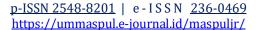# The Effectiveness of Using LibreOffice Impress on Improving Arts and Culture Learning Outcomes of Grade XI Students at SMAN 4 Sidrap

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Abstrak

Penelitian ini menggunakan metode kuantitatif dengan desain penelitian eksperimen yang bertujuan untuk mengetahui efektivitas penggunaan media LibreOffice Impress terhadap peningkatan hasil belajar Seni Budaya siswa kelas XI SMAN 4 Sidrap. Populasi penelitian ini adalah seluruh siswa kelas XI SMAN 4 Sidrap yang berjumlah 75 orang, dengan sampel sebanyak 17 orang. Teknik pengumpulan data yang digunakan meliputi dokumentasi, tes, dan kuesioner. Setelah data terkumpul, peneliti menganalisis hasilnya dan menemukan bahwa seluruh indikator efektivitas dari suatu strategi telah terpenuhi, sehingga penggunaan media LibreOffice Impress memberikan dampak positif terhadap peningkatan hasil belajar siswa pada mata pelajaran Seni Budaya kelas XI SMAN 4 Sidrap. Hasil penelitian menunjukkan bahwa terdapat efektivitas penggunaan LibreOffice Impress terhadap peningkatan hasil belajar siswa. Hal ini dibuktikan melalui hasil uji paired sample t-test antara data pretest dan posttest yang menunjukkan perbedaan signifikan. Nilai rata-rata hasil belajar setelah perlakuan ($Mx = 90$) lebih tinggi dibandingkan sebelum perlakuan ($My = 45$). Dengan demikian, dapat disimpulkan bahwa penggunaan LibreOffice Impress efektif dalam meningkatkan hasil belajar Seni Budaya siswa kelas XI SMAN 4 Sidrap.

Kata Kunci: Efektivitas, peningkatan hasil belajar, LibreOffice Impress

Abstract

This study employed a quantitative method with an experimental research design aimed at determining the effectiveness of using LibreOffice Impress media in improving the Arts and Culture learning outcomes of Grade XI students at SMAN 4 Sidrap. The population of this research consisted of all 75 students of Grade XI at SMAN 4 Sidrap, with a sample of 17 students. The data collection techniques used were documentation, tests, and questionnaires. After collecting the data, the researcher analyzed the results and found that all effectiveness indicators of a strategy had been met, showing that the use of LibreOffice Impress media had a positive effect on improving student learning outcomes in Arts and Culture subjects for Grade XI students at SMAN 4 Sidrap.

The findings of the study revealed that the use of LibreOffice Impress was effective in improving students' learning outcomes. This was proven through the results of the paired sample t-test between the pretest and posttest data, which indicated significant differences in students' learning outcomes. The average posttest score ($Mx = 90$) was higher than the average pretest score ($My = 45$). Therefore, it can be concluded that the use of LibreOffice Impress is effective in improving the Arts and Culture learning outcomes of Grade XI students at SMAN 4 Sidrap.

Keywords: Effectiveness, learning outcomes improvement, LibreOffice Impress

Introduction

Education is a fundamental factor in determining the quality of human resources and the progress of a nation. Through education, individuals are encouraged to develop their potential in intellectual, emotional, and spiritual aspects. The Indonesian Law Number 20 of 2003 on the National Education System emphasizes that education is a conscious and planned effort to create a learning atmosphere and learning process so that students can actively develop their potential. In this context, education functions as an essential tool to shape knowledgeable, well-charactered, and skilled generations who are able to respond to the demands of the times.

The development of science and technology in today's era of globalization presents both challenges and opportunities for education. The advancement of information technology requires educators to innovate in delivering learning, not only focusing on the transfer of knowledge but also on the development of 21st-century skills. Classroom learning experiences must be managed effectively to foster creativity, critical thinking, and students' motivation to learn. Therefore, the use of technology that suits students' needs is essential in supporting learning processes that are more interactive and engaging.

