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Development of College Student Analytical Thinking Skills Through Evaluation Learning with Flip Book Assisted E-Books

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Abstract

The purpose of this study was to compare college students analytical thinking skills in evaluation learning with and without flipbook-assisted e-books. The research method used is quasi-experimental with a nonequivalent control group research form. The sample in this study was fourth-semester college students. The result of the research is that the college student's analytical thinking ability after being given a mathematics learning evaluation course with and without an e-book assisted by a flipbook is equally good. This study carries out the application of learning mathematics learning evaluation courses with e-books assisted by flipbooks as an effort to develop students's analytical thinking skills which are indispensable in solving problems in these subjects where so far no one has conducted research in this field. The implications of the research are by applying the learning of mathematics learning evaluation courses with e-books with the help of flipbooks to the maximum extent that they can develop college students analytical thinking skills.

Abstrak

Tujuan dalam penelitian ini adalah untuk membandingkan kemampuan berpikir analitis mahasiswa dalam pembelajaran evaluasi dengan dan tanpa e-book berbantuan flipbook. Metode penelitian yang digunakan adalah quasi experimental dengan bentuk penelitian nonequivalent control group. Sampel dalam penelitian ini adalah mahasiswa semester IV. Hasil penelitian yaitu kemampuan berpikir analitis mahasiswa sesudah diberikan mata kuliah evaluasi pembelajaran matematika dengan dan tanpa e-book berbantuan flipbook sama baiknya. Penelitian ini mengusung penerapan pembelajaran mata kuliah evaluasi pembelajaran matematika dengan e-book berbantuan flipbook sebagai upaya dalam mengembangkan kemampuan berpikir analitis mahasiswa yang sangat diperlukan dalam menyelesaikan permasalahan di mata kuliah tersebut dimana selama ini belum ada yang melakukan penelitian di bidang tersebut. Adapun implikasi dalam penelitian yaitu dengan melakukan penerapan pembelajaran mata kuliah evaluasi pembelajaran matematika dengan e-book berbantuan flipbook secara maksimal dapat mengembangkan kemampuan berpikir analitis mahasiswa.

Keywords*: e-book, flip book, analytical thinking skills, evaluation learning.*

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INTRODUCTION

The Mathematics Learning Evaluation course is one of the mandatory courses that must be taken by college students of the Mathematics Education Study Program of IKIP PGRI Pontianak. This course is presented in the 2019 curriculum in semester V (Team, 2021). Description of this course is a course that includes assessment of the process and learning outcomes of college student in the classroom. This course is important for college students before they enter the real class. College students are required to carry out evaluations during their learning process in class for teaching and learning outcomes. The materials that will be taught include measurement and assessment, types of cognitive tests, tests and requirements, item analysis, affective and psychomotor aspects, non-test, and assessment. Based on this, it is very necessary for college student ability to analyze a problem to be able to follow the learning in the course. The current quality of education is focused on college student achievement and brings reforms in curricula and education standards. Another aspect of education quality is related to the relevance of what is taught and learned. The system must suit individual needs and requirements (Serevina et al., 2022). Rasiman. & Pramasdyahsari (2014) stated that Related to the questioning activity in the learning process, the expected competencies are to develop creativity, curiosity, and the skill to formulate the question to shape critical thinking that is necessary to live smart and live time. Mathematics is one of the important branches of knowledge to increase the quality of human resources.

The ability to analyze a problem is known as the ability to think analytically. According to Dawati et al (2015) students who can distinguish, organize and distribute a problem they encounter in their thinking process are said to have good analytical thinking skills. Analytical ability is the result obtained by utilizing knowledge, understanding, and application skills. Furthermore, analytical thinking ability is the ability possessed by individuals to describe and detail information into smaller parts and find relationships between these parts based on logical thinking. and supported by relevant evidence to obtain a reliable conclusion (Khairunnisa et al., 2021). Prawita et al (2019) added that analytical thinking skills are the ability to identify the correct intentions and conclusion relationships between statements, questions, concepts, descriptions, or other forms which represent the expression of beliefs, reasons, information, and opinions needed to face the 21st century's challenges. Analytical thinking skill was very necessary to be used in working as well as daily life in the 21st century by students (Paziotopoulos & Kroll in Perdana et al., 2019)

