

DEVELOPMENT OF ARTICULATE STORYLINE INTERACTIVE LEARNING MEDIA TO SUPPORT BASIC ACCOUNTING LEARNING FOR CLASS X

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ABSTRACT

This research aims to explain the media development process, determine the feasibility and response of students to the development of articulate storyline based interactive learning media as a support for basic accounting learning in class X Accounting and Finance students at SMK Negeri 1 Surabaya. The development model used in this research is ADDIE. The research instruments include material expert validation sheets, media expert validation sheets, language expert validation sheets, and student response questionnaires. The validation results from material, media and language experts respectively received a percentage of 94%, 95% and 99% with the "very appropriate" criteria, while student responses reached 97% with the "very understand" criteria. Thus, it can be concluded that articulate storyline-based interactive learning media is suitable for use in the learning process.

Keywords: *Interactive learning media, articulate storyline, basic accounting*

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INTRODUCTION

Learning media is a means or tool used to convey various learning messages to students (Neliati, 2022). According to Daryanes et al., (2023) the learning media is an integral part of the learning system that can be used to channel messages, stimulate the mind, feelings, attention and will of the students so that the learning process is driven. Less interesting learning media accompanied by the delivery of boring material can interfere with the students while following classroom learning as well as make less optimal student learning results (Kamilah & Susanti, 2022). Based on this, the role of learning media is very important in learning. As time went by, the learning media evolved. For example, multimedia-based interactive learning media, audio-visual media, etc (Azzahra et al., 2023). The use of interactive learning media is one of the important things that can affect the success of educators in creating an interesting and interactive process of learning.

Rapid developments in Science and Technology (IPTEK) have a significant impact on modern life (Azzahra et al., 2023). This phenomenon is reflected in the even use of technology in various areas of life, especially in the education sector. Education today makes extensive use of Science and Technology (IPTEK). Advances in science and technology have influenced the use of teaching aids in schools and other educational institutions (Ardiani et al., 2022). Through ICT, educators can utilize various learning media to convey concepts available in pre-existing learning resources (Neliati, 2022).

During the Covid-19 pandemic, educators have become accustomed to using their creativity to improve the learning experience in the online school context. One of the strategies used by educators is to utilize technology to improve the teaching and learning process (Daryanes et al., 2023). They are trying to utilize technology in the 5.0 revolution era, where the role of humans as a source of innovation is emphasized to solve social problems by integrating the real and virtual worlds (Nastiti & Abdu, 2020). The main focus of technological innovation remains on human welfare (Rianto, 2020). Sari & Marlina (2022) say that innovation or technological progress is considered important in facing future challenges. Besides that, it also helps students adapt to technological developments that occur in the learning process and also follow the current developments of the times (Wahyudi & Amry, 2022).

Teenagers are currently known as Generation Z or Gen Z, which is a group born between 1995 – 2012 (Gabriellova & Buchko, 2021). One of the characteristics of Generation Z is that they are familiar with technology from an early age, including the use of social media applications, laptops, smartphones and the internet (Yusmin & Susilowibowo, 2022). According to Sakti & Yulianto (2018), digital media and technology are part of their identity and form an important part of everyday life. They rely on the internet as the main source of references and information (Wardani & Listiadi, 2023). This rapid growth in the use of digital media and the internet can be considered as a solution to provide learning materials that suit students' current needs and conditions, especially in the context of learning that is oriented towards Information and Communication Technology (ICT) (Hafidha et al., 2022). It is hoped that the availability of learning materials adapted to ICT and students' needs and conditions can increase understanding and effectiveness of learning, so that students can learn independently by utilizing technology-based media (Usmanto et al., 2023).

Based on the results of observations and interviews with one of the educators at SMK Negeri 1 Surabaya, it can be seen that SMK Negeri 1 Surabaya is one of the schools that has implemented an independent learning curriculum, including in class X Accounting and Institutional Finance. The learning model used in basic accounting learning is problem-based learning. Educators at SMK Negeri 1 Surabaya explained that the learning media used in the Basic Accounting subject for class has been varied and ICT-based, such as using learning videos, *power point* and games. During learning activities, educators allow students to use laptops or *smartphones*

as a medium and learning resource. Apart from that, the classroom learning process is equipped with facilities such as LCD, projector, computer and network wifi.

