021; Rahman, 2014). Assessment is an effort to collect information or data using measuring tools to see the extent to which learning objectives have been achieved. Assessment is a process of collecting information and making decisions based on the information obtained (Purwanto, 2010). Assessment is the process of designing, obtaining and providing information that is very necessary to make alternative decisions based on a number of facts or explaining the characteristics of students in learning (Imania & Bariah, 2019; Purnomo, 2016). Assessments are used by educators to determine

students' ability to master the learning objectives that have been set and to identify weak parts of the teaching program that need to be improved. Specifically, the skills assessment process is carried out through performance assessment techniques, project assessments and portfolio assessments (Permendikbud Number 23 of 2016).

One form of assessment that can assess students' abilities as a whole, process and results, is portfolio assessment, a portfolio is a collection of work or activities as evidence that shows the development and achievements of a program (Chodijah et al., 2012; Rosidin, 2016). A portfolio can consist of tasks performed by students, students' responses to teacher questions, and teacher observation notes, assessing individual student works within a single period for a specific subject. (Lestari & Nasution, 2022; Rusilowati, 2013). Portfolio assessment characteristics as follows 1) describes the development or progress of a person's abilities in one field, 2) the work is authentic evidence of a person's abilities, 3) describes a person's abilities comprehensively, especially if planned (Rosidin, 2016). Assessment objectives according to as follows 1) Keeping track so that the learning process remains in accordance with the plan, 2) Checking-up to find out the weaknesses experienced by students during the learning process, 3) Searching (finding out) to find things that cause the occurrence of weaknesses and errors in the learning process, summing-up concludes whether students have mastered all the specified competencies or not (Kusaeri & Suprananto, 2012).

The function of assessment is 1) assessment functions selectively (a) students who can be accepted at a particular school, (b) students who can be promoted to class, (c) students who should receive scholarships, (d) students who have the right to leave schools, and so on, 2) the diagnostic function of the assessment used in the assessment is sufficient to meet the requirements, so by looking at the results, educators will know the student's weaknesses and their causes, 3) the assessment function for placement is to determine whether a student should be placed in a group (Arikunto, 2016). Assessment is carried out based on the principles of valid, objective, fair, integrated, open, comprehensive and continuous, systematic, criteria, accountable and accountable, both in terms of techniques, procedures and results (Kemendikbud, 2015).

The principles of portfolio assessment as follows. 1) mutual trust involving students actively as the party being evaluated, 2) openness of the teacher as an evaluator who gives grades, 3) portfolio documents need to be kept confidential before being exhibited, 4) proof that the portfolio is shared property is well guarded, 5) the final results of the assessment portfolio is the achievement of competencies, 6) portfolio assessment develops a learning culture, 7) provides students with the opportunity to reflect on the learning process they have carried out, 8) is process and results oriented. The advantages of portfolio assessment are as follows, 1) assessing abilities as a whole process and results, 2) ensuring school accountability towards students, parents and the community, 3) being individual in nature, each of whom has different abilities, interests, talents, ways of learning, 4) implementing open assessment, 5) through work documents that are arranged systematically and organized, every interested party, parents, principal, school committee, 6) students' abilities are self-evaluating, 7) every student can assess themselves and can reflect. The weakness of portfolio assessment is that it requires time and hard work in monitoring the progress of individual students, as well as in processing work results, giving comments and so on and requires a change in perspective which is always measured by quantitative results towards a more qualitative portfolio learning style (Rosidin, 2016).

The observation results show that educators are very dominant in the assessment process and students are the people being assessed. Assessment is usually carried out at the end of learning and is only oriented towards written tests and assignments. Therefore, the most comprehensive assessment is needed that can measure students' cognitive, affective and psychomotor abilities. In reality, the assessment process carried out so far has only emphasized mastery of (cognitive) concepts which are captured using objective and subjective written tests as measuring tools. This reality encourages students to memorize every time a learning outcomes test is held which will result in students' communication skills not developing and ultimately student cooperation (collaboration) will not work well in learning activities.

