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Development of Mind Mapping-Based Pocketbook as a Learning Media for Accounting Services

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ABSTRACT

In response to limited learning resources at SMK Negeri 6 Surakarta—primarily PowerPoint and YouTube videos—this study aimed to develop an innovative learning medium to enhance students' understanding of Accounting Services. This research employed the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation) to create a digital pocket book based on mind mapping techniques. Expert validations were conducted by material and media specialists, and a product trial involved 36 tenth-grade students. Material experts rated the product at 92% (very feasible), while media experts gave a 74% feasibility score. Student trials yielded a 90.83% approval rating, indicating strong acceptance and perceived usefulness. Students reported improved conceptual understanding, increased motivation, and ease of access, as the digital format allowed learning flexibility. The use of mind mapping facilitated better visualization of complex accounting concepts, supporting both independent learning and classroom engagement. Compared to traditional tools, the pocket book's integration of structured visuals and interactive elements proved more effective in stimulating student interest and retention. The mind mapping-based pocket book is a highly feasible learning medium for vocational accounting education. Its digital nature enhances accessibility and supports flexible learning environments. Future improvements could focus on offline usability and integration with interactive features.

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1. INTRODUCTION

The rapid transformation of the educational landscape in the 21st century, largely driven by advances in digital technology and media, has brought about fundamental changes in how teaching and learning occur. In the context of the Fourth Industrial Revolution (Industry 4.0), education is expected not only to transmit knowledge but also to equip students with skills that align with complex, technology-driven environments (Sutama et al., 2021). The acceleration of information and communication technology (ICT) requires educators to adopt more innovative, flexible, and student-centered learning approaches. This shift is especially critical in vocational education, where the mastery

of practical and conceptual competencies must go hand-in-hand with the development of independent learning skills.

In Indonesia, the integration of technology into teaching practices in vocational schools (SMK) is still evolving. Many institutions rely on traditional teaching materials, such as textbooks, PowerPoint presentations, and YouTube videos (Hidayati et al., 2021). While these resources serve a purpose, they often fall short in meeting the needs of Generation Z learners, who are typically more responsive to visual, interactive, and flexible learning tools (Khikmawati et al., 2021). Moreover, the lack of diverse and engaging media can negatively impact student motivation, comprehension, and academic performance, particularly in subjects with high conceptual load, such as accounting services.

To address this challenge, there is a growing interest in the development of digital learning resources that are not only interactive but also rooted in effective instructional design. One promising approach is the use of mind mapping—a technique that visually organizes information around a central idea to facilitate comprehension, retention, and synthesis (Buzan, 2006). Mind mapping is grounded in Dual Coding Theory (Paivio, 1986), which suggests that learning is more effective when verbal and visual information are presented together. This method has also been linked to constructivist learning theory, where learners actively build knowledge through connections and personal meaning-making (Boerma et al., 2022).

Mind maps utilize hierarchical structures, colors, images, and keywords to reflect relationships between concepts. These elements engage both hemispheres of the brain, enhancing cognitive processing (Astriani et al., 2020; Sairo, 2021). Research shows that mind mapping is effective across various levels of education and disciplines, including language learning (Mohammed, 2021), reading comprehension (Yuizono, 2020), and mathematics (Eminita, 2021). In accounting education, where students are often required to understand and apply abstract concepts, mind mapping can facilitate better conceptual clarity and cognitive organization (Malik, 2022).

Despite its potential, the application of mind mapping in vocational accounting education—especially in digital formats such as e-books or flipbooks—remains underexplored. Most existing studies focus on the use of printed mind maps created manually by students or teachers (Mohalik, 2020). While effective, this approach may not fully leverage the flexibility and scalability offered by digital platforms. In particular, there is a notable gap in the literature regarding the integration of mind mapping into structured, curriculum-aligned digital learning media designed for independent and flexible use in vocational schools.

Furthermore, while e-books are gaining popularity as alternatives to traditional textbooks, many e-books fail to meet the expectations of students who demand engaging content with relevant illustrations and real-world examples (Nurlaela et al., 2021). The quality of digital learning materials often suffers from poor design, lack of interactivity, and limited pedagogical alignment. This presents a significant challenge in vocational subjects like accounting services, which require both theoretical understanding and practical application. According to Hasan et al. (2020), the role of instructional media is not merely to present content but to enable students to engage with material in a meaningful and constructive manner, ultimately supporting the learning objectives set by the curriculum.

