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USABILITY TESTING OF DIGITAL FLIP VIEWER USING ONLINE FLIPBOOKS

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Abstract

Integrating technology into the assessment process improves the This paper presents a comprehensive study on the usability testing of digital flipbooks, specifically using the FlipViewer platform. Digital flipbooks have become increasingly popular for their interactive and engaging presentation of content, simulating the experience of reading a physical book in a digital format. However, the effectiveness of these tools hinges on their usability, which directly impacts user satisfaction, engagement, and comprehension. When developing a digital assessment tool, it is critical to consider usability as a key factor in success and a user acceptance requirement for the application. In this study, researchers evaluated usability performance using digital FlipViewer online flipbooks. Usability testing determines whether an application meets the needs of its users. Usability testing employs an evaluation sheet in the form of a questionnaire, known as a Use Questionnaire, a tool for preparing questionnaire-style questions. Testing was conducted by observing the user and how they used the application. The components tested included usefulness, satisfaction, usability, and ease of learning. The application under test was FlipViewer online flipbooks, an assessment application designed to reduce teachers' workload during the evaluation process. The test results show that respondents strongly agree with the usability of the FlipViewer online flipbooks to application software. The study concludes that digital FlipViewer online flipbooks are a resource that facilitates assessment for students who participate in the assessment process. Students are generally satisfied with the use of digital FlipViewer online flipbooks for assessments.

Keywords: Assesment, Digital flipviewer, Flipbooks, Online, Usability testing.

1. Introduction

In the evolving landscape of education, engaging students with interactive and dynamic learning materials is key to fostering deeper understanding and retention [1-5]. Digital flip viewer online flipbooks are an innovative tool that empowers educators to transform traditional textbooks, study guides, and other educational resources into interactive digital flipbooks that enhance the learning experience [6]. Digital flip viewer online flipbooks allow educators to present content in a format that mimics the experience of flipping through a physical book, combined with the benefits of digital media. With the ability to embed multimedia elements such as videos, audio, interactive quizzes, and hyperlinks, educators can create immersive learning materials that cater to various learning styles [7]. This versatility not only helps in capturing students' attention but also promotes active learning by encouraging exploration and interaction with the content [8, 9].

Digital flip viewer online flipbooks provide a flexible platform that is accessible across devices, making it easier for students to engage with their learning materials anytime, anywhere [10]. The platform’s user-friendly interface ensures that both educators and students can navigate and interact with the content effortlessly, making learning more intuitive and enjoyable [11]. Empower your educational content with digital flipviewer online flipbooks where traditional education meets modern innovation, enhancing the way students learn and interact with knowledge [12]. Usability testing is a critical process in the development and refinement of digital tools, ensuring that users can effectively and efficiently achieve their goals with minimal frustration. For digital flipviewer online flipbooks, usability testing plays a vital role in assessing how intuitive and user-friendly the platform is for both educators and students [13]. This review outlines the key aspects of usability testing for digital flip viewer online flipbooks, including objectives, methodologies, metrics, and findings [14].

The word "usability" refers to a qualitative examination that analyses how simple it is for a user to interact with the interface of a program [15]. If the operations of an application can be carried out in a manner that is effective, efficient, and satisfactory, then the application is said to be useable [16]. If a user is successful in accomplishing their objectives while utilizing software, then the software is effective. The term "efficiency" refers to the ease with which users can accomplish these objectives [17]. There is a correlation between the user's acceptance of the program and satisfaction [18]. Utilizable testing is carried out to determine whether or not a program complies with the needs of the user [19].

Testing the usability of a product may be carried out either with or without the participation of consumers. It is possible to obtain direct information from users about how they use the system and the issues that they encounter through testing that involves the participation of users [20]. Three different approaches make up this examination: field observation (direct observation), questionnaire, and thinking aloud [21].

