



## Application of FRAC (Financial Ratio Analysis Card) Media to Improve Learning Activities and Learning Outcomes of Students of SMK Tamansiswa 1 Jakarta in Accounting Subjects

**Septiani**

Sekolah Menengah Kejuruan

[septianispd89@guru.smk.belajar.id](mailto:septianispd89@guru.smk.belajar.id)

\*Corresponding Author: [septianispd89@guru.smk.belajar.id](mailto:septianispd89@guru.smk.belajar.id)

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### Abstract

This study aims to improve students' learning activities and outcomes through the implementation of the FRAC Smart Card (Financial Ratio Analysis Card) in Accounting subjects at SMK Tamansiswa 1 Jakarta. The research employed a Classroom Action Research (CAR) design, conducted in three cycles, each consisting of planning, implementation, observation, and reflection stages. The subjects were 32 twelfth-grade Accounting students. Research instruments included observation sheets on learning activities, achievement tests, and interviews with teachers and students. The findings indicated a significant improvement in students' learning activities, progressing from a "fairly active" category in the first cycle to a "highly active" category in the third cycle. Learning outcomes also showed consistent growth, with mastery levels increasing from 56.25% in the first cycle, 75% in the second cycle, and 90.62% in the third cycle, accompanied by higher average scores. The FRAC media facilitated students' understanding of financial ratio analysis in a simpler, visual, and interactive way, which enhanced their motivation and engagement in learning. It can be concluded that the FRAC Smart Card is effective in improving students' learning activities and outcomes in Accounting subjects. This study recommends that teachers adopt and develop similar media as an instructional innovation, and that future research should examine its effectiveness across different contexts and subjects.

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## INTRODUCTION

Vocational education in Indonesia, especially vocational schools, plays an important role in preparing human resources who are ready to work and able to compete globally. According to data from the Ministry of Education, Culture, Research, and



Technology, the number of vocational schools in Indonesia is 14,445 schools with a total of more than 5 million students in the 2023/2024 school year.

Ministry of Education and Culture Vocational However, there are still significant challenges in the quality of learning that have an impact on the productivity and competence of graduates. For grade XII students, who are at the end of their study period and preparation for the demands of the world of work and higher education, accounting material, especially financial ratio analysis, is often one of the subjects that students consider difficult and abstract. Empirical data shows that many vocational school students in urban areas, including Jakarta, have low scores in terms of understanding accounting concepts, especially financial ratios, in practical exams and skills certification exams. Although the specific data of SMK Tamansiswa 1 Jakarta has not been widely published, the school profile shows that grade XII majoring in Accounting has a large number of students, so the problem of understanding and learning outcomes at the grade XII level is an important issue to be overcome.

One of the reasons why many students struggle in accounting lessons is the lack of implementation of contextual learning approaches in the classroom. Teachers often still use lecture methods or traditional teaching methods that do not motivate students to relate accounting theory to real situations in the business world. This makes materials such as financial ratio analysis seem far from students' daily experiences, so they are less active in the learning process. In addition, teachers also face limitations in interesting and interactive learning media to facilitate students to understand abstract concepts, as well as a lack of innovation in media that is able to stimulate learning activities, discussions, reflection, and real application.

Theoretical reviews show that learning is more effective if it pays attention to constructivist theory, where students are helped to build their own understanding through direct experience and relevance to real contexts (contextual learning). Previous research in the field of vocational accounting has shown that interactive learning media such as video tutorials, audio-visual media, or learning applications can increase learning motivation and conceptual understanding. In addition, research on the development of contextual-based accounting teaching materials (e.g. commitment and contingency materials at SMK Surabaya) has shown that contextualized teaching materials can make it easier for students to understand difficult materials. Learning media effect theory and cognitive load theory also state that the right media (e.g. smart cards or interactive cards) can reduce cognitive load, increase student engagement, and strengthen memory and understanding of concepts.

Several previous studies have examined the use of learning media and contextual approaches in vocational accounting. For example, a study at the Sleman Accounting Vocational School that developed a mathematics learning tool with a contextual approach produced a valid, practical, and effective tool for class XI. Another study identified teacher barriers in the application of contextual approaches in Business and Management Vocational School, such as in terms of aspects of constructivism, discovery, cooperation, reflection, and authentic assessment. However, until now there has been no research specifically developed and tested the FRAC (Financial Ratio Analysis Card) media specifically designed for financial ratio analysis materials in class



XII Vocational Accounting, especially in the context of SMK Tamansiswa 1 Jakarta. The weaknesses of previous studies include: there is no smart card media instrument that is specific to financial ratios, has not been tested in class actions in grade XII, and has not quantitatively measured its influence on learning activities and learning outcomes simultaneously at vocational schools in Jakarta.

Based on this gap, this study specifically aims to develop and test the effectiveness of FRAC (Financial Ratio Analysis Card) media in improving learning activities and learning outcomes of grade XII students majoring in Accounting at SMK Tamansiswa 1 Jakarta. The measurable objectives to be achieved include: (1) Designing a valid and usable FRAC Smart Card based on the validation of media and material experts; (2) Measuring changes in the level of student learning activities before and after the implementation of FRAC media; (3) Assess the difference in student learning outcomes in financial ratio analysis materials before and after the intervention; and (4) Determine whether the media is able to meet the Minimum Completeness Criteria (KKM) in Accounting subjects in grade XII.