In response to this gap, the present study proposes the development of a mind mapping-based digital pocketbook (delivered via flipbook format) tailored to the Accounting Services subject for class X students at SMK Negeri 6 Surakarta. The pocketbook is designed to support flexible, student-centered learning by enabling learners to access content anytime and anywhere, while also presenting accounting concepts in a visually structured and engaging format. This initiative draws upon the ADDIE instructional design model—Analysis, Design, Development, Implementation, and Evaluation—which provides a systematic framework for the creation and refinement of effective educational resources (Branch, 2009).

The rationale for choosing a pocketbook format is grounded in its portability, simplicity, and adaptability to both printed and digital environments. Combined with the visual and cognitive advantages of mind mapping, the pocketbook serves as a hybrid instructional tool that meets the

demands of today's learners while addressing constraints in traditional classroom settings. Moreover, the digital flipbook format ensures compatibility with various devices, allowing seamless integration into blended or online learning models.

The study also seeks to evaluate the feasibility and effectiveness of the developed media through expert validation (content and media specialists) and student trials. Existing research by Wu and Wu (2020) and Hilmiyah et al. (2020) emphasizes the importance of incorporating student feedback and expert review in educational media development to ensure usability, relevance, and pedagogical value. Therefore, this study not only contributes to practical improvements in accounting instruction at the vocational level but also offers empirical insights into the design principles and pedagogical considerations required for effective mind mapping-based digital media.

In summary, this research addresses a critical need for innovative, theory-based instructional tools in vocational education. It situates itself at the intersection of educational technology, instructional design, and cognitive learning theory, offering a structured response to the limitations of traditional media and the evolving expectations of 21st-century learners. By focusing specifically on the underexplored context of digital mind mapping in accounting education at the vocational high school level, this study fills a notable gap in both national and international literature. The outcomes are expected to inform educators, curriculum developers, and policymakers in designing more effective, accessible, and engaging learning environments in vocational settings.

2. METHODS

Development in the field of education is an effort to introduce, nurture, and improve students' personalities, knowledge, and skills. This process is carried out systematically with careful planning, deep awareness, and an organised and responsible approach. Educational development can also be defined as the process of designing and testing various educational products. These products include teaching materials, learning media, and teaching strategies. Research and development is an activity that aims to improve products. Some of the tasks carried out by the R&D team include the creation of new products, the development and improvement of existing products, and the validation of these products. This research uses the ADDIE development model, which consists of five main stages: Analysis, Design, Development, Implementation, and Evaluation. The selection of the ADDIE model in the development of the Accounting Services pocketbook is based on its advantages that allow for a continuous evaluation and revision process at each stage. Thus, the resulting textbook can be a reliable and credible learning resource. The stages of the Analysis, Design, Development, Implementation and Evaluation (ADDIE) development model in this study are as follows:

1) In the first stage of the ADDIE development model, analysis, the needs for product development are identified, involving models, methodologies, media, and teaching materials. In addition, this stage also includes an analysis of the feasibility and requirements of product development. The analysis process was conducted by conducting interviews and observations with teachers and students in one of the educational institutions in Surakarta, as well as reviewing the teaching conditions and facilities in the school environment.
2) The second phase, the design phase, is a structured process that begins with planning the concept and content. In this phase, the plan for the product is still conceptual and acts as a foundation for further development in subsequent stages. In this phase, the researcher creates the initial product based on the data obtained from the analysis stage. The steps in the design process include compiling the materials needed for the pocket guide, creating specific, measurable and realistic learning objectives, and determining the most suitable learning methods. This is done by combining appropriate media and methods, followed by determining supporting sources, learning media and learning environments. After completing these steps, the researcher carried out initial design of learning media by selecting the media to be developed. Once the media was determined, researchers proceeded to the initial stage of product design, where an outline for the product being developed was compiled, including indicators, basic competencies, core

competencies, and a summary of the material. Researchers focus on developing mind map-based pocket books for accounting subjects.