Those three attributes of talents are analytical thinking skill, synthesizing skill, and problem-solving skill which are essential skills to learn and to do daily activities. If a person can think analytically, the person can predict, plan, decide, and foresee what may happen in the future. It can be concluded that those included in analytical thinking are the ability to analyze, compare, evaluate, predict, criticize, and categorize elements (Darmawan, 2020). Ad'hiya & Laksono (2018) concluded that the analytical thinking skill is the competence in differentiating, organizing, and relating an object, theory, problem, or event, and can determine the relation of those aspects based on certain reason, principles, or function. The development of analytical thinking skills in college students, especially in teacher candidates is very necessary to achieve indicators of success from the Mathematics Learning

Evaluation course itself. According to Ramadani et al (2021) Students will have good analytical thinking skills if they can adequately train them through learning models and strategies.

However, not all college students have sufficient analytical thinking skills when participating in the learning of these courses. The analytical thinking skill of each college student is different from one another. It depends on how students' readiness is in receiving student material, processing, and absorbing subject matter (Fadly, 2021). This is reinforced by the results of interviews with lecturers who oversee the course, which shows that 16.10% per year in the current semester, a college student gets scores below the range of A and B scores. This percentage does indicate that only a small percentage of college students are stated to have good analytical thinking skills. This indicates that college students analytical thinking skills are low, but students as prospective teachers must at least have good analytical thinking skills. This is so those prospective teacher college students when they enter the field of work are required to be able to analyze and evaluate the learning process and student learning outcomes, all of which are covered in one's analytical thinking skills. According to Rengganis & Yulianto (2018) said that analytical thinking can prepare students to be good problem solvers, mature decision-makers, and make students never stop to gain knowledge.

The development of ICT (Information and Communication Technology) is developing very quickly and even has penetrated all sectors of life, one of which is the education sector. The development of ICT affect shifting the learning paradigm from traditional learning to technology-based learning (Mahmudah et al., 2022). This of course has a major impact on the development of student's analytical thinking skills in the world of ICT-based education and digitalization. Especially on one indicator of analytical thinking ability, namely distinguishing, organizing, and connecting an object, theory, problem, or event which is presented digitally. To meet these needs and based on digital, strengthening college student analytical thinking skills need to be done to achieve 100% minimum good category in learning scores in the Mathematics Learning Evaluation course. One way that can strengthen and develop college students analytical thinking skills is by learning media in the form of electronic textbooks. Electronic textbooks are known as e-books.

Novitasari et al (2019) stated that e-books are in great demand because of their advantages, namely that they are smaller in size than books, can be carried everywhere, and have various formats ranging from PDF, Exe, HTML, Microsoft Word, Plain Text, and many more. Utomo et al (2018) added that e-books are presented in the form of files that contain various digital information in the form of writing, images, or sound or audio recordings. E-books can also be accessed by users via computers or other electronic devices such as smartphones. In addition, e-books are also packaged with the aim that students can study independently in their respective homes (Suryani & Khoiriyah, 2018). This shows that college students can also learn independently through e-books which were developed to strengthen their analytical thinking skills.

Information technology in education is applied in the form of interactive multimedia in the form of software (software), which provides facilities to college students to learn material. The use of interactive multimedia in learning is also very possible to improve thinking ability that is expected (Wiana et al., 2018). The multimedia-based learning process has

great potential to change the way of learning. One of them is Flipbook, a multimedia that developed from textbooks with ease of reading and learning without carrying thick books (Prasetyono & Hariyono, 2020). Digital books that have a book-like format and can be flipped over in a virtual display on an Android smartphone are called Android-based flipbooks (Fahrezi & Susanti, 2021). One of the software that can be used is the Kvisoft Flipbook Maker (KFM) application. KFM is open-source software (Safitri et al., 2021). Wibowo & Purnamasari (2019) stated that Kvisoft Flipbook Marker is software used to create flip book-based learning media which makes textbooks in the form of digital electronic books. Flipbook Maker is an application that is used to make e-books, e-modules, and e-paper which in its creation can insert images, graphics, sound, links, and videos (Simatupang & Sormin, 2020).

