

Short Research Article

Study Skills Intervention to Address Underachievement in Rural Elementary School in Maros, Indonesia

ABSTRACT

Aim: This research aims to identify the effectiveness of study and learning skill training to increase student comprehension, as interventions for underachievement.

Study Design: The study used an experimental design, pretest-posttest design.

Place and Duration of Study: Imam Nawawi Elementary School, in Maros, Indonesia; on 24 May - 24 July 2023.

Methodology: Fourth grade students at Imam Nawawi Maros Elementary School, South Sulawesi were selected using purposive sampling and then administered a series of assessments. Five students identified as underachiever were then given intervention in the form of reading, listening and note-taking skills training. The intervention was carried out in thirteen group sessions. The pretest-post test was in the form of reading comprehension questions.

Samples: Five 4th grade students at Imam Nawawi Elementary School, Maros, South Sulawesi; boy and girl; aged 10-11 years.

Results: Qualitative evaluation shows that this intervention has not been completely effective in improving the student comprehension.

Conclusion: The gap between students' understanding of the content and several aspects of the delivery of the material are assumed to be the main obstacles to effective intervention. Other discussion points are further elaborated in this study.

Keywords: elementary school student; learning skills; rural; study skills; underachievement

1. INTRODUCTION

Quality education is an important foundation for individual and societal development [1]. Unfortunately, in reality, there are still many challenges faced in efforts to increase educational attainment that is satisfactory and equitable for all levels of society in Indonesia. Based on analysis of PISA 2015 data, PISA scores in Indonesia from families with economic levels and rural areas are lower than those from families with high economic levels and from urban areas [2]. The phenomenon where several groups of students with abilities that should be equal, but apparently do not obtain equivalent learning outcomes, is called the achievement gap. In an individual context, a discrepancy experienced by students between actual performance and their potential abilities, or in other words, when an individual's estimated potential is not reflected in their actual achievement is called underachievement [3].

It is also argued that underachievement can be caused by many factors, ranging from individual factors such as level of intelligence and motivation; family factors such as parents' educational and socio-economic levels; social factors such as race, gender, and living environment; as well as school characteristics [4]. Meanwhile, another alternatif explanation stated that underachievement that occurs in students may be caused by at least

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one of four things: (1) the possibility of physical/cognitive/emotional issues experienced by children, for example learning difficulties; (2) mismatch between students and their school environment; (3) students' attitudes and perceptions towards themselves and the learning process at school; or (4) the lack of self-regulation and study skills possessed by these students [5].

The issue of underachievement is crucial to be addressed; considering that a person's inability to learn optimally can have a negative impact on themselves and their environment—from personal, well-being, even economic aspects—in the future [1][6]. Various interventions have been attempted to address this problem; among them are literacy development [7] and instructional interventions [8]. These two interventions, although proposed by two different experts, basically have a similar underlying principle; namely developing children's capacity to be able to learn, train, and apply learning strategies so that they can more optimally take in information they find and convey the ideas they have, as well as understand, store, and analyze the information obtained to then respond appropriately [7][8]. The hope is that when students have the skills to receive, understand, store, analyze and convey information well; their learning process will also be more optimal, consequently increasing their learning achievement.

One example of underachievement in Indonesia was found at Imam Nawawi Maros Elementary School, South Sulawesi. Teachers reported that their students are often unable to get satisfactory grades in final assessments, even though they were previously perceived as being able to get better results than that. The teachers argued that this was evident from the higher daily assignment scores that usually could reach at least the school's minimum passing score, but the finals were often below minimum passing score.

Due to limited resources, only fourth grade students—as the oldest study group in the school, as there weren't yet fifth and sixth graders—were selected for further assessment. If the intervention were found effective, it would then be given to other students in need from the lower grades. This selection is based on the consideration that since they were the oldest, these students have the highest urgency to be given treatment, should underachievement be truly an issue for them. This is due to the fact that underachievement intervention is best given at the very latest in middle school to be effective [6]. From the results of the assessment, nine students were identified as experienced underachievement, who were then given learning skills intervention—including reading/literacy skills as well as listening and note-taking—in order to maximize the learning process and improve academic achievement.