3) The third stage, namely development, involves activities to implement the product plan that has been prepared previously. The concept that was originally theoretical is then transformed into a product that is ready for use. At this stage, a measuring tool is needed to assess product performance. After completing the print media to be used as a learning tool, the researcher conducted an evaluation by a team of experts. This team consisted of a lecturer in the field of information, an accounting lecturer, and an accounting teacher from a related school. The experts were given the opportunity to provide input, criticism, and suggestions, so that researchers have a guide to make improvements. After the assessment process was completed, the researcher proceeded to the revision stage to improve the aspects that had been suggested by the experts. This revision process was carried out until the product reached the set standards and was declared feasible.
4) Initial feedback can be collected by asking a number of questions that are relevant to the intended product development objectives. At this stage, after the learning media was declared to meet the eligibility standards by the expert team, the researcher carried out field trials in relevant schools. The trial was carried out by distributing pocket book media to one of the classes involved in the study. Furthermore, researchers also distributed an assessment questionnaire containing aspects that had to be filled in after students tried to do learning using mind mapping-based pocket book media. The choice of this trial was discussed with the head of the department concerned because the students who received this service accounting material were class X students majoring in accounting. This trial was carried out on class X students of SMK Negri 6 Surakarta. The choice of this trial was discussed with the head of the department concerned because the students who received this service accounting material were class X students majoring in accounting.
5) The final stage, evaluation, was conducted to provide feedback to the users of the product. The evaluation of the pocket book development aims to ensure that the content and design meet the objectives and needs of the users. This process includes formative evaluation, which involves testing the initial draft to obtain feedback on the appropriateness of content, layout, design and language use. After that, the book is tested on the target users to get feedback on readability and visual appeal. The revisions made are then summatively evaluated to ensure improvement in the quality, achievement of objectives, and efficiency of the book. The evaluation was conducted iteratively to ensure that the handbook remained relevant and of high quality. Based on the results of this evaluation, revisions are made according to unmet needs. This stage also serves to measure how high the development objectives have been achieved. SMK Negeri 6 Surakarta was chosen as the research location because the school provides facilities, infrastructure and conditions that support the implementation of research, with class X students as research subjects. Data collection techniques include questionnaires, observations, and interviews. Questionnaires are used to assess and collect responses from students, while observations and interviews are applied at the needs analysis stage. The data obtained was then analyzed further. The data analysis technique in this research is to describe all opinions, suggestions and validator responses obtained from the criticism and suggestion sheets. The use of E-books requires responses from teachers and students. Responses to the E-book obtained through questionnaires were then analyzed.

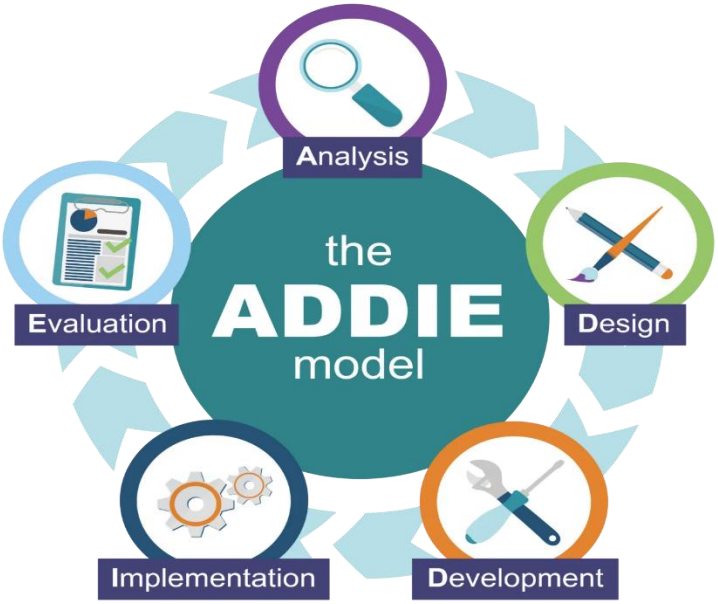

Figure1. The stages of the ADDIE research model.

3. FINDINGS AND DISCUSSION

Based on the research and development process that has been carried out using the ADDIE model, the following research findings have been summarized.

3.1 Analysis Result

In this phase, we carry out the first step in pocket book development. This step aims to analyse needs and identify problems that arise in the learning process. Vocational High School (SMK) Negeri 6 Surakarta uses the Merdeka Curriculum, which has both advantages and disadvantages. One of the main advantages is that it increases learning motivation and focus on essential material, as well as significant development of learner competencies.