Based on the results of the questionnaire needs analysis regarding portfolio assessments to measure students' communication and collaboration skills in the Hang Tuah Cluster, Dente Teladas District, the results show that educators have developed portfolio assessments, but the majority of educators have never developed portfolio assessments to measure students' communication and collaboration skills. As many as 80% of educators still experience difficulties in making good assessments to measure students' level of success in understanding the material being taught. This is because as many as 60% of educators use rubrics in their assessments. Educators stated that when using portfolio assessments, the complicated thing was in creating the rubrics, so most educators chose to use the rubrics in the supporting books provided by the government in the theme books. This results in educators not

being optimal in assessing student development as a whole (comprehensive) so that assessment is only oriented towards student learning outcomes with written tests.

This is in line with the research results, that educators have not developed assessments in the process of assessing learning outcomes in schools optimally, educators only use instruments in supporting books (Dewi et al., 2022). Instruments that are available without development by educators are of poor quality. This is because educators have not used rubrics in carrying out assessments, so educators have difficulty developing these assessment instruments (Diani & Sukartono, 2022; Nabilah et al., 2021).

The assessment system expected in learning can make students actively play a role in learning. In fact, the majority of students' activity is still low in working together (collaboration) in this learning, as shown by 40% of students who collaborate in carrying out tasks given by educators. Observation results at SDN 1 Dente Makmur show that students' low collaboration abilities can be seen from poor cooperation between students. A case was found during initial observations carried out by researchers at SDN 1 Dente Makmur that female students were not willing to share tasks with male students who were considered lazy and less intelligent in their group. This makes some students "who were thrown out of their group" not get a group and form their own group.

Through collaboration, students can work together in groups, construct knowledge, participate to make decisions, seek conclusions to solve problems (Lina listiana, 2011; Zubaidah et al., 2018). This collaborative process can be mapped into various stages, namely face-to-face dialogue, building trust, building commitment to the process, sharing understanding, and then forming intermediate outcomes (Noviana et al., 2019). Collaboration indicators in learning including 1) making good use of discussion time, 2) creating a friendly atmosphere in the group, 3) supporting friends who put forward good opinions, 4) motivating/encouraging members who are less active in the group, 5) actively participating in discussions (Wardani et al., 2021). Collaboration ability indicators including love performing tasks in collaboration with accountability and responsibility (love of carrying out tasks in collaboration with accountability and responsibility), effort in work (work effort), time management in work (time management at work), and interaction skills during work (interaction during work) (Zubaidah et al., 2018).

Observation results also show that most of the students' communication skills are still low. This was shown by 45% of students who were willing to express their opinion when the teacher asked. This means that the interaction process between students and the interaction between students and teachers is still relatively low. This is because students' awareness of actively answering and asking questions is still low. So that students are only passive and answer when indicated by the teacher. There are four aspects used for communication, namely listening, speaking, reading and writing (Mulyati & Cahyani, 2018). Furthermore (Jakob, 2006) stated that there are several aspects of communication that need to be developed. 1) listening, students must learn to listen carefully to comments and other questions, 2) listening carefully can construct systematic knowledge. 3) reading, in this case more emphasis on students' reading of literature and gradually increasing the use of textbooks, 4) discussions, aimed at developing class discussions and helping students practice oral and written communication, writing, more emphasis on expressing ideas in written form, writing is arranged systematically, 5) presenting, including showing an idea or problem again in a new form.

These two problems show that in learning there are still students who have not mastered the collaboration and communication skills that are the demands of the 21st century. One of the reasons is the inaccuracy of the assessment system used by educators in the learning process. Therefore, the most comprehensive authentic assessment is needed that can assess students' cognitive, affective and psychomotor abilities. So, as a solution, learning needs to implement portfolio assessment.

This research aims to develop authentic assessments, one of which is the development of portfolio assessments to measure students' effective communication and collaboration skills. Based on this, it is necessary to conduct research by preparing assessments that are easy, clear, practical, and appropriate to the conditions for learning in schools. So, researchers will carry out a development entitled "Development of a Portfolio Assessment to Measure the Communication and Collaboration Skills of Class V Elementary School Students".

2. METHODS

This type of research is research and development or development research. The R&D research used in this research is the Borg and Gall design model. R&D research procedures acc (Borg & Gall, 1983), as shown in Figure 1.