2. METHODOLOGY

2.1 RESEARCH DESIGN

The research was conducted with an experimental design, pretest-posttest.

2.2 Study Sample

Initially, an initial assessment was carried out on all fourth grade students ($n = 14$ people) to identify students who experienced underachievement. From the assessment, nine students were identified who were then eligible to take part in the intervention series, but in the end only five were able to take part in the full intervention series.

2.3 CRITERIA

Of the 14 students who were assessed, students who will be included in intervention and further evaluation are those who meet the following criteria.

- Has intellectual score categorized as average (minimum);
- Obtains final exam results below minimum passing score;

Comment [Reviewer2]: It is explicit that this study applies pretest-posttest experimental design but in the abstract, the result entails on qualitative data.

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- Obtain an average reading comprehension test score below the school's minimum passing score.
- Attend the intervention from start to finish without being absent.

2.4 STUDY STAGES

Stage 1. Assessment included classroom observations to get a closer look at teaching and learning processes, interviews with teachers and students concerned, administration of intelligence tests and reading comprehension tests, as well as analyzing students' learning outcomes from the latest final assessment (end of semester exam).

Stage 2. The pre-test is in the form of a reading comprehension test.

Stage 3. Implementation of interventions, with the first author as facilitator. Initially, 11 intervention sessions were designed to focus on reading skill training, using reciprocal teaching techniques adapted from similar training conducted by [9]. However, as the session progressed, it became apparent that students still did not have the basics of proper listening and note-taking. The researcher then held two additional sessions to discuss listening and note-taking skills by adapting techniques from existing Study Skills Training Module [10].

Intervention sessions were designed in such a way as to provide opportunities for students to understand the purpose and urgency of activities, get to know and practice various techniques in reading, listening and taking notes. Apart from that, in each session there is also repetition and bridging of previous material along with its application in other contexts in order to further increase students' understanding and generalization of the material presented. More details of the adaptation training design from [9] and [10] used in this research can be seen in Table 1 below.

STAGE 4. The post-test is carried out in the form of a reading comprehension test.

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Table.1
Intervention Program Design

Session	Objective	Activity
1	a Understand the objectives of the study sessions.	Students are asked to write their ideal learning attitude on a post-it and stick it on the whiteboard, then discuss the finding with the facilitator to determine what is its relevance to the objective of these study sessions.
	b Understand the rules during study sessions.	Students write down the study session objectives as well as do(s) and don't(s) on a blank piece of paper (i.e. learning contract), then sign it.
2	a Obtain students' current reading comprehension level.	Students take a pre-test.
	b Determine the students' reading interest.	Practice and discuss things that come to mind when reading.

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| 3 | a Recall the learning contract and learning objectives. | Review the contract and learning objectives. |
| | b Learn how the brain works as an initial basis for studying cognitive and metacognitive strategies for learning. | Discussion of the learning process and what is known about the role of the brain when learning. |
| 4 | a Recall previous material. | Review the material studied in the previous session. |
| | b Students know four metacognitive strategies for reading in general and practice these techniques. | Introducing the reciprocal approach technique using analogies: The Forecaster (predicting technique), The Boss (explaining main idea technique), The Detective (clarifying/looking for information technique), and The Journalist (asking questions technique). |
| 5 | a Recall the learning contract that has been agreed upon. | Review the contract and learning objectives. |
| | b Practice predicting reading techniques. | Students discuss in pairs to predict the storyline of the given folk tale. |
| 6 | a Practice finding text main ideas. | Students discuss in pairs to find the main idea of each paragraph in the folklore given. |
| | b Practice clarifying information they find in the text. | Students work in pairs to mark parts they do not understand from the given folk tale. |
| 7 | Recall the reading techniques that were previously discussed. | Discuss and repeat the techniques that have been practiced. |
| 8 | a Recall materials learned at the previous sessions. | Discussion, directive questions. |
| | b Practice questioning ideastechnique. | The facilitator models how to generate questions from answers that are already known. |
| | c Summarize and retell the folklore obtained in the previous session. | Retell folk tales in front of the class in turn. |