Teachers, as the spearhead of education, play a central role in creating meaningful learning. A teacher's duty is not only to deliver material but also to act as a facilitator who understands how students learn and who creates a conducive learning environment. To carry out their role professionally, teachers are required to master various strategies, methods, and effective learning media. The use of digital learning media is one of the key ways to enhance the quality of teaching and to respond to the demands of educational transformation in the digital era.

In the framework of improving education quality, the use of learning media holds a very important role. Learning media help students understand abstract concepts, foster learning interest, and strengthen memory through visual, audio, and interactive presentations. In this digital era, various presentation software have been developed to support the learning process. One of them is *LibreOffice Impress*, an open-source presentation application equipped with multimedia features such as animations, videos, and interactivity, which can improve the quality of material delivery in the classroom.

The use of *LibreOffice Impress* as a learning medium allows teachers to deliver learning materials more effectively and efficiently. Moreover, students can be directly involved in creating and presenting presentations, which potentially enhances their technological skills, creativity, and self-confidence. Thus, this media supports not only cognitive objectives but also affects affective and psychomotor aspects of students. This is in line with the concept of modern learning that emphasizes students' active involvement in the learning process.

Based on preliminary observations at school, teaching and learning activities still mostly rely on textbooks as the primary source, although some teachers have tried to use presentation tools such as PowerPoint. This condition shows the need for alternative media that are more varied and appealing. *LibreOffice Impress* emerges as a solution because it is compatible with multiple file formats and can be accessed freely without license costs, making it more feasible for both teachers and schools.

The use of *LibreOffice Impress* in the subject of Arts and Culture, particularly in Visual Arts, is expected to improve students' understanding of the concepts being taught. Through its visualization and interactivity features, this medium can present materials in a more concrete, attractive, and comprehensible manner. Furthermore, the application of this medium can be combined with project-based learning, group discussions, and creative assignments to increase students' active participation during the learning process.

Therefore, this study focuses on examining the effectiveness of using *LibreOffice Impress* on students' learning outcomes in the subject of Arts and Culture at Grade XI of SMAN 4 Sidrap. This research is expected to provide both theoretical and practical contributions to technology-based learning development. Theoretically, it can

enrich the literature on digital learning media, while practically, its results can serve as a reference for teachers in selecting and applying appropriate media to enhance students' learning outcomes.

Method

This study employed a quantitative approach based on the philosophy of positivism. The quantitative method was chosen because it allows researchers to collect measurable data and test hypotheses using statistical analysis. By emphasizing numerical data, this study objectively measured the effectiveness of using *LibreOffice Impress* in improving students' learning outcomes. The deductive nature of the quantitative method enabled the researcher to examine the theoretical framework and confirm it through empirical findings.

The type of research applied was quasi-experimental with a one-group pretest–posttest design. This design involved only one group of participants who were tested before and after the treatment. The treatment in this study referred to the use of *LibreOffice Impress* as a learning medium in the teaching of Arts and Culture, particularly in Visual Arts. By comparing students' pretest and posttest scores, the researcher was able to evaluate the extent to which *LibreOffice Impress* contributed to the improvement of students' learning outcomes.

The variables in this study consisted of independent and dependent variables. The independent variable was the use of *LibreOffice Impress* as the learning medium, while the dependent variable was the students' learning outcomes in Arts and Culture. The operational definition of *LibreOffice Impress* was a presentation software providing multimedia features such as animations, videos, and graphics to support interactive learning. Meanwhile, learning outcomes were defined as changes in cognitive, affective, and psychomotor domains of students, measured through tests administered before and after the treatment.

The population of this study included all students of Grade XI at SMAN 4 Sidrap, totaling 75 students across three classes. From this population, a purposive sampling technique was applied to select the sample. The sample consisted of one class, XI IPS 1, with 17 students. This class was selected based on considerations that they had already received relevant material, the schedule allowed for both pretest and posttest implementation, and official permission from the school was granted to involve the class in the research.