Flipbook is a reliable software designed to convert PDF files into the backs of digital publications. This program can change the appearance of PDF files and make them more interesting (Fadillah et al., 2021). Then, Setiyani et al (2022) added that creating a multimedia-based learning environment is done using open-source software. The type of software is kvisoft flipbook maker which is used to make the appearance of books or other teaching materials in an animated digital book in the form of a flipbook. This type of kvisoft flipbook maker software can be downloaded for free over the Internet. Kvisoft Flipbook Maker is a software designed to convert PDF files to page-turning digital publications. This software can change the appearance of PDF files to be more attractive as an electronic book.

According to Mardin et al (2022), learning media in soft files and online, namely e-books with the creation will use the Flip pdf. The software helps change the PDF display into a flip book with a digital page-shaped display. These pages enable text and images in digital information either in SWF, exe, HTML, email formats, or as screen savers. Teaching materials that can be accessed by students anytime and anywhere as needed are the effectiveness and practical as flip book-based teaching materials (Yulaika et al., 2020). Flipbooks are different from textbooks or regular books (Wibowo & Purnamasari, 2019). E-book textbooks assisted by flip books will support college student learning independence in developing their analytical thinking skills because they make it easier and more suitable for all-digital learning during the pandemic. Along with the pandemic situation, learning is carried out remotely which requires students to study independently (Pratiwi, 2021). Learning by media, learning resources, and teaching materials will be more effective than conventional learning (Maynastiti et al., 2020). Mahmudah, *et al* (2022) stated that various variations of learning are needed, especially in learning using media.

By doing learning using e-books assisted by flip books, it is expected to strengthen college students analytical thinking skills. While using flip book maker software, students will be more interested in learning because it contains displays that are more interesting (Rasiman. & Pramasdyahsari, 2014). Based on the explanation, the researchers tried to apply learning with e-books assisted by flip books as strengthening college students analytical thinking skills in the Mathematics Learning Evaluation course.

METHOD

This research is quasi-experimental research with a nonequivalent control group research form. In this design, the students

gave the test twice, namely before the experiment was called the pretest, and the treatment or treatment after the experiment was called the posttest, both in the experimental and control classes. This research was conducted at IKIP PGRI Pontianak with the population being college students of class A in the morning, B in the morning, A in the afternoon, and B in the afternoon in the fourth semester of the Mathematics Education Study Program at IKIP PGRI Pontianak totaling 388 people. The samples in this study were college students of classes A and B in the morning semester IV Mathematics Education Study Program IKIP PGRI Pontianak with purposive sampling technique and obtained class A in the morning as a control and B in the morning as an experiment, totaling 59 people. The purposive sampling technique was used because the form of research used was a nonequivalent control group research design where the experimental group and the control group were not chosen randomly (Sugiyono, 2018). The selected sample group is a class group of a fourth semester college students who studies the Mathematics Learning Evaluation course.

The data collection technique used in this study is a measurement technique where the data collection instrument is a college student analytical thinking ability test instrument which is presented in Figure 1.

Jawablah pertanyaan di bawah ini dengan tepat dan benar!

1. Gunakanlah *scientific* kalkulator!
2. Pembulatan hasil akhir dalam bentuk desimal 3 angka belakang koma
3. Sifat ujian : *Open Book*

No	Nama	Nomor Butir Soal										Skor Total
		1	2	3	4	5	6	7	8	9	10	
1	Aa	1	0	1	0	1	1	1	1	1	1	8
2	Bb	1	0	1	0	1	1	0	1	1	1	7
3	Cc	1	0	1	0	1	1	0	1	1	1	7
4	Dd	1	0	1	0	0	1	1	1	0	1	6
5	Ee	1	0	0	1	0	1	1	0	1	0	5
6	Ff	1	0	0	1	1	0	0	1	0	0	4
7	Gg	0	1	0	1	0	1	1	0	1	1	6
8	Hh	0	1	1	1	0	1	1	0	0	1	6
9	Gg	1	0	0	1	0	0	1	0	0	0	3
10	Hh	1	0	0	1	0	0	0	0	0	1	3
	Jumlah	8	2	5	6	4	7	6	5	5	7	55