9	Review reading skills materials that have been discussed.	Semi-free drawing and free coloring, as a medium for students to review the material that has been discussed.
10	Practice the material that has been discussed in other contexts (lesson questions).	The facilitator guides students to apply the techniques that have been discussed when facing difficult questions.
11*	a The facilitator bridges previous material (how to learn: reading) with the next material (how to learn: listening). b Understand how to listen to learn (listening to learn).	Review material about the brain and what activities are carried out when studying. Reading a short story, students answer the examiner's questions spontaneously.
12*	a The facilitator bridges the previous material (how to learn: reading) with the next material (how to learn: listening). b Students discussed how to take notes effectively in learning.	Review material about the brain and what activities are carried out when studying. Discussion, short lecture.
13*	Students recalled material about how to study effectively, when reading, listening or taking notes.	Make media in groups according to their respective topics: reading/listening/noting effectively.

**) additional intervention design, after the series of interventions begins and the examiner finds the need for listening and note-taking skills intervention.*

2.5 RESEARCH TOOLS

Raven's Colored Progressive Matrices was used to gather students' intellectual potential; an instrument which the author is eligible in administering and interpreting. Reading comprehension tests, both for initial assessment and pretest/post-test, used texts and their respective questions taken from fourth grade textbooks with the same curriculum used in Imam Nawawi Elementary School. Specifically in the reading comprehension test assessment, two types of text were used: narrative text representing reading task with a lower level of difficulty, and expository text as reading task with a higher level of difficulty.

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3. RESULTS AND DISCUSSION

As has been explained above, initially a series of assessments were carried out on all fourth grade students, including observation, interviews, intelligence and reading ability tests, as well as analyzing learning outcomes. Based on the intelligence test, out of 14 students, 10 students scored in the average category, one below average, one defective, and the other two above average. Meanwhile, from their learning results, 11 students obtained an average below passing score, three others above the passing score. Finally, not a single student obtained an average reading ability score above the passing score; However, there were three students who obtained reading comprehension scores for exposition texts above the

Comment [Reviewer8]: Be consistent with the methodology. If experiment exists, provide the quantitative data and present them scientifically.

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passing score. Therefore, nine students fulfilled the aforementioned inclusion criteria. For a clearer picture, the above result of assessment is shown in Table 2 below.

Table 2. Eligibility for intervention inclusion

No	Students	Age	IQ	Final Exam	Reading Comprehension	Eligibility
1	A1	11	Defect	Fail	Fail	X
2	A2	10	Average	Fail	Fail	✓
3	A3	10	Average	Fail	Fail	✓
4	F1	10	Above average	Pass	Fail	X
5	F2	10	Average	Fail	Fail	✓
6	F3	11	Below average	Fail	Fail	X
7	F4	10	Above average	Pass	Fail	X
8	I	10	Average	Fail	Fail	✓
9	M1	11	Average	Pass	Fail	X
10	M2	10	Above average	Fail	Fail	✓
11	R	10	Average	Fail	Fail	✓
12	U	10	Average	Fail	Fail	✓
13	Y1	11	Average	Fail	Fail	✓
14	Y2	10	Average	Fail	Fail	✓

Apart from that, a summary of the rest of the assessment results from observations and interviews can be seen in the following chart.