Data collection techniques consisted of documentation, tests, and questionnaires. Documentation was used to obtain secondary data such as student enrollment records and class profiles. The test technique was applied to assess students' learning outcomes through pretest and posttest. The pretest measured students' initial ability before receiving instruction with *LibreOffice Impress*, while the posttest measured students' performance after the treatment. Both tests contained 20 multiple-choice questions related to Visual Arts material, with one point for each correct answer.

The questionnaire was administered to gather students' perceptions regarding the use of *LibreOffice Impress*. It was divided into two categories: (1) time suitability, which measured whether the learning time provided was adequate for understanding the material, and (2) learning achievement, which assessed students' motivation, understanding, and engagement during the lesson. Students were asked to respond with "Yes" or "No" to the given statements, and the results were analyzed in percentage form.

Data analysis was conducted using descriptive statistical techniques, specifically the calculation of mean scores. Pretest and posttest results were compared to identify the increase in learning outcomes. The mean score was calculated using the formula $\bar{X} = \frac{\Sigma fX}{N}$, where X represented the score, f the frequency, and N the total number of students. The percentage formula was also applied to questionnaire data to determine students' responses regarding the suitability of learning time and the achievement of learning objectives.

The interpretation of results followed predetermined classifications. Student learning achievement was categorized into five levels: very good (86–100%), good (76–85%), sufficient (60–75%), poor (50–59%), and very poor (<50%). These categories allowed the researcher to evaluate whether the use of *LibreOffice Impress* was effective in improving learning outcomes. In addition, the

combination of test scores and questionnaire responses provided a comprehensive understanding of both cognitive performance and student perceptions regarding the effectiveness of the learning medium.

Result and Discussion

The research was conducted at SMAN 4 Sidrap, specifically involving Grade XI IPS 1 students, with a total of 17 participants. The subject taught was Arts and Culture, focusing on Visual Arts, using *LibreOffice Impress* as the learning medium. Data collection was carried out from May 23 to July 23, 2025. The study applied a pretest–posttest design to measure the effectiveness of using *LibreOffice Impress* in improving student learning outcomes.

In the pretest, students were given 20 multiple-choice questions related to the Visual Arts material. The scores obtained showed that the highest score was 70, while the lowest was 25. This indicated that prior to treatment, most students had a relatively low understanding of the material. The results suggested the need for an innovative medium that could increase students' engagement and comprehension.

After implementing the treatment using *LibreOffice Impress*, students completed the posttest consisting of the same number of questions. The results showed a significant improvement. The highest score achieved was 100, while the lowest score was 80. This suggests that all students experienced an increase in their performance after being exposed to the interactive learning medium.

The comparison between pretest and posttest scores is presented in the following table:

Table 1. Comparison of Pretest and Posttest Scores of Grade XI IPS 1 Students

No	Respondent	Pretest Score	Posttest Score
1	Student 1	60	80
2	Student 2	70	95
3	Student 3	65	85
4	Student 4	35	90
5	Student 5	45	80
6	Student 6	45	85
7	Student 7	25	95
8	Student 8	30	90
9	Student 9	45	85
10	Student 10	50	90
11	Student 11	35	85
12	Student 12	40	90
13	Student 13	50	100
14	Student 14	45	90
15	Student 15	50	95
16	Student 16	30	100
17	Student 17	45	95

The table indicates that all students achieved higher posttest scores compared to their pretest scores. The lowest posttest score (80) was still significantly higher than the average pretest score, demonstrating a positive impact of the treatment.

The mean pretest score was 45, while the mean posttest score increased to 90. This represents an improvement of 45 points, showing a substantial increase in student achievement after using *LibreOffice Impress*. The increase also indicates that the medium helped students understand the content more effectively.

In addition to the test results, student perceptions were collected through questionnaires. The questionnaire focused on two aspects: time suitability and learning achievement. The majority of students responded positively, stating that the use of *LibreOffice Impress* made learning more efficient and enjoyable. Specifically, 88% of students agreed that the time provided was sufficient to understand the material, and 94% agreed that the visual presentations made the lessons clearer and more engaging.