Tentukanlah:

1. Tentukan validitas butir soal:
   a. nomor 2! Untuk mahasiswa dengan NIM digit terakhir ganjil
   b. nomor 9! Untuk mahasiswa dengan NIM digit terakhir genap (skor 40)
2. Reliabilitasnya! (skor 60)

Figure 1. Analytical Thinking Ability Test Questions

To determine the feasibility of the analytical thinking ability test instrument, a test was conducted which then measured the level of validity, difficulty index, discriminatory power, and reliability. The data analysis technique uses descriptive statistics to state college students analytical thinking skills before and after being given a mathematics learning evaluation course with and without e-books assisted by flip books, while to find out whether there are differences in college students analytical thinking abilities in mathematics learning evaluation courses with and without e-books. Books assisted by flip books were analyzed using inferential statistics and the test was carried out using an independent sample t-test where the prerequisite tests for normality and homogeneity were first performed. Based on the results of the independent sample t-test with SPSS, the 2-way significance value (t-tailed) is more than 0.05, so there is no significant difference.

RESULTS AND DISCUSSION

Results

In this section, the results of the research and discussion related to the data obtained during the study are described. In the following, data on college students analytical thinking skills before and after being given an evaluation course on mathematics learning with and without e-books assisted by flipbooks in control and experimental classes is presented in Figures 2 and 3.

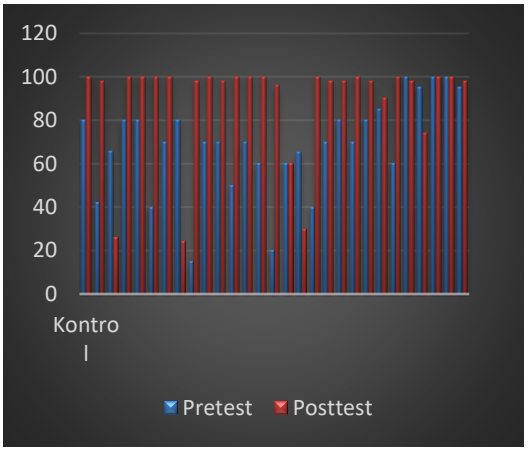

Figure 2. Results of Pretest and Posttest Analytical Thinking Ability of Control Class College Student

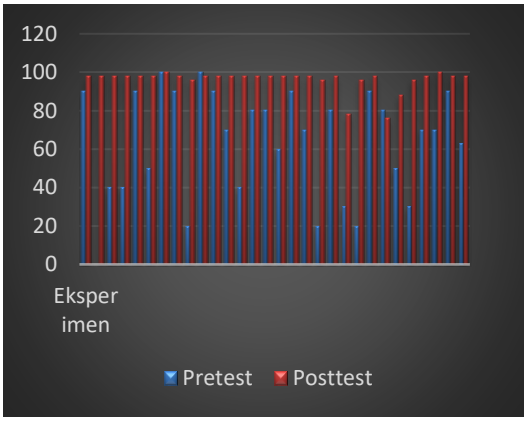

Figure 3. Results of Pretest and Posttest Analytical Thinking Ability of Experimental Class College Student

Figures 2 and 3 provide information on the results of the pretest and posttest analytical thinking of college students before and after being given a mathematics learning evaluation course with an e-book assisted by flipbook classes A and B in the fourth semester of the Mathematics Education Study Program of IKIP PGRI Pontianak. In Tables 1, 2, and 3 the following categories of results are presented.

Table 1. Average Pre-Post test Control Class

No	Data	Average Score	Information
1	*Pretest*	68,72	Well
2	*Posttest*	89,10	Very well

Table 2. Average Pre-Post test Experiment Class

No	Data	Average Score	Information
1	*Pretest*	63,10	Enough
2	*Posttest*	96,13	Very well

Table 3. Rating Category

Average Score	Letter Value	Category
80 and above	A	Very well
66-79	B	Well
60-65	C	Enough
45-59	D	Not enough
45 and below	E	Fail

Source: Sudijono (Hikmah, 2016)

The next step is to test the hypothesis to find out whether there are differences in college students analytical thinking skills before and after being given a mathematics learning evaluation course with and without flipbook-assisted e-books in the control and experimental classes. Previously, normality and homogeneity tests were carried out on the pretest and posttest data of the analytical thinking abilities of control and experimental class college student which can be seen in Table 4.