The problem that occurs in the learning process is that the learning media used by students is less active and they feel bored following basic accounting learning so that newness or innovation in ICT-based learning media is needed which has never been used at SMK Negeri 1 Surabaya. Apart from that, students find it difficult to learn independently and tend to depend on educators' explanations so that it is not in accordance with the demands of the independent learning curriculum, namely, student-centered learning.

Basic accounting is a subject that contains understanding and calculation material. Basic accounting is a topic that introduces and equips students with material knowledge of the basics of accounting. Apart from that, these materials must be introduced from an early age because they are an introduction for students to more complex learning (Entis, 2020). Educators state that learning activities in basic accounting subjects are quite easy but require special attention to ensure students understand the material (Heliawati et al., 2022). This shows that students need innovation or renewal of learning media that is effective, efficient and based on Science and Technology (IPTEK) according to circumstances and needs to help improve students' understanding. Educators can utilize Science and Technology (IPTEK) to develop interactive learning media. One of them is software- assisted *Articulate Storyline* which is currently developing (Tarigan & Siagian, 2015).

Articulate storyline is software which can help in creating interactive media (Kamilah & Susanti, 2022). Features in the software articulate storyline similar to power point, so it's easy to use. On articulate storyline software users can set animations, videos, navigation buttons, menus trigger, practice questions, games and many others (Maulidiyah et al., 2022). Articulate storyline can deliver a variety of learning materials scenes and slides which can be accompanied by audio and video, so that learning becomes more interesting (Akbar et al., 2019). Besides that, Articulate storyline can also be used as a tool to create interactive tests or questions for students (Tafonao, 2018). The final result is published in the form website (html) which can be accessed on computers, laptops, tablets and mobile phones. Use Articulate storyline able to increase the creativity of educators in designing more communicative and interactive learning (Afdal et al., 2021), as well as being able to improve learning outcomes and motivate students (Ardianti & Susanti, 2022). Muamalah & Rochmawati (2023) argue that there are several advantages to using articulate storyline, namely it becomes easier to communicate because it contains graphic animations and videos, it becomes easier to add information or documents and change them according to needs, and it becomes interactive because users are able to select specific material or repeat material that has been discussed previously. Another advantage articulate storyline there are features trigger or the easier auto button to be used without requiring complicated programming (Zaman & Listiadi, 2022).

The use of interactive learning media is proven to significantly improve learning outcomes. In research Ardianti & Susanti (2022), shows that according to the material expert gets a percentage of 89.89%, so it can be concluded that the concluded that developing interactive learning media can improve students' understanding in accounting learning. In addition, similar research according to Muamalah & Rochmawati (2023), shows that the percentage according to students' responses of 96%, it can be concluded that interactive media is considered very effective as a learning support.

Based on the results of the study Muamalah & Rochmawati (2023), found that there are limitations in the development of learning media, that is, students still need books/ papers in working on the training because of the training/ tests that are still provided in the form of descriptions and not available columns of answers as well as evaluations are still in manual form which will take a long time. In addition, the researchers also found that there are restrictions there are no interactive games, which when there is an interactive game students will be more enthusiastic following the learning process. With the presence of such restrictions researchers are interested in developing learning media with the existence of issues in which students are able to work directly on the media with value results will automatically appear and there are interactive gaming so that learning is not boring and attracts curiosity students learn basic accounting. Based on the problem analysis described above as well as several previous research results, researchers are interested in conducting research entitled "Development of Interactive Learning Media Based on Articulate Storyline as a Supporter of Basic Accounting Learning for Class X Accounting and Finance Students at SMK Negeri 1 Surabaya".

RESEARCH METHOD

In this study, researchers applied a type of R&D (Research and Development) research. According to Sugiyono (2021), the research and development model aims to produce certain products and will test the effectiveness of these products. Meanwhile, the development model applied in this research is ADDIE (Analysis, Design, Development, Implementation, and Evaluation). The stages carried out in the ADDIE development model include.