The purpose of this study is to evaluate the effectiveness of digital flipviewer online flipbooks through the use of usability testing. Digital flipbooks are an engaging way to present educational content, offering an interactive, page-turning experience similar to reading a physical book. Here are some popular platforms and tools that can be used to create and view digital flipbooks. Therefore, it is vital to do usability testing to get a digital flipviewer online flipbooks program that is suitable for the requirements of users. This study was selected and became one of

the attractive subjects (see Fig. 1). Detailed information for obtaining this data is explained elsewhere [22-25].

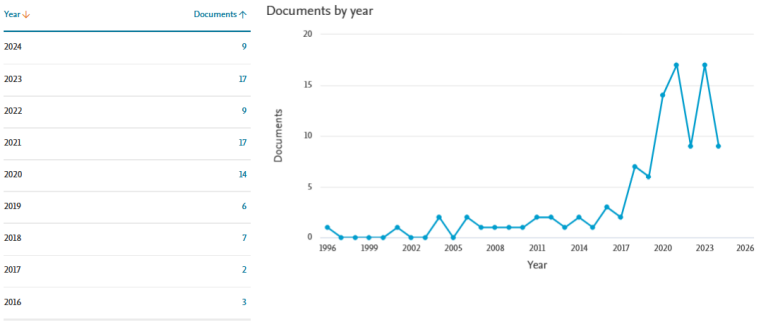


Fig. 1. Research trends in Scopus using keyword "flipbook".

2. Method

This research tested the usability of an application to see the feasibility of the Flipviewer(r) online flipbooks application. The usability testing method chosen was using USE Questionnaire [26]. The application tested in this research is the digital flip viewer (r) online flipbooks application. The usability testing flow follows Fig. 2.

Usability measurement instruments are adjusted to the usability component, namely the components of usefulness, satisfaction, ease of use, and ease of learning. The instruments for usability testing use an evaluation sheet in the form of a questionnaire, namely the USE Questionnaire [14]. USE Questionnaire consists of four quality components, namely usefulness, satisfaction, ease of use, and ease of learning. The scale used in this questionnaire is a Likert scale which consists of four points to get ordinal data. The scale includes Strongly Agree (SS), Agree (S), Disagree (KS), and Strongly Disagree (TS).

Usability testing is performed on the Tourism Vocational School teachers to assess student competency during practicum assessment. The teachers use Flipviewer online flipbooks when the practicum assessment takes place, then the teachers fill in the USE Questionnaire that has been developed. Analysing *usability* data by using the average of *usefulness*, *satisfaction*, *ease of use*, and *ease of learning*. Improvement of the application prototype is done if the value of *usefulness, satisfaction, ease of use*, and *ease of learning* is low, and this indicates that there are still many deficiencies in the application.

3. Results and Discussion

Usability testing is essential for understanding how users interact with Digital Flipviewer Online Flipbooks [16]. Key feature usability testing for Digital Flipviewer Online Flipbooks: Page Flipping Effect, the primary feature is the realistic page-flipping effect, which mimics the turning of pages in a physical book. Interactive Elements, digital Flipbooks can include interactive elements like hyperlinks, embedded videos, audio, and animations, making the content more engaging. Cross-Platform Compatibility, these flipbooks are usually accessible across various devices, including desktops, tablets, and smartphones, ensuring a

wide reach. Customize the appearance of the flipbook, including backgrounds, navigation controls, and other design elements to match their branding.