Table 4. Summary of Normality Test Results

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest_A	.144	29	.130	.933	29	.064
Posttest_A	.410	29	.051	.519	29	.052
Pretest_B	.182	29	.065	.908	29	.065
Posttest_B	.392	29	.055	.476	29	.053

a. Lilliefors Significance Correction

Based on Table 4, it is known that the pretest and posttest data from the analytical thinking abilities of control and experimental class college student are normally distributed due to the value of Sig. on the Kolmogorov-Smirnov and Shapiro-Wilk columns more than 0.05. A normality test is a test carried out intending to assess the distribution of data in a group of data or variables, whether the distribution of the data is normally distributed or not. The normality test is useful for determining the data that has been collected is normally distributed or taken from a normal population. Table 4 shows that the pretest and posttest data from both the control and experimental classes were taken from

a normally distributed population. Thus, the assumptions or requirements for normality in the t-test have been met. Furthermore, the homogeneity test with SPSS is presented in Table 5.

Table 5. Summary of Homogeneity Test Results

	Levene Statistic	df1	df2	Sig.
Pretest	3.989	1	57	.051
Posttest	16.591	1	57	.053

Based on Table 5, it is known that the variance of the pretest and posttest data from the analytical thinking abilities of control and experimental class college students are the same or homogeneous due to the value of Sig. Pretest and Posttest more than 0.05. A homogeneity test is a statistical test procedure that aims to show that two or more groups of sample data that have been taken come from populations that have the same variance. In other words, the homogeneity test is carried out to find out whether the data set being studied has the same characteristics or not. The results of the homogeneity test in Table 5 show that the pretest and posttest data in both the control and experimental classes have the same characteristics. Thus, the assumption or requirement for homogeneity in the t-test has been met.

Based on the independent samples test by SPSS, the 2-way (t-tailed) significance value is 0.113, 0.123 > 0.05. So, there is no significant difference in point scores between the control and experimental groups. This shows that the college students analytical thinking skills after being given a mathematics learning evaluation course with and without flipbook-assisted e-books are as good.

Discussion

Based on the research entitled "Development of College Student Analytical Thinking Skills Through Evaluation Learning with Flip Book Assisted E-Books", it can be stated that the development of analytical thinking skills after being given learning evaluation courses for mathematics learning with e-books assisted by flip books has been implemented in accordance with the form of research used in this study, namely nonequivalent control group research. According to Yusuf (2020), this design is almost the same as the pretest-posttest control group. With the pretest before treatment, both for the experimental group and the control group (O1, O3), can be used as a basis for determining changes.

The problem analysis phase aims to study or find information on what problems are faced by lecturers and college students in the learning process of evaluation courses. Based on the results of the researcher's interview with the lecturer in charge of the course, showed that 16.10% per year in the current semester, college student received grades below the range of A and B grades. stated to have low analytical thinking skills, but college students as prospective teachers are at least required to have good analytical thinking skills. This is so that prospective teacher college students when entering the world of work are required to be able to analyze and evaluate the learning process and college students learning outcomes, all of which are included in one's analytical thinking skills. The purpose of the researchers to develop analytical thinking skills after being given learning evaluation courses for mathematics learning with this flip book-assisted e-book is to help college student as prospective teachers to be able to analyze and evaluate the learning process and college student learning

outcomes to achieve learning objectives through the learning process the good one. According to Mustaqim & Kurniawan (2017) a good learning process must contain interactive, fun, challenging, and motivating aspects and provide ample space for the college students to be able to develop creativity and independence, according to college student talents and interests. The e-book used in this study contains an interactive aspect because it is a flipbook-based learning media that can be accessed via each student's Android phone, fun because it can be read and accessed anywhere and anytime, challenges students in the process of solving problems in learning. evaluation, motivate and provide sufficient space for students to be able to develop creativity and independence, according to the talents and interests of students based on the use of e-books that can be studied independently and are easy to understand the material, especially in evaluation lectures. The following e-book is presented in Figure 4.