Students have difficulty in understanding the Accounting for services material due to the vast scope of the material and the lack of use of learning media that can attract students' attention to the topic. Therefore, there is a need for learning media that is able to present the material in a concise, innovative, and interesting manner, by utilising the richness of colours and images. This is expected to help students understand service accounting learning better, which in turn can improve their learning outcomes.

Teachers only use PowerPoint and YouTube as learning resources during learning, which makes students understand the material less. In the use of the independent curriculum, teaching materials must be designed by considering the local context, culture, and environment of students, therefore, teaching materials that utilise technology, such as flipbook-based Mind mapping E-books, are needed. In this way, the teaching materials used can be relevant to students' real lives and provide greater meaning to the learning process.

3.2 Design Stage

After conducting an in-depth analysis of all the needs that have been identified, researchers propose a solution in the form of developing interactive digital teaching materials in the form of E-books based on flipbook applications. This initial stage plays an important role in the product development process. The goal is to produce teaching materials that are not only high quality, but also relevant and effective in achieving the learning objectives that have been set. As a first step in designing the visual E-book, researchers used the Canva platform.

The material contained in the E-book is adjusted to the curriculum taught at school. After the E-book design is completed using Canva, the file is then imported into Heyzine Flipbooks for the editing process and the addition of various interesting features, as well as to enrich the display with colours and images. The completed e-book was then shared with students via a link. The following are the results of the pocket book design stage: (1) The cover serves as an initial appearance book cover that introduces the book and at the same time becomes an identity. (2) The preface plays a role in providing an overview of the contents of the book, explaining the purpose of writing it, and expressing appreciation to various parties who have supported the process of preparing this book. (3) The table of contents serves as a guide to make it easier for readers to find and navigate important sections in the book, as well as providing an overview of the structure and order of the topics presented. (4) The contents of the book are mind mapping and concise explanations. (5) Glossary serves to provide explanations or definitions of specific terms used in the book, making it easier for readers to understand terms that may be unfamiliar or technical. (6) Bibliography is used to list reference sources, respect copyright, facilitate verification of information and show the credibility of scientific work. (7) The author's biodata is used to provide brief information about the author, such as name, educational background, so that readers get to know the author better and understand his credibility in the field discussed.

3.3 Development Stage

The next stage is development. At this stage, a series of processes are carried out in developing the draft coursebook, which includes submitting a request for assessment to the validators. The validators consisted of two experts, namely experts in the field of material and experts in the field of media. Both experts have competence in their respective fields and are able to provide constructive input to produce relevant and quality textbooks. The Accounting Services textbook manuscript is then developed based on the design that was designed in the previous stage, namely the design stage, which includes implementation of the system to be used and guaranteeing the application of quality textbook principles.

Based on the assessment, suggestions, and input from the validators, the researcher revised the draft textbook designed for class X students at SMK Negeri 6 Surakarta. The results of the validity test of the mind map-based pocket book development product are as follows:

3.3.1 Material Expert

The material expert in this study was Mrs Dhany Efita Sari, M.Pd., Ph.D., who is a lecturer in Accounting Education at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta. Validation is carried out to evaluate the suitability of the content and language of the mind mapping-based pocket book that has been developed, as well as to determine the feasibility of the E-book based on a certain percentage. The following is a recapitulation of the assessment results on the feasibility of mind mapping-based service accounting pocketbook material:

Table 1. Material Expert Validation Results

No.	Indicators	Total Assessment	Maximum Score	Percentage	Criteria
1.	Content and linguistic appropriateness	54	75	72%	Worth
Overall Score		54	75	72%	Worth

Based on Table 1, it can be seen that the assessment given by the material expert is calculated in the overall percentage of 72%, so that the evaluation results can be integrated comprehensively, which

is included in the feasible criteria, therefore, this *mind mapping-based E-book* for Service Accounting learning is suitable for testing.

The following are some recommendations and constructive input provided by the material expert as material for improving this pocket book:

(1). Capitalisation.
(2). A cover that does not have the author's name.
(3). Use of numbering in titles and subtitles.

Table 2. Revised Results of Material Expert Validation

No.	Indicators	Total Assessment	Maximum Score	Percentage	Criteria
1.	Content and linguistic appropriateness	69	75	92%	Very Decent
Overall Score		69	75	92%	Very Decent

Based on table 2, it can be explained that the results of the revision on the material expert show that the material expert's assessment can be entered into the overall percentage of 92% which is included in the very feasible category. So E-Book teaching materials based on mind mapping in service accounting learning are very feasible to be tested.