## METHODS

This study uses a quantitative approach with a Classroom Action Research (PTK) design. This design was chosen because it is in accordance with the research objectives, which are to improve the quality of the learning process and student learning outcomes through the application of innovative learning media, in this case the FRAC Smart Card. PTK is carried out collaboratively between researchers and teachers of accounting subjects, including the stages of planning, implementing actions, observations, and reflections carried out in two cycles.

**Population and Research Sample** The research population is all grade XII students majoring in Accounting at SMK Tamansiswa 1 Jakarta in the 2024/2025 school year. The research sample was taken by purposive sampling technique, namely 32 students of grade XII Accounting 1. The selection of this class is based on the results of the initial evaluation which shows that students still have difficulty in understanding the financial ratio analysis material.

**Location and Whereabouts of Researchers** The research was carried out at SMK Tamansiswa 1 Jakarta which is located at Jl. Garuda No. 25, Kemayoran, Central Jakarta. The researcher doubles as an action designer and observer, while the accounting subject teacher acts as the executor of learning in the classroom. This collaboration is intended so that the implementation of actions remains in accordance with the context of daily learning.

**Data Collection techniques** Data are collected through several techniques, namely: 1. Observation to measure student learning activities during learning using activity observation sheets. 2. Learning outcome tests are in the form of description and multiple-choice questions to measure students' understanding of financial ratio analysis materials. 3. Documentation in the form of grade notes, photos of activities, and archives of student work to support observation and test data.

**Data Analysis Techniques** Data analysis is carried out quantitatively descriptive with the following steps: 1. Calculate the average score of student learning activities in



each cycle.2. Determine the percentage of completeness of learning outcomes by comparing students' scores to the Minimum Completeness Criteria (KKM) set by the school, which is 75.3. Compare the results between cycle I and cycle II to see the improvement in learning activities and learning outcomes.4. Draw conclusions based on the improvements that have occurred, both in terms of activity and student achievement scores.

## RESULT AND DISCUSSION

This class action research is carried out in three cycles with stages of planning, implementation, observation, and reflection. The focus of the research is the application of the FRAC Smart Card (Financial Ratio Analysis Card) to improve learning activities and learning outcomes of grade XII Accounting students at SMK Tamansiswa 1 Jakarta.

The results of the observation showed an increase in student activity from cycle I to cycle III. The observed learning activities included participation in discussions, courage to ask questions, group cooperation, and the ability to present work results.

The development of student learning outcomes is shown through an increase in the number of students who achieve the Minimum Completeness Criteria (KKM = 75) in each cycle.

Table 1. Improving Student Learning Outcomes in Three Cycles

| Cycle | Number of Students Completed | Completion Percentage | Grade Average | Point |
|-------|------------------------------|-----------------------|---------------|-------|
| I     | 18 of 32                     | 56,25%                | 71,2          |       |
| II    | 24 of 32                     | 75,00%                | 77,8          |       |
| III   | 29 of 32                     | 90,62%                | 83,6          |       |

From the table, it can be seen that student learning completeness has increased consistently in each cycle. The results of interviews with teachers and students show that FRAC media makes it easier to understand the concept of financial ratio analysis. In the first cycle, students still have difficulty distinguishing between types of ratios. In cycle II, they were more involved in the card game so that the discussion became more lively. In cycle III, students were able to relate the results of the ratio analysis to the company's financial condition in a more contextual way. Improving student learning activities and outcomes through the application of FRAC media is in line with the principles of active learning and contextual approaches. In the first cycle, students are still in the stage of



adapting to the media, so that activities and completeness are not optimal. However, after reflection and improvement, cycle II showed higher involvement. Culminating in cycle III, FRAC media was able to create a collaborative learning atmosphere that triggered students' intrinsic motivation.

These findings reinforce the theory of constructivism (Piaget & Vygotsky, in Susanti & Ningsih, 2020) which emphasizes the importance of students' active involvement in building understanding through interaction with the learning environment. FRAC media provides visual representations that facilitate information processing, in line with the theory of Cognitive Load (Sweller, 2019) which emphasizes the need for simple yet meaningful learning media.

The results of this study are also consistent with the study by Fauziah & Rahayu (2021) which shows that educational game-based media increases motivation and learning outcomes. However, the novelty of this research is the design of card media that was specifically developed for financial ratio analysis, a material that is often considered difficult by vocational school students. Thus, this study closes the gap of previous research that still focused on general media and was not yet specific to accounting competencies.

Overall, the application of FRAC media has proven to be effective in improving the quality of accounting learning both in terms of activities and learning outcomes, and can be used as a model for contextual media-based learning innovations in vocational schools.

## CONCLUSION

This study shows that the implementation of the FRAC Smart Card (Financial Ratio Analysis Card) significantly improves the quality of accounting learning at SMK Tamansiswa 1 Jakarta. Through three cycles of classroom action, students' learning activities progressed from moderately active to highly active, characterized by increased involvement in discussions, courage to ask questions, and group cooperation. In line with that, student learning outcomes experienced a significant increase from 56.25% completeness in the first cycle to 90.62% in the third cycle, exceeding the minimum completeness criteria set.

Conceptually, this finding confirms that simple but relevant contextual learning media can bridge students' difficulties in understanding abstract concepts, especially in financial ratio analysis materials. FRAC media has proven to function not only as a means of visual aid, but also as a pedagogical strategy that encourages active learning, increases intrinsic motivation, and fosters learning independence.

Therefore, teachers are advised to integrate similar innovative media in accounting learning and other fields to enrich students' learning experiences. Further research can expand the use of FRAC in a more diverse school population and test its effectiveness in project-based learning models, so that its contribution to vocational education innovation is stronger.





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