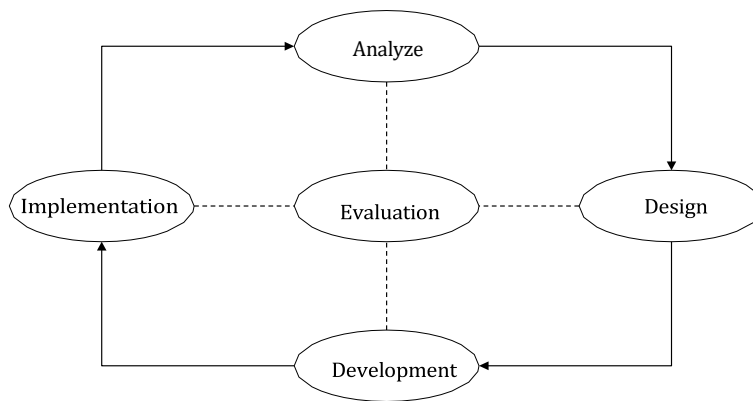


Figure 1.
Schematic of the ADDIE Development Model
Source: Branch (2009)

The test subjects for the development of this interactive media are material experts as people who are competent in the field of basic accounting, media experts as people who are competent in the field of learning media, linguists as people who are competent in the field of language and 34 students in class X Accounting and Finance Institute SMK Negeri 1 Surabaya.

The data analysis technique used in this research is to analyze quantitative data obtained from the validation results. The Likert scale used consists of five categories which are made in the following table.

Table 1.
Grading Scale Table

Criteria	Score
Very Good	5
Good	4
Medium	3
Not Good	2
Very Bad	1

Source: Riduwan (2016)

The following is how to analyze the validation acquisition data:

$$\text{Percentage (\%)} = \frac{\text{Total Score (X)}}{\text{Maximum Score (Xi)}} \times 100$$

Table 2.
Interpretation Criteria

Criteria	Percentage
Very Feasible	81% - 100%
Feasible	61% - 80%
Feasible enough	41% - 60%
Not Feasible	21% - 40%
Very Unfit	0% - 20%

Source: Riduwan (2016)

This development research can be said to be feasible if the percentage obtained is $\geq 61\%$ according to the criteria above. Student response data were analyzed using the Guttman Scale with the following score criteria.

Table 3.
Guttman Scale Table

Criteria	Score
Yes	1
No	2

Source: Riduwan (2016)

The following is how to analyze the data obtained from the learner response questionnaire:

$$\text{Percentage (\%)} = \frac{\text{Total Score (X)}}{\text{Maximum Score (Xi)}} \times 100$$

Table 4.
Interpretation Criteria

Criteria	Percentage
Very Understand	81% - 100%
Understand	61% - 80%
Understand enough	41% - 60%
Not Understand	21% - 40%
Not Very Understanding	0% - 20%

Source: Riduwan (2016)

This development research can be said to be good if the percentage obtained is $\geq 61\%$ according to the criteria above.

RESULTS AND DISCUSSION

This development method starts from the Analysis, Design, Development, Implementation and Evaluation stages in accordance with the ADDIE development model. The following are the results of research on the development of Articulate Storyline-based Interactive Learning Media that supports Basic Accounting learning for Class X Accounting and Finance Study Programs at SMK Negeri 1 Surabaya.

Analysis

Based on the performance analysis that has been carried out at SMK Negeri 1 Surabaya, information is obtained that SMK Negeri 1 Surabaya has implemented an independent learning curriculum in class X Accounting and Financial Institutions. The learning process in the classroom has been equipped with facilities such as LCDs, projectors, computers and wifi networks. This can support media innovation in accordance with technological developments. learning media used in the basic accounting learning process are power points, learning videos and games. SMK Negeri 1 Surabaya needs learning media innovations that have never been applied at school to support the learning process by utilizing existing technology.

Design

At this stage, the planning steps needed to answer the problems analyzed in the previous stage are carried out. the planning steps taken are the preparation of materials and the design of storyboards. The preparation of the material consists of making a concept map of the material and developing the material more clearly and completely, while the design of the storyboard is a visual depiction of the media concept to be made which aims to provide an overall picture of the media to be developed.

Development

At this stage is done by starting the development of the planned product design., then ask for expert review and validation of the learning media that has been developed.

1. Developing Articulate Storyline Interactive Learning Media

The process of preparing interactive media begins in accordance with the product design that has been planned in the previous stage using articulate storyline software. Here are some forms of media that have been developed.