Overall, the results suggest that *LibreOffice Impress* was effective in enhancing student learning outcomes in Arts and Culture. The medium not only improved test performance but also positively influenced students' motivation, participation, and satisfaction with the learning process.

DISCUSSION

The findings of this study confirm that the use of *LibreOffice Impress* had a significant impact on students' learning outcomes in Arts and Culture. The improvement in posttest scores indicates that this medium effectively supported the comprehension of concepts, making the learning process more interactive and engaging compared to traditional textbook-based instruction.

The results align with Wahyuni et al. (2020), who found that multimedia based on

LibreOffice Impress significantly increased students' learning outcomes in history subjects. Similar findings were also reported by Susanti (2017), who demonstrated that *Impress LibreOffice* was effective in improving vocabulary acquisition in Arabic language learning. These studies collectively highlight the potential of open-source presentation tools in enhancing educational practices.

The positive student perceptions gathered through the questionnaire further reinforce the effectiveness of this medium. Most students reported that *LibreOffice Impress* presentations were more engaging than conventional methods, making it easier for them to understand the content. This finding is consistent with Gusriyani et al. (2023), who emphasized the importance of audiovisual media in improving student motivation and comprehension.

Another significant implication of this study is the role of interactive media in promoting 21st-century skills. By involving students in activities such as creating or presenting slides, *LibreOffice Impress* fosters creativity, digital literacy, and self-confidence. This is in line with modern educational approaches that emphasize student-centered learning and the development of higher-order thinking skills.

Despite its effectiveness, *LibreOffice Impress* also has limitations compared to commercial software such as Microsoft PowerPoint, particularly in terms of design options and advanced features. However, its open-source nature and accessibility make it a practical alternative for schools with limited resources. This reflects the importance of selecting media not only based on functionality but also on affordability and accessibility for both teachers and students.

The results also suggest that integrating *LibreOffice Impress* with teaching strategies such as project-based learning or group discussions could further enhance learning outcomes. By combining technology with collaborative methods, students can develop not only cognitive knowledge but also social and problem-solving skills, which are essential for holistic education.

The improvement in students' performance also reflects the central role of teachers in adopting and adapting technology to classroom contexts. Teachers who are willing to innovate and explore new media contribute significantly to improving the quality of education. As Dewantara (2021) emphasized, teachers are the key agents of change in education, and their ability to integrate technology into instruction determines the success of learning.

In conclusion, this study demonstrates that *LibreOffice Impress* is an effective and practical learning medium for improving students' learning outcomes in Arts and Culture. Its use enhances comprehension, motivation, and engagement, making the learning process more meaningful. Future research should consider expanding the study to other subjects, larger populations, and comparisons with other digital media to provide broader insights into the role of technology in education.

Conclusion

Based on the findings of this study, it can be concluded that the use of *LibreOffice Impress* as a learning medium had a positive and significant effect on students' learning outcomes in Arts and Culture, specifically in Visual Arts. The comparison between pretest and posttest results showed a considerable improvement in students' scores, indicating that the medium was effective in enhancing understanding, engagement, and performance.

The use of *LibreOffice Impress* not only improved students' cognitive achievements but also fostered their motivation and active participation in the learning process. The questionnaire results revealed that students perceived the learning activities as more interesting, interactive, and easier to understand when supported by visual and multimedia elements. These findings demonstrate the potential of open-source presentation software to be an effective and accessible alternative to conventional teaching methods.

This study contributes both theoretically and practically to the development of technology-based learning. Theoretically, it enriches the literature on the effectiveness of digital learning media, while practically, it provides valuable insights for teachers and schools in selecting appropriate tools to improve learning quality. Future research is recommended to explore the use of *LibreOffice Impress* or similar technologies in

other subjects and educational levels to further validate and expand the findings.

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