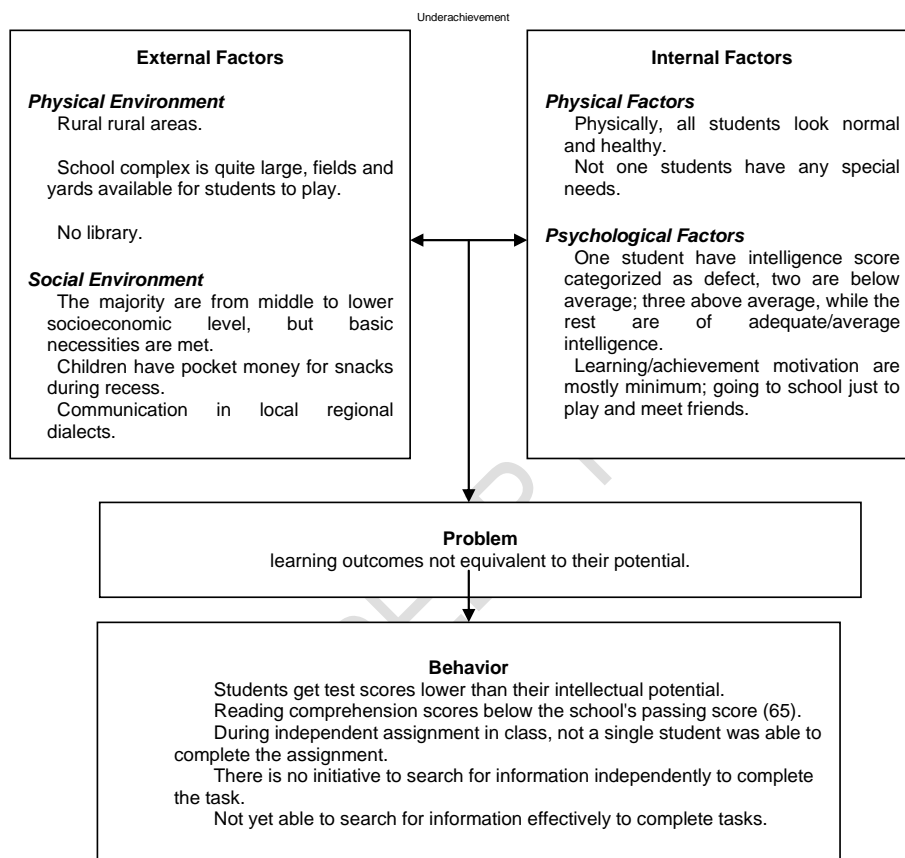


Fig. 1. Summary of assessment results

Obtained from observation, interviews, psychological tests, reading comprehension test

After the eligible students had been identified, the interventions were then commenced according to the aforementioned intervention plan (Table1). The effectiveness of the intervention was then evaluated by reviewing three indicators initially determined by the authors; which can be seen in Table 2below.

Data for evaluation collected through two methods: quantitatively for the first indicator by comparing the pretest and post-test score, and qualitatively for the second and third indicators by interviewing the students individually after the intervention was completed. Unfortunately, of the nine students identified as experiencing underachievement and therefore eligible to take part in the intervention and have their progress evaluated, only five were able to fully attend the entire intervention. Of these five students, three experienced an

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increase in pretest-posttest results, one decreased, one stagnated. Therefore, the first objective is considered achieved.

UNDER PEER REVIEW

Table 3. Achievement of Overall Success Indicators

No	Objective	Achieved/Not
1	There was an increase in pre-test and post-test reading ability scores, where the participants' post-test scores were higher than the pre-test.	√
2	Students feel the benefits obtained from participating in group intervention.	√
3	Students can remember and briefly explain the material learned in group intervention.	x
Number of Indicators		3
Number of Indicators Reached		2
Number of Indicators Not Reached		1
Percentage of Achievement		67.7%

For the second and third objective, a qualitative individual interview carried out approximately two weeks after the last session of intervention, showed that the intervention was successful in providing insight to students about the importance of learning skills, or in their words: to "make me smarter". Therefore, the second objective is considered achieved. However, it should be noted that when students were asked to elaborate on how exactly the materials make them smarter, they were unable to answer in detail.

Regarding the third objective, the minimum expectations were that students are able to mention three main points of interventions, namely (1) how to read, (2) how to listen, and (3) how to take notes. Unfortunately, most students only managed to mention one of these material points. Other than that, the students did mention elements of information the facilitator conveyed during intervention; however, those tended to be random and not well organized. Moreover, the material mentioned is not the core material of the intervention, and were only excerpts of an incomplete part of the material; for example: about the brain, work, one of the analogies used to describe the skills taught, guessing the content, looking for the main idea, and so on. What these students remembered were not wrong, per se, but these indicated that the information they captured was not well organized in their minds. In other words, the students did not really fully grasp the full picture of what the facilitator conveyed during group intervention. This lack of complete understanding will certainly hinder the application of the material provided to real life contexts outside the intervention session. Therefore, the third objective is considered not achieved.