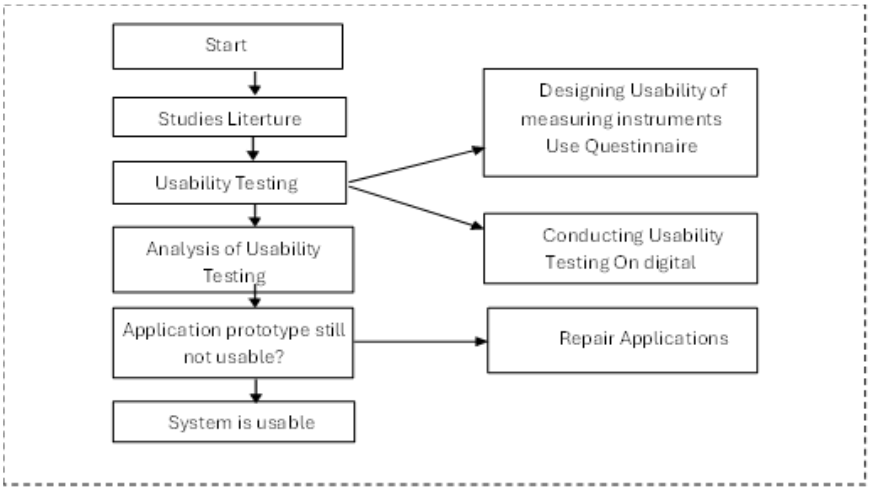
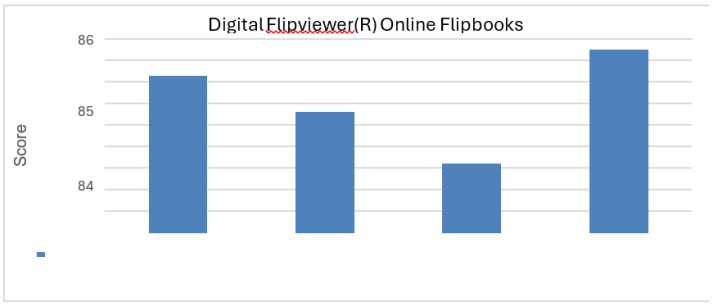


Fig. 2. The usability testing flow.

Analytics to track reader engagement, including page views, time spent on pages, and click-through rates on embedded links [27]. The results of usability analysis on usability testing obtained a score of 84.27%. This value is influenced by the usefulness of respondents by 82.6%, satisfaction of respondents by 80.2%, respondents' ease of use by 85.5%, and ease of learning by 88.8%. After knowing the results of the observed score and the expected score, the measurement results obtained are equal to 84.27%. If these results are related to the interpretation of the scores in Fig. 3, the value of the feasibility percentage of 84.27% is at intervals of 81 to 100% which indicates that the results of usability measurement of Digital Flipviewer Online Flipbooks have a value of "very suitable".



	Usefulness	Satisfaction	Ease of Use	Ease of Learning
Usability	84.27	82.6	80.2	85.5

Fig. 3. Digital flipviewer online flipbooks measurement.

Usability is measured using various parameters and devices, such as the USE Questionnaire. It consists of three main parameters: Usefulness, Satisfaction, and Ease of Use, and four additional parameters: usefulness, satisfaction, ease of use,

and ease of learning [28]. Usability measurements serve as a reference for application development and provide objective data [29] Usability measurement assesses an application's effectiveness, learning ability, retention, and attitude. It involves evaluating the user's reaction to the interface or system [30]. Digital Flipviewer Online Flipbooks is used for usability testing, evaluating its effectiveness as a digital evaluation tool.

Digital flip viewer online flipbooks are effective tools for education, offering interactive learning experiences and easy content updates [31]. They can be accessed from various devices, allowing students to interact with content as if they were flipping through a physical textbook [2]. Teachers can compile resources into a single, easy-to-navigate flipbook, tailoring course materials to specific lessons or student needs. Students can use flipbooks for project presentations, combining elements to create a comprehensive final product. Flipbooks are a valuable tool for students, educators, and schools, enabling quick searches for specific topics, interactive quizzes, and digital library collections [32]. They are accessible from any device with an internet connection, making them ideal for remote learning. Teachers can create interactive assessments, track student interaction, and deliver training materials to educators, creating a digital library of professional development resources. This study adds new information, especially using app for supporting the teaching and learning process, as reported elsewhere [33-37]. Finally, this study adds new information as reported elsewhere [38-40].

4. Conclusions

FlipViewer is a popular tool for creating digital flipbooks, offering seamless page flipping and enhancing user experience. These interactive, visually appealing mediums are valuable in fields like education and marketing. They offer an immersive experience with multimedia elements, unlike traditional print materials. As technology advances and content consumption preferences grow, FlipViewer® and similar platforms will continue to innovate, rethinking traditional publishing models and embracing digital interactivity.

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