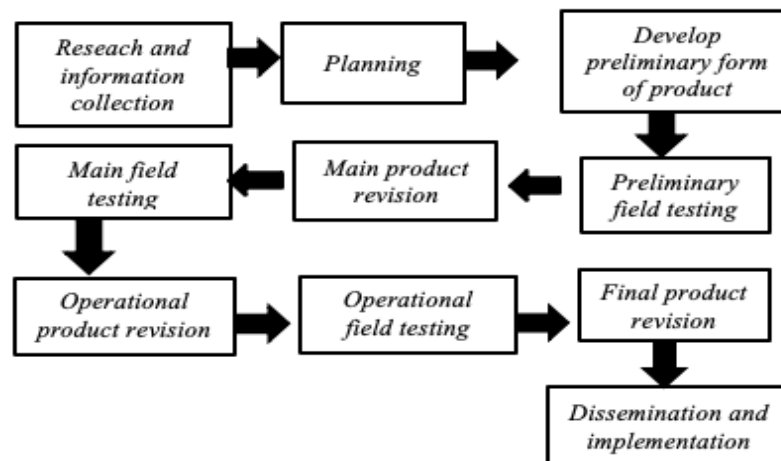


Figure 1. Development Research Steps

The development procedure used in this research uses seven stages. The first stage is Research and Information Collection. At this stage, field studies and literature studies were carried out. Analyzing reference sources, classroom observations, identifying problems found, needs analysis by conducting a survey using a questionnaire distributed to class V students. Based on the results of the questionnaire, it is known that the learning problems experienced by students are students' low communication and collaboration skills. The second stage is Planning. At this stage the researcher carried out a curriculum analysis to determine basic competency planning, learning indicators, learning objectives, and material coverage, as well as compiling an instrument grid. Once it has been created, it is continued with designing the portfolio assessment framework and determining the contents of the portfolio sections that will be developed. Next stage is Develop Preliminary form of Product. The steps used to develop the initial product form are: analyzing material on Core Competencies, Basic Competencies in accordance with theme 3 Healthy Food, sub-theme 2 The Importance of Healthy Food for the Body, analysis of indicators for each subject in accordance with sub-themes, analysis of student characteristics based on needs and development as a reference for determining portfolio objectives, compiling assignments used for monitor the learning process and to assess the final results in the form of students' learning products, compose learning scenarios that contain preliminary, core and closing activities, prepare specifications for portfolio assessment products that will be developed to measure students' communication and collaboration skills, write portfolio assessment instruments that will be developed to measure students' communication and collaboration skills starting with determining the measurement objectives, instrument grid, instrument form and format.

Preliminary Field Testing is the next stage after develop preliminary form of product. At this stage, initial product design trials are carried out on a limited scale, namely expert validation tests. Expert tests are carried out to find out discrepancies or errors in products made from the construction components, substance components, grammatical components. The data resulting from validation by material experts is used as a reference for revising product I. In this step, data collection and analysis can be carried out using interview and questionnaire methods. At this initial trial stage, researchers use products that have been developed to determine non-conformities in the products being developed. The analysis technique for both expert validators use a Likert scale. On the expert validation sheet, a score of 1-4 is used, where the number shows the value from lowest to highest. Based on expert validation determinations, there is a percentage classification presented in [Table 1](#).

Table 1. Expert Validation Percentage Qualifications

Percentage	Validity Level
76-100	Very Valid
51-75	Fairly Valid
26-50	Invalid
0-25	Very Invalid

(Akbar, 2014)

The next stage is Main Product Revision. Based on expert validation, the data that has been obtained is used to find out whether there are still discrepancies or errors in the product, then product

I revisions are carried out in accordance with the notes and suggestions for improvement from the expert validation. The revised product I is called Product II.

After product II was obtained, a large field test was carried out. The next stage is Main Field Testing. This test was aimed at class V students at SD Negeri 1 Dente Makmur Tulang Bawang. The aim of this large field test is to determine the practicality and effectiveness of the portfolio assessment developed by measuring students' communication and collaboration skills. Apart from that, to find out the responses students after using portfolio assessment by providing a portfolio assessment practicality test questionnaire to measure students' communication and collaboration skills. Before the teacher gives a portfolio assignment, the teacher gives a self-assessment questionnaire to determine the students' initial abilities, namely communicative and collaborative abilities. This practicality test uses a questionnaire given to students. The student response questionnaire aims to determine student responses which can be used as a benchmark for the quality of assessments that have been developed from a practical aspect. This response questionnaire has four answer choices with assessment criteria as in [Table 2](#).