Figure 2.
The Opening Page

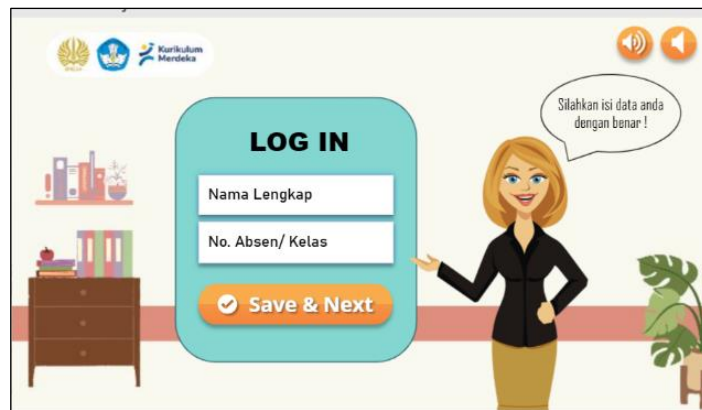


Figure 3.
Login Menu



Figure 4
Main Menu Page



Figure 5.
Cover Page

2. Validation of Experts

In this study, learning media validation was carried out by two material experts, one media expert, and one linguist by filling in the validation sheet prepared by the researcher. The following are the results of validation from several experts.

Table 5.
Expert Validation Table

No	Variable	%	Criteria
1	Material Expert	94%	Very Feasible
2	Media Expert	95%	Very Feasible
3	Language Expert	99%	Very Feasible
Average Feasibility		96%	Very Feasible

Source: Data processed by researchers (2024)

Implementation

The implementation stage is a limited trial process of interactive learning media after passing the expert review and validation process. The subjects of this limited trial were students of class X Accounting and Finance Institutions at SMK Negeri 1 Surabaya. The following are the results of the responses of 34 students of class X Accounting and Institutional Finance to the articulate storyline-based interactive learning media that has been developed.

Table 6.
Recapitulation of Learner Response Results

No	Variable	Score		%	Criteria
		1	0		
1	Content and Objective Quality	33	1	98%	Very Understand
2	Instructional Quality	33	1	98%	Very Understand
3	Technical Quality	32	2	94%	Very Understand
4	Language Appropriateness	33	1	98%	Very Understand
Average learner response				97%	Very Understand

Source: Data processed by researchers (2024)

It can be concluded that the interactive learning media based on Articulate Storyline as a support for basic accounting learning for class X Accounting and Finance at SMK Negeri 1 Surabaya, has fulfilled various aspects, including content quality and objectives, instructional quality, technical quality, and language feasibility according to the standard criteria set by Arsyad (2019) and BNSP (2014). The analysis results prove that with an average percentage reaching 97% the media is "very understanding" in accordance with the percentage of the minimum assessment criteria standard $\geq 81\%$ set (Riduwan, 2016). This is also supported by Muamalah & Rochmawati (2023) which obtained an average percentage of student responses of 96%.

Evaluation

The evaluation stage is not only carried out at the end of the stage, but at each stage. The evaluation aims to improve the developed product as well as the need for revision.

CONCLUSION

From all the steps taken from development to product testing in the form of interactive learning media using Articulate Storyline for Basic Accounting subjects for class X Accounting and Finance Institutions, it can be concluded that: 1) The process of developing interactive learning media using Articulate Storyline in Basic Accounting class X Accounting and Institutional Finance subjects applies the ADDIE development approach which consists of five steps, namely analysis, design, development, implementation, and evaluation. 2) The use of interactive learning media using Articulate Storyline in Basic Accounting class X Accounting and Institutional Finance is very feasible to use as a tool in the Basic Accounting learning process. 3) Learners' responses to interactive learning media using Articulate Storyline in Basic Accounting class X Accounting and Institutional Finance subjects produced very positive results, which were supported by the results of the learner response survey during the media trial.