3.3.2 Media Expert

The media expert in this study was Mr Rochman Hadi Mustofa, S.Pd., M.Pd., who served as a lecturer in Accounting Education at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta. The validation process was carried out to assess the presentation aspects and graphic suitability of the pocket book that had been developed, using a certain percentage to determine the suitability of the mind mapping-based E-book. The following is a recapitulation of the assessment of the feasibility of mind mapping-based service accounting pocketbook media:

Table 3. Media Expert Validation Results

No.	Indicators	Total Assessment	Maximum Score	Percentage	Criteria
1.	Design, Text, and Display	56	75	74%	Worth
Overall Score		56	75	74%	Worth

Based on table 3, it can be explained that the assessment carried out by media experts so that it can be included in the overall percentage of 74% which is included in the feasible criteria. So the E-Book teaching material based on mind mapping learning accounting services is suitable for testing.

E-Book mind mapping product link using flipbook application on service accounting learning as follows: https://heyzine.com/flip-book/37b4dbb4b6.html

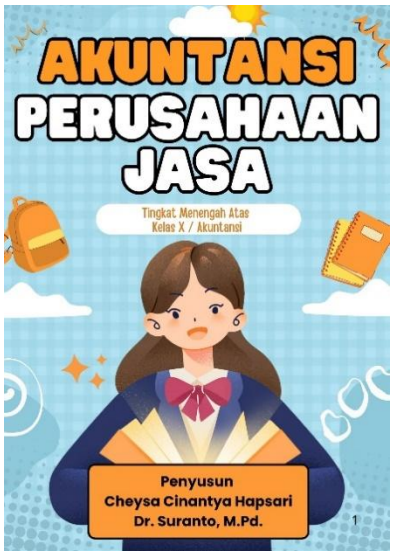

Figure.2. E-Book mind mapping using flipbook application on service accounting learning

3.4 Implementation Stage

This product implementation stage involved class X students from SMK Negeri 6 Surakarta in a series of trials. This trial aims to determine students' responses to the use of mind map-based e-book teaching materials. Data was collected using a questionnaire or questionnaire which aims to obtain information about the quality assessment of service accounting pocketbooks. This trial was conducted on Thursday, 06 February 2025 and attended by 36 students of class 2024 from the Accounting department, with the duration of implementation for one meeting in the classroom.

In general, teachers start the learning process by praying together. Next, the educator conveys information related to the topic to be studied, learning objectives to be achieved, as well as the stages of activities that will be carried out by students. Furthermore, educators provide motivation related to the material to be learned to increase students' interest and readiness to learn. In the core stage of learning, the teacher presents materials or problems relevant to the topic being studied, and opens a question and answer session to encourage student interaction and understanding. During the learning process, students show enthusiasm by actively asking questions, so that teaching and learning activities can run effectively and dynamically.

The response to using the E-Book is measured using a questionnaire response from students. The trial involving 36 class X students aims to identify potential deficiencies in the product that has been developed, so that further improvements can be made. The results of students' responses to the use of E-Book can be seen from the table below:

Table 4. Recapitulation of Trial Results

No.	Research Aspects	Max Score	Assessment Score
1.	Mind Mapping-Based E-Book	180	168
2.	Learning Materials	180	159
Total		360	327
Percentage %			90.83

This questionnaire consists of two aspects, each with a score value ranging from 1 to 5, which were distributed to 36 learners. Thus, the maximum number of scores that can be obtained is 360. Based on the scores obtained, the teaching materials are categorised as very feasible. The calculation underlying this category is as follows:

$$\text{Percentage} = \frac{327}{360} \times 100 = 90.83$$

Based on the analysis of learner response scores, it can be concluded that mind mapping-based e-book teaching materials are very feasible to be implemented in the learning process, with a feasibility level reaching 90.83%. With suggestions and input provided by students as follows:

1. The Mind Mapping book is very easy to understand and more flexible because we as students hold cellphones more often, and they are easier to carry anywhere. The input is that Mind Mapping can only be opened when the cellphone has a signal or is online.
2. My input: learning the basic concepts of accounting in service companies using mind mapping books provides benefits and makes learning easier and especially if the mind mapping is made as creatively, funny, and innovative as possible, it makes it easier to understand the basics of accounting in service companies
3. Make more accounting materials in this form to help understand these materials.
4. This book is very practical because it can be opened anywhere and at any time.