Table 2. Statement Rating Scale

Positive Statement Score	Statement	Negative Statement Score
4	Strongly agree	1
3	Agree	2
2	Don't agree	3
1	Strongly Disagree	4

Source: (Sudjana, 2017)

Practicality analysis is carried out using the same steps as validity analysis. The practicality criteria interval in terms of student response questionnaires is explained in [Table 3](#).

Table 3. Practicality Criteria for Portfolio Assessment

Score Range	Criteria
3.26 – 4.00	Very Practical
2.51 – 3.25	Practical
1.76 – 2.50	Less Practical
1.01 – 1.75	Not good

Source: (Sudjana, 2017)

The results of the analysis of the practicality instrument sheet are interpreted in [Table 4](#).

Table 4. Interpretation of Practicality Questionnaire Scores

Achievement Rate (%)	Response description	
	Positive Statements	Negative Statements
80 < P ≥ 100	Very Good	Very Not Good
60 < P ≥ 80	Good	Not Good
40 < P ≥ 60	Enough	Enough
20 < P ≥ 40	Not Good	Good
0 ≤ P ≥ 20	Very Not Good	Very Good

Source: (Sudjana, 2017)

After that, in order to determine the effectiveness of the assessment rubric at this stage the teacher gives a self-assessment questionnaire in the form of a portfolio assessment questionnaire to students after the teacher has carried out the lesson. After that, analyze the results of a large field test to see the practicality of the product by giving practicality test questionnaires to teachers and students. Meanwhile, to see the effectiveness of portfolio assessment to measure communication and collaboration skills by analyzing students' pretest and posttest results ([Sugiyono, 2014](#)).

Testing of differences in the effectiveness of using portfolio assessments to measure students' communication and collaboration skills was carried out using the normalized gain formula ([Hake, 1999](#)). Furthermore, the results of the gain calculation can be categorized as [Table 5](#).

Table 5. Normalized Gain Categories

Gains	Category
$0.71 \leq g \leq 1.00$	High
$0.31 \leq g \leq 0.70$	Currently
$0.00 \leq g \leq 0.30$	Low

(Hake, 1999)

The last stage is Operational Product Revision. Carry out product revisions, resulting in product III, namely the final product of portfolio assessment to measure students' communication and collaboration skills.

3. RESULT AND DISCUSSION

Result

Initial field trials are carried out after the product is prepared by reviewing the product again by validation material experts, evaluation experts and language experts. The results of the recapitulation of validation assessments by evaluation experts, material experts and language experts are presented in the following Table 6.

Table 6. Expert Validation Results

No.	Validator	Mark (%)
1	Material	91,12%
2	Evaluation	90,00%
3	Language	97,50%
Average		92,87%
Criteria		Very Valid

The results of expert validation show that the results of validation by experts who assessed the portfolio assessment development design to measure communication and collaboration skills met the criteria with an average score of 92.87% with very valid criteria.

Validity testing is carried out to determine the validity of the instrument. The data was analyzed using product moment analysis to measure students' communication and collaboration abilities. This test was carried out at SD Negeri 1 Teladas which was tested on class V students. This school is in the same cluster as SD N 1 Dente Makmur. The validity test consists of 5 communication skills assignments and 8 collaboration skills assignments with test results in the following Table 7.

Table 7. Validity Test Results for Communication and Collaboration Abilities

Ability	No	Validity	Criteria
Communication Skills	1	0,72	Valid
	2	0,79	Valid
	3	0,73	Valid
	4	0,77	Valid
	5	0,75	Valid
Collaboration Capabilities	1	0,55	Valid
	2	0,66	Valid
	3	0,69	Valid
	4	0,53	Valid
	5	0,72	Valid
	6	0,79	Valid
	7	0,73	Valid
	8	0,77	Valid

Next, a word analysis test was carried out to determine the effectiveness of the portfolio assessment to measure students' communication and collaboration skills. The sample t test was carried out in two stages, namely the paired t test. The paired sample t test calculation was carried out using the paired sample t-test formula using SPSS 20. The paired sample t test was used to test whether there were

differences before and after being given a portfolio assessment in thematic learning to measure students' communication and collaboration skills.