REFERENCES

- Afdal, Z., Siwi, M. K., Kurniawati, T., & Marwan. (2021). The Development of Macromedia Flash-Based-Interactive Multimedia for Economics Students of Class X Senior High School. *Proceedings of the Seventh Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship*, 192(Piceeba), 170–174. Retrieved from <https://www.atlantis-press.com/proceedings/piceeba-21/125963959>.
- Akbar, I. A., & Rahmawati, D. (2019). Pengembangan The Tax Administration Games (The TAG) Berbasis Android Sebagai Media Pembelajaran Administrasi Perpajakan Pada Materi Pajak Penghasilan Pasal 21 Di Kelas Xi Akl Smk Negeri 7 Yogyakarta Tahun Ajaran 2018/2019. *Jurnal Pendidikan Akuntansi*, 8(5), 1–19.
- Alifatul Muamalah, & Rochmawati. (2023). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Pada Mata Pelajaran Akuntansi Perbankan Dan Keuangan Mikro Kelas Xi Layanan Perbankan Di Smk Negeri 1 Kalitengah. *Jurnal Pendidikan Dan Kebudayaan (JURDIKBUD)*, 3(2), 305–321. <https://doi.org/10.55606/jurdikbud.v3i2.1919>.

- Ardiani, A., Marliani, L., & Purwati, R. (2022). Pemanfaatan Teknologi Informasi dan Komunikasi Sebagai Media Dalam Pembelajaran Daring di Sekolah Dasar Negeri 1 Lurah Kecamatan Plumbon Kabupaten Cirebon. *Change Think Journal*, 1(3), 320–329.
- Ardianti, T. R., & Susanti, S. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Android pada Mata Pelajaran Akuntansi Keuangan SMK. *Edukatif: Jurnal Ilmu Pendidikan*, 4(2), 2879–2892. <https://doi.org/10.31004/edukatif.v4i2.2618>.
- Arsyad, A. (2019). *Media Pembelajaran (Edisi Revisi)*. Jakarta: Raja Grafindo Persada.
- Azzahra, L., Farida, F., & Pitri, R. (2023). Pengembangan Multimedia Articulate Storyline 3 Menggunakan Contextual Teaching and Learning. *Mandalika Mathematics and Educations Journal*, 5(1), 1–13. <https://doi.org/10.29303/jm.v5i1.4977>.
- BNSP. (2014). *Tentang Instrumen Penilaian Buku Teks Kelayakan Kegrafikan*. Jakarta: BNSP.
- Branch, R. M. (2009). *Instructional Design : The ADDIE Approach*. Springer Science: Bussiness Media.
- Daryanes, F., Darmadi, & Febrita, E. (2023). Need Analysis for Development of Articulate Storyline-Based Interactive Learning Media During the Covid-19 Pandemic. *Proceedings of the 4th International Conference on Progressive Education 2022 (ICOPE 2022)*. Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-060-2_17.
- Entis, S. (2020). Storytelling sebagai Media Dakwah Islam (Studi Terhadap Metode Dakwah Kak Lia). *S1 thesis*, UIN Sultan Maulana Hasanuddin Banten.
- Gabrielova, K., & Buchko, A. A. (2021). Here Comes Generation Z: Millennials as Managers. *Business Horizons*. *Business Horizons*, 64(2), 489–499.
- Hafidha, I. Z., Fauziyah, N., & Suryanti, S. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Untuk Meningkatkan Self-Regulated Learning. *UNION: Jurnal Ilmiah Pendidikan Matematika*, 10(2), 205–216. <https://doi.org/10.30738/union.v10i2.12529>.