3.5 Evaluation Stage

The results of the data analysis indicate a significant improvement in learning outcomes through the use of Mind Mapping-based E-Books. Learners reported increased interest in using the Flipbook-format E-Book, citing its accessibility as a key advantage. The ability to access learning materials anytime and from any location enhances both flexibility and the potential for deeper conceptual understanding.

Student responses regarding the use of the Mind Mapping-based E-Book were generally positive, particularly concerning the practicality of the service accounting pocketbook. These findings align with previous research, suggesting that E-Books offer notable benefits in enhancing learning outcomes. To evaluate the impact of this instructional approach, an effectiveness test was conducted in a single class setting to determine the influence of Mind Mapping-based E-Books on learning effectiveness.

Discussion

The rapid development of technology is currently triggering significant integration in various sectors of life, including education (Mustofa & Riyanti, 2019) . The key strategy to achieve adaptive, quality, and relevant accounting learning with the characteristics of today's learners is through the design, development, and implementation of context-based accounting electronic modules in the learning process (Susilo & SU, 2021) . This research produces a Mind Mapping-based pocket book that can be utilised as teaching material E-Book, as its digital version, is designed to facilitate interaction and active engagement with the material. Electronic teaching materials support the concept of open learning that is easily accessible to learners through various social media platforms, such as Facebook, WhatsApp, Telegram, and other similar platforms. This condition allows learners to comprehensively understand the basic competencies that must be mastered in each stage of learning activities (Yulaika et al., 2020) . The integration of technology in learning media, especially through the use of digital books (e-books) that can be accessed through computer devices, laptops, or smartphones, provides flexibility and convenience for students in supporting the effectiveness of learning activities. Technology in digital form is designed to make it easier for students to understand the material while increasing their interest in learning. This is done by presenting diverse information, including text, images, audio, video, animation, narration, music, and various other types of multimedia (Khikmawati et al., 2021).

Learning media plays an important role in determining the effectiveness of the teaching process, because it functions as a supporting instrument for educators in delivering teaching materials to students more effectively and efficiently (Ervinda, 2022). Mind mapping is an innovative learning concept that has proven effective in improving the quality of education. This concept is also an effective method to make it easier for individuals to learn material by presenting information more concisely through creative charts, so it can be applied in the learning process. Mind mapping is a learning method

designed to develop learners' knowledge through creative activities. In this method, students organise the main ideas of a concept into an easy-to-understand mind map (Kustina, 2021) . Based on interviews and observations conducted at SMK Negeri 6 Surakarta, several challenges were identified in the implementation of using more varied teaching materials in the learning process. Educators only utilise PowerPoint and videos from YouTube during the learning process, which results in a sense of boredom and lack of motivation for students in participating in learning.

Thus, the development of teaching materials is essential to optimise the learning process in the classroom. Learners should be able to utilise various learning resources, not just limited to PowerPoint and YouTube videos. A mind mapping-based pocket book using the flipbook method is one example of digital learning media. This media utilises software to present information interactively, making it easier for learners to understand the material. In addition, this book is also equipped with creative and colourful illustrations.

PowerPoint and mind-mapping-based pocket books have different characteristics in supporting the learning process. PowerPoint is more optimal for use in classroom presentations because it is able to present material visually and systematically through slides, and allows direct interaction between educators and students. However, its use is more limited to classroom learning activities and does not support independent learning. Meanwhile, mind mapping-based pocket books are designed to provide more flexible learning access, allowing students to study material anytime and anywhere. With a visual approach that connects main concepts in a structured manner, this pocket book can increase understanding and retention of material more effectively than linear presentations in PowerPoint. In addition, mind mapping-based pocket books are more interactive because they present information in a concise, interesting, and easy-to-understand format, making them more suitable for supporting independent and long-term learning.

The analysis was conducted with the aim of obtaining comprehensive initial information and analysing the existing learning needs in the classroom, especially in class X of SMK Negeri 6 Surakarta with Accounting major. Based on the results of observations and interviews with teachers teaching service accounting subjects as well as several class X students, it was found that students tend to be less receptive to diverse learning materials. This is due to the limited use of methods, where the teacher only relies on PowerPoint slides and videos from YouTube, as a result, students experience boredom and lack enthusiasm in participating in the learning process.