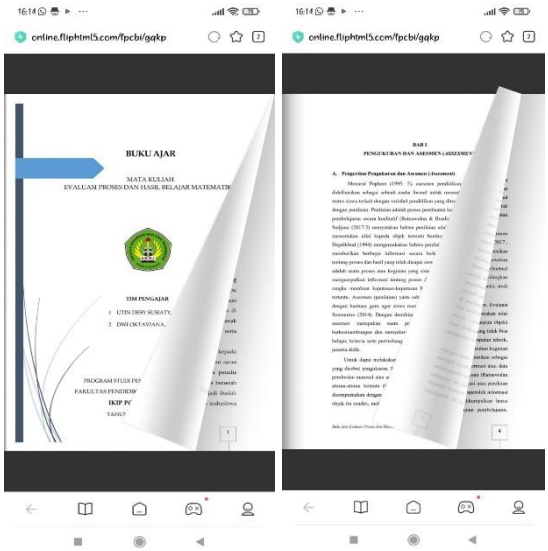

Figure 4. Flip Book Assisted E-Books

Figure 4 shows that the e-book can be accessed via android or other digital devices if the reader has the e-book link. In evaluation learning for the experimental class, the college student is given an access link for the e-book. College students are very enthusiastic about learning by using learning media that can be accessed through their respective mobile devices. Then college student feels very helpful because they can still access the e-book either independently or in groups and it is very easy to understand the material contained in the e-book.

The next stage is the stage of giving a pretest, the stage of giving questions to determine the college student initial abilities before being given lessons in the evaluation of mathematics learning courses with e-books with the help of flipbooks. As a solution to the problems that have been analyzed in the previous stage, as for a solution to these problems that have been developed is the college students analytical thinking ability. The first thing in giving this pretest is to give college student an analytical thinking ability question in the form of an essay, then it is analyzed and evaluated to find out how big the level of college student initial analytical thinking ability is. At this stage, the results of the control class pre-test were 68.72 in the good category and the experimental class pre-test was 63.10 in the sufficient category.

The next stage is the stage of giving treatment, at this stage the application of learning mathematics learning evaluation courses with e-books assisted by flip books is carried out. This e-book with the help of a flip book is used by researchers in the experimental class to test how much college student analytical thinking abilities can be affected after the learning process.

While in the control class, the lecturer in charge of the mathematics learning evaluation course applies to learn without the help of e-books with the help of flipbooks. This is done to see how much college students analytical thinking abilities can be affected after the learning

process. The samples in this study were college students of classes A and B in the fourth semester of the Mathematics Education Study Program of IKIP PGRI Pontianak with a purposive sampling technique and obtained class A as a control and B as an experiment, the learning process was carried out face-to-face while still complying with health protocols.

The next stage is the stage of giving the posttest, which aims to determine the final ability of the college student after being given learning the evaluation course of mathematics learning with e-books with the help of flipbooks. After the post-test was carried out, the researchers then analyzed and evaluated the post-test results that had been done by the college student. The results of the data analysis of the posttest scores of college student after being given learning evaluation courses of mathematics learning with and without e-books assisted by flip books were in the control class of 89.10 with a very good category and posttest in the experimental class of 96.13 with a very good category.

To find out whether there is a difference in college student analytical thinking abilities before and after being given a mathematics learning evaluation course with and without flipbook-assisted e-books in the control and experimental classes, a hypothesis test was conducted on the posttest results of college student analytical thinking abilities.