- Heliawati, L., Lidiawati, L., & Pursitasari, I. D. (2022). Articulate Storyline 3 Multimedia Based on Gamification to Improve Critical Thinking Skills and Self-Regulated Learning. *International Journal of Evaluation and Research in Education*, 11(3), 1435–1444. <https://doi.org/10.11591/ijere.v11i3.22168>.
- Kamilah, N., & Susanti, S. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline pada Materi Administrasi Perpajakan dengan Kompetensi Dasar PPh 21 Kelas Akuntansi. *Edukatif: Jurnal Ilmu Pendidikan*, 4(3), 3201–3213. <https://doi.org/10.31004/edukatif.v4i3.2612>.
- Maulidiyah, U., Wahyuni, S., & Ridho, Z. R. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Untuk Meningkatkan Keterampilan Komunikasi Siswa SMP Kelas VII Pada Materi Pencemaran Lingkungan. *LENSA (Lentera Sains): Jurnal Pendidikan IPA*, 12(2), 115–124. <https://doi.org/10.24929/lensa.v12i2.239>.
- Nastiti, F., & Abdu, A. (2020). Kesiapan Pendidikan Indonesia Menghadapi Era Society 5.0. *Jurnal Kajian Teknologi Pendidikan*, 5(1), 61–66.
- Neliati, R. (2022). Penerapan Media Pembelajaran Articulate Storyline 3 dalam Pembelajaran Sejarah Indonesia Pada Siswa Kelas X AKL 1 SMKN 1 Kandangan Tahun 2021/2022. *Jurnal Jendela Pendidikan*, 2(02), 200–206. <https://doi.org/10.57008/jjp.v2i02.190>.
- Rianto, R. (2020). Pembelajaran Interaktif Berbasis Articulate Storyline 3. *Indonesian Language Education and Literature*, 6(1), 84. <https://doi.org/10.24235/ileal.v6i1.7225>.
- Riduwan. (2016). *Skala Pengukuran Variabel-Variabel Penelitian*. (A. Hustadarta, Rusyana, & Enas, Eds.). Bandung: Alfabeta.
- Sakti, B. C., & Yulianto, M. (2018). Penggunaan Media Sosial Instagram dalam Pembentukan Identitas Diri Remaja. *Interaksi-Online*, 6(4), 1–12. Retrieved from <https://ejournal3.undip.ac.id/index.php/interaksi-online/article/download/21950/20197>.
- Sari, A. P., & Marlina, N. (2022). Pengembangan Media Pembelajaran Interaktif Menggunakan Articulate Storyline pada Mata Pelajaran Administrasi Transaksi pada Siswa SMK. *Edukatif: Jurnal Ilmu Pendidikan*, 4(3), 4102–4115. <https://doi.org/10.31004/edukatif.v4i3.2623>.
- Sugiyono. (2021). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: CV Alfabeta.

- Tafonao, T. (2018). Peranan Media Pembelajaran Dalam Meningkatkan Minat Belajar Mahasiswa. *Jurnal Komunikasi Pendidikan*, 2(2), 103. <https://doi.org/10.32585/jkp.v2i2.113>.
- Tarigan, D., & Siagian, S. (2015). Pengembangan Media Pembelajaran Interaktif Pada Pembelajaran Ekonomi. *Jurnal Teknologi Informasi & Komunikasi Dalam Pendidikan*, 2(2), 187–200. <https://doi.org/10.24114/jtikp.v2i2.3295>.
- Usmanto, H., Arif, H., & Ayu Sekonda, F. (2023). Pelatihan Pembuatan Media Pembelajaran Interaktif Menggunakan Articulate Storyline Untuk Meningkatkan Keterampilan Guru Pondok Pesantren Ash-Shiddiiqi Jambi Tahun 2023. *BERNAS: Jurnal Pengabdian Kepada Masyarakat*, 4(3), 2297–2285. Retrieved from <https://doi.org/10.31949/jb.v4i3.5849>.
- Wahyudi, D., & Amry, Z. (2022). Pengembangan Media Pembelajaran Matematika Articulate Storyline 3 Berbasis Android. *Jurnal Fibonacci: Jurnal Pendidikan Matematika*, 3(1), 12-21. <https://doi.org/10.24114/jfi.v3i1.35077>.
- Wardani, E. Y. S., & Listiadi, A. (2023). Efektivitas Penggunaan Media Pembelajaran Administrasi Pajak Berbasis Articulate Storyline Terhadap Hasil Belajar Siswa Kelas XI Akuntansi SMKN 1 Kemlagi. *EDUNOMIA: Jurnal Ilmiah Pendidikan Ekonomi*, 4(1), 25–34. <https://doi.org/10.24127/edunomia.v4i1.4864>.
- Yusmin, Y. S., & Susilowibowo, J. (2022). Pengembangan Media Pembelajaran Berbasis Aplikasi Android pada Materi Menyelesaikan Siklus Akuntansi Perusahaan Jasa Kelas XI AKL. *Edukatif: Jurnal Ilmu Pendidikan*, 4(6), 7817–7827. <https://doi.org/10.31004/edukatif.v4i6.4228>.
- Zaman, A. Q., & Listiadi, A. (2022). Pengembangan Media Pembelajaran Akuntansi Berbasis Android “LAKEUN” Pada Materi Laporan Keuangan Perusahaan Dagang Kelas XI Akuntansi SMKN 6 Surabaya. *Jurnal Pendidikan Akuntansi (JPAK)*, 10(2), 138–151. <https://doi.org/10.26740/jpak.v10n2.p138-151>.