In addition, the qualitative evaluation data is also obtained from observations of 24 objectives for each session (Table.1). Of the 24 objectives and their respective indicators, 17 of them were achieved. This means that around 70.8% of the indicators were successfully achieved in this intervention, while the remaining seven were not achieved properly.

The intervention would be considered effective if the students were able to fully grasp the information learned during the intervention, so that they could apply it in everyday life. Unfortunately, this was not the case. There are several aspects that are likely to influence this [11]: (1) finding the right root of the problem, either lacking skills or lacking motivation; (2) identifying student learning levels; (3) adapting instruction to students' comprehension abilities; (4) using evidence-based interventions; (5) involving active responses from students to ensure understanding; (6) provide an explicit explanation; (7) increase reviews; (8) provide students with the opportunity to have a hand in choosing the learning structure; (9) monitor progress regularly; (10) implementing large-scale interventions for the same problem for several students; (11) created a special intervention team.

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Is it the part of the result of the experiment? Or is it a hypothetical argument?

Judging from the aforementioned eleven points, there are several points that may be relevant to the intervention in this study and have not been fulfilled, thereby hindering the expected success of the intervention. Firstly, the first point. The root of the problem seems to be not only lack of ability as the author originally assumed, but also students' low motivation for achievement and learning. As a consequence of this, students most likely only participate in activities (including the study sessions during intervention) as part of their routine that they have to follow, not something for their own good. This was gleaned from individual sessions with each participant, where the students admitted they did not care about their learning outcomes at school. Thus, strengthening motivation was not wholly addressed since the focus was teaching students learning skills; hence there will need to be a longer intervention to address this issue.

Furthermore, the third point might hold merit and relevance as well to this case. There is a cultural gap between the students who live in rural areas and the facilitator who originated from a more urban city. This might also make it difficult for participants to understand the material presented, especially if the method of communication is not appropriate to the students' cultural background. Even though the authors have tried to bridge the material to students' understanding, as well as speak as close to the local dialect as possible, it is possible that more scaffolding is needed to convey material that is metacognitive in nature and therefore could be somewhat foreign and considered difficult for the students.

4. CONCLUSION

It was found that the learning skills intervention carried out in thirteen group sessions was not effective enough to become an initial stepping stone for students at Imam Nawawi Maros Elementary School to address the issue of underachievement they experienced. Evaluation of the intervention showed that participants still had difficulty grasping the material in its entirety, assumed to be caused by a combination of lack of motivation to learn and achieve, as well as a bigger gap of understanding and communication than previously expected between the facilitator and the students. Since the understanding of the material is not yet adequate, it is assumed that the students will still have difficulty applying the learning skills taught to improve their learning outcomes.

Practical recommendations are suggested primarily to students and teachers with the aim of improving understanding and application of the material. For the participants, it is hoped that posting the results of the social media from the intervention in class will make it easier for them to recall the material presented, and prompt them to at least remember and apply what has been studied. For teachers, it is recommended to use effective and evidence-based instruction methods to facilitate student learning, as well as collaborating with school stakeholders to create an atmosphere in which students could cultivate their motivation for achievement and interest in learning for their own good. Recommendations for further studies include 1) simplifying the learning skills material taught, 2) providing instruction training to teachers instead of intervening directly to the students, and 3) conducting school-based interventions to find the root of the problem and more comprehensive solutions to address underachievement issue in rural schools.

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CONSENT

This research has obtained approval from the school, including coordination with the parents/guardians of the students involved. This approval includes the student's participation in observation sessions, interviews, psychological tests, interventions, and the publication of this paper. All data collected is taken with student privacy in mind.

ETHICAL APPROVAL

This study was conducted while fully observing the Code of Ethics of Psychology in Indonesia, as it was undertaken in order to fulfill the requirement for the first author to pass examination to become a licensed psychologist in Indonesia.

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