The last stage is testing the hypothesis of the posttest results of college student analytical thinking skills, which aims to find out whether there are differences in students' analytical thinking abilities before and after being given an evaluation course for mathematics learning with and without flipbook-assisted e-books in the control class and experiment with independent t-test. samples. But before that, the prerequisite tests were carried out, namely the normality test and homogeneity test through SPSS. Based on the test results through SPSS, the normality test results obtained that the pretest and posttest data on analytical thinking abilities of control and experimental class college student were normally distributed because of the value of Sig. on the Kolmogorov-Smirnov and Shapiro-Wilk columns more than 0.05. Furthermore, the homogeneity test with SPSS showed that the variance of the pretest and posttest data of analytical thinking abilities of control and experimental class college student was the same or homogeneous because of the Sig value. Pretest and Posttest more than 0.05. Thus, the assumptions or conditions for normality and homogeneity in the t-test have been met. Furthermore, hypothesis testing was carried out and the 2-way significance value (t-tailed) was 0.113, 0.123 > 0.05. So, there is no significant difference in point scores between the control and experimental groups. This shows that the college student analytical thinking skills after being given a mathematics learning evaluation course with and without flipbook-assisted e-books are as good. This indicates that the analytical thinking ability of students is not influenced by the application of a different learning media in their learning. This is in line with what was conveyed by (Prawita et al., 2019) that the ability to think analytically is the ability to identify the true meaning and conclusion relationship between statements, questions, concepts, descriptions, or other forms that represent expressions of beliefs, reasons, information, and opinions needed to deal with problems. the challenges of the 21st century. This opinion shows that the ability to think analytically is not influenced by external factors such as the learning media used.

Based on the results of observations on the students' analytical thinking ability

test answer sheets, it was found that the indicators of analytical thinking skills, namely the ability to analyze, compare, evaluate, predict, criticize, and categorize elements in the control class and the experimental class have different differences. -and the results are not significantly different overall.

The obstacles in research and development of analytical thinking skills after being given learning evaluation courses for mathematics learning with e-books assisted by flip books based on research that has been carried out are as follows: (1) Limitations in conducting research include e-book media with -The flip book used in this research is the result of beginner level development which only includes some basic competencies for the evaluation course of mathematics learning and only for fourth-semester college students of the Mathematics Education Study Program. (2) The policy carried out by the campus is to follow government regulations in the application of face-to-face learning during the pandemic, namely in a normal capacity room but only allowed with an allocation of 40 minutes, because of that both the application of learning (treatment) and pretest and the posttest cannot be carried out optimally so that the results obtained are also not maximal. (3) In this study, it only focuses on the discussion of college students analytical thinking skills in general through analytical thinking ability test questions.

There are several relevant studies, namely (1) Rahmawati et al (2017) concluded that flipbook learning media is very complete with an effectiveness percentage of 80.39%; (2) Utomo et al (2018) concluded that mobile learning-based e-book media received a positive and acceptable response in the learning process; (3) Suryani & Khoiriyah (2018) conclude that e-books can be used as a source of independent learning for students who do not have printed books and can be used as an alternative/additional reference for teachers if there is a shortage of face-to-face meetings in class but the material presented is not available in the classroom. school printed books; (4) Yulaika et al (2020) concluded that the use of flip book-based electronic teaching materials in economic learning had a positive impact on improving student learning outcomes and increasing student activities including visual, oral, listening, writing, and emotional; (5) Mentari et al (2018) concluded that after the e-book was implemented on 30 students, it showed that 19 students thought very creatively (63%), 7 students thought creatively (23.3%), and 3 students think creatively enough (13,3%); (6) Utami & Ducha (2020) concluded that flipbook can help students to understand abstract material and practice students' critical thinking skills; (7) Perdana et al (2021) concluded that the flipbook-based digital media was included in the category of "feasible" to be used as an instructional learning media. The seventh study conducted shows that e-books assisted by flipbooks provide opportunities for the college student to participate actively and help build their knowledge during the pandemic to achieve an increase in college student analytical thinking skills. The difference in research results is due to the background and conditions of college student learning styles where most of them still like conventional learning.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that there is no significant difference in point scores between the control and experimental groups. This shows that the college student's analytical thinking skills after being given a mathematics learning evaluation

course with and without flipbook-assisted e-books are as good. Suggestions from this research are: (1) to become a view for readers and further researchers to be able to compile and apply flipbook-assisted e-books to evaluate mathematics learning courses in a wider scope to improve college student analytical thinking skills from various kinds; (2) further researchers can conduct in-depth data analysis by looking at the differences in college student analytical thinking abilities based on each indicator on these abilities.

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