Table 8. Paired t Test for Communication and Collaboration Abilities

Ability		Communication	Collaboration
Pair 1		Pretest – Posttest	Results
		Results	Pretest – Posttest
Paired Differences	Mean	11,9333	4,5
	Std. Deviation	9,07164	8,68980
	Std. Error Mean	1,62931	1,58653
	95% Confidence Interval of the Difference		
	Lower	-20,13396	3,82184
	Upper	-13,47895	10,31149
t		-10,315	4,454
df		28	28
Sig. (2-tailed)		0,000	0,000

Based on Table 8, the paired t test results of the pretest and posttest to measure students' communication skills obtained a result of $0.000 < 0.05$ and the posttest results to measure students' collaboration abilities obtained a result of $0.000 < 0.05$. This shows that there is a difference between the pretest and posttest results to measure students' communication and collaboration skills. The increase in communication and collaboration skills can be seen by the difference in average scores on students' communication and collaboration seen from the indicator aspect using an observation sheet that has been tested for validity with 13 valid items as assessment indicators.

Discussion

The product results in this research are in the form of a portfolio assessment to measure students' communication and collaboration skills. This research is research and development with the following seven steps of the R&D research model (Borg & Gall, 1983). The validity of the problem-based thematic assessment for measuring students' communication and collaboration skills can be seen from the results of the assessments of three experts, namely evaluation experts, material experts and language experts. Based on the assessment results from three experts, this assessment instrument is theoretically valid because it obtained an evaluation expert score of 90%, a material expert score of 91.12%, and a language expert score of 897.5%. The overall average expert score is 92.87% in very valid criteria. The product was also tested on practitioners, namely elementary school educators who have master's or bachelor's degrees who are competent in their fields with test results obtained of 89%. After assessing practitioners at this stage, 87% of students will be assessed through small group trials.

In line with the results of previous research showed that students from the experimental group performed better than the control group due to the use of a valid portfolio assessment which was used to improve students' communication and collaboration skills (Feizi & Zohdijalal, 2019). The research results of the research above are in accordance with theory (Sunarti & Rahmawati, 2014). When compiling an instrument it is necessary to pay attention to construction or evaluation aspects, material aspects, and language aspects (Suhady et al., 2020; Wahyuni & Ibrahim, 2012). The existence of assessments that are tailored to needs, communicative, innovative and collaborative is the hope of students because these assessments can enable students to improve communication and collaboration skills. As we know, the 2013 curriculum currently being used requires students to be able to communicate and collaborate.

This is in line with the opinion explaining that communication skills can be interpreted as a dynamic process in which people attempt to share their internal problems with others through the use of symbols (Samovar et al., 2010). Meanwhile collaboration can be interpreted as cooperation, working with others effectively in accordance with individual responsibilities and abilities. The term collaboration is often confused with the term cooperation. Through collaboration, students can work together in groups, construct knowledge, participate to make decisions, seek conclusions to solve problems (Lina listiana, 2011; Zubaidah et al., 2018).

Based on the results of observations regarding portfolio assessments, educators said that they had not tried to develop portfolio assessments to measure communication and collaboration skills. Even though educators sometimes prepare portfolio assessments for students to use in thematic learning, the portfolio assessments that are prepared are not able to improve communication and collaboration. Apart

from that, educators said that there are portfolio assessments that are deliberately purchased and cannot be used to improve students' communication and collaboration skills because these portfolio assessments do not always match the characteristics of students. Therefore, there is a need for portfolio assessments that improve students' communication and collaboration skills in the learning process.

Communication and collaboration assessment instrument products for mapping students' abilities on psychomotor competencies can make it easier and useful for educators in carrying out assessments. So active learning can attract students' interest when they show their abilities and develop their skills through discovery, observation and logical thinking. Apart from that, it can increase the effectiveness, efficiency and alignment of learning with learning objectives (Hayati & Yulianto, 2021; Jeremy et al., 2021).