In the next stage, the design stage, researchers conducted a literature study to collect relevant teaching material references. This reference will be used as the basis for the preparation of various components in the mind mapping-based pocket book. After that, the editing process began. Canva was chosen as one of the applications for designing learning media. Furthermore, the draft of the textbook was uploaded to the Heyzine Flipbooks platform, which provides a display resembling a physical book with a slide feature. The use of flipbook media is considered effective in increasing students' interest in learning as well as learning outcomes. This media is feasible to use to support the learning process and proven effective in improving students' academic achievement (Hamid & Alberida, 2021) .

Development stage The development stage is the realisation of the design stage, where the learning media is created as a whole in accordance with the design that has been determined previously (Susilo, 2023) . The draft book that has been designed serves as a foundation in the development of the product to be produced. After preparing the initial draft, the next step is to consult with Material Experts and Media Experts to obtain constructive suggestions and input. Based on the validation results, this mind mapping-based pocket book received a "very feasible" assessment from the Material Expert with a score of 92% and a "feasible" assessment from the Media Expert with a score of 74%.

At the Implementation stage, the E-Book was tested on 36 students of class X SMK Negeri 6 Surakarta. The activity began with the opening by the teacher, followed by the delivery of the core material, and was accompanied by a question and answer session conducted cooperatively. After the learning activities were completed, students were asked to provide a response by filling out a questionnaire. At this stage, the category of learners' response was determined based on the percentage

of scores achieved. Learners showed good performance with a score of 90.83%, indicating a "very feasible" category. Students also responded by filling in the warm column in the suggestions section where students gave very positive responses by providing support regarding the use of this pocket book.

Based on the evaluation results, it can be concluded that the Mind Mapping-based pocket book that has been designed and developed is declared successful, as indicated by the percentage of scores obtained from the material experts, who obtained 92% and 74% respectively with decent criteria, as well as the response of teachers and students is very good. PowerPoint media is more optimal for conveying material visually in class presentation activities, while mind mapping-based pocket books are more practical and flexible for supporting independent learning, as they help students understand concepts through concise and organized visualization.

The advantage of this mind-mapping-based pocket book lies in its flexibility and accessibility, which allow students to learn anytime and anywhere. In addition, the use of creative and interesting illustrations and colouring also supports the understanding of the material more effectively. In addition, the E-Book also has the advantage of presenting real illustrative examples, which make it easier for students to understand the material, as well as the use of images and colours designed to accelerate students' understanding of the material presented. Meanwhile, the disadvantage of this mind mapping-based pocket book is that it requires a slightly higher cost because an internet connection is needed to access it. In addition, comfort is also a concern, because reading E-Books through mobile phone platforms for a long time does not provide the same comfort as when reading printed books (Setyawan & Faqih, 2023)

4. CONCLUSION

This research succeeded in realising the development of a mind mapping-based pocket book that was tested for its effectiveness as a learning medium in service accounting subjects at the SMK level. This pocket book is designed to present information visually and organised, thus supporting students in understanding the material more optimally. The validation results from experts show that this pocket book has a very good level of feasibility, both in terms of content and design. Researchers also have limitations related to research because the small sample size can limit data analysis which makes it difficult for researchers to identify significant relationships in the data, as well as subjective student questionnaire responses.

The implementation of this product shows a significant increase in students' understanding as well as an increase in their active participation in the learning process. This learning media comes as a solution to overcome challenges in the teaching and learning process, especially related to the limited variety of interesting and interactive teaching materials. The use of mind mapping-based pocketbooks is not only effective in increasing student learning motivation but also contributes to achieving learning objectives through the implementation of innovative approaches. Therefore, this pocketbook can be used as a reference for educators in developing more effective and efficient learning media in the digital era. Future research could focus on testing the effectiveness of mind mapping-based pocket books at various grade levels to adapt them to learning needs at different educational levels. In addition, the integration of interactive features based on artificial intelligence (AI) can be developed to increase student engagement and provide a more adaptive and personalized learning experience. Long-term retention measurements also need to be carried out to evaluate the extent to which students' understanding can be maintained after using this learning media.

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