Based on the explanation in the form of expert and practitioner validation test results proven by the quality of portfolio assessments, relevant theories and research which are the basis for reference in developing portfolio assessments, an assessment of the validity of portfolio assessments is obtained using valid criteria or can be used in research and development.

One of the aspects measured in this research is the effectiveness of increasing students' communication and collaboration skills on thematic subject matter. The effectiveness of the learning process regarding the paths, technical efforts and strategies used to achieve goals optimally, precisely and quickly (Sudjana, 2017; Tekege, 2017). The effectiveness of portfolio assessments for measuring communication and collaboration skills can be seen from the results of effectiveness tests in large group trials. This effectiveness assessment uses the paired t test which is an analysis technique for comparing the pretest and post-test of data or variables. This technique is used to test whether the communication and collaboration ability scores from the results of this study are significantly different or not from the average of a sample.

The results of the portfolio assessment product effectiveness test for measuring communication and collaboration skills based on the sig (2 tailed) value for communication and collaboration skills are $0.00 < 0.05$, so it is concluded that it is effective. Measuring communication and collaboration skills can be seen using the observation sheet for lessons 1 to lesson 3 for each indicator. The results of achieving communication skills obtained an average percentage of 85.2% with high criteria. Meanwhile, the results of achieving collaboration skills obtained an average percentage of 84.2% with high criteria. The instrument is said to be effective because of the detail and clarity of the assessment in learning.

This is in line with a research, the results showed that students from the experimental group performed better than the control group because the use of portfolio assessment was significantly effective in improving students' communication and collaboration skills (Feizi & Zohdijalal, 2019). The effectiveness of the portfolio assessment to measure students' communication and collaboration skills is used when students work on previously prepared assignments. To improve students' communication and collaboration skills in the learning process requires an innovative and interesting assessment sheet. Apart from that, educators are also expected to have packaged learning in the form of planning and learning experiences that will be provided to students well (Perdana & Misnawati, 2021; Septianti & Afiani, 2020).

The learning product that is appropriate to the current situation is a portfolio assessment which contains questions that are in accordance with KD and the learning objectives to be achieved referring to students' communication and collaboration skills so that using portfolio assessment in this research is more effective than learning without using portfolio assessment. In thematic learning. In line with an opinion, which state that assessment is a tool to measure the extent to which students have improved their abilities based on standards (Mediartika & Aznam, 2018). So assessment is a tool used by researchers to measure and collect information about the variables studied.

Based on the research results above as well as relevant theory and research, this portfolio assessment is suitable for assessment because it can overcome communication and collaboration difficulties between students individually and in groups.

This research has several limitations to consider. Firstly, the limited sample size in this study might restrict the ability to generalize the findings widely across the entire student population. Additionally, the time constraints in implementing portfolio assessment could hinder observing long-term changes in students' communication and collaboration skills. Lastly, external variables such as family support or curriculum changes could influence the research outcomes and are challenging to fully control within this study's context.

To enhance the quality of future research, expanding the sample size to involve more schools, students, and educators would provide a more comprehensive overview. Furthermore, adopting a long-term observation approach to assess the sustained impact of portfolio assessment on student skill development would be beneficial. Additionally, considering external variables and gathering more in-

depth information about these factors can aid in interpreting the results more comprehensively and accurately. Consequently, future research is expected to offer a deeper understanding of the true effectiveness and benefits of utilizing portfolio assessment in enhancing students' communication and collaboration skills.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that the portfolio assessment to measure communication and collaboration skills developed using Borg and Gall R&D steps for thematic learning for class V Elementary School Theme 3 "Healthy Food" Sub-theme 2 "The Importance of Healthy Food for the Body" is valid for use in research. Based on the conclusions drawn, researchers suggest that students can enhance their communication and collaboration skills by regularly practicing questions and earnestly engaging in the learning process aligned with assessment criteria. Educators are encouraged to mandate portfolio assessments for evaluating students' communication and collaboration skills, offering comprehensive insights into students' achievements and competency development. Furthermore, future researchers can explore developing thematic learning portfolio assessments using diverse learning models and investigate broader variables to further enhance students' communication and collaboration abilities.

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