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Evaluation of the application of the ACEP cycle to student writing learning outcome

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Abstract

The modification of the ACEP cycle is a pedagogical strategy consisting of four components: (A) Activities. (C) Classroom discussion. (E) Exercises. (P) Performance. The application of ACEP cycle modifications is used as a strategy to improve writing skills. This is the primary focus to consider in improving writing skills. The purpose of this study was to evaluate how effective the process of learning writing skills was by applying ACEP cycle modifications. This study used a mixed-methods approach. At the qualitative stage, an explanatory description design strategy is applied to collect comprehensive and in-depth information about the learning model applied by the teacher in the classroom. A pre- and post-test control group design is used in the quantitative stage. The average score of students using the ACEP cycle modification was 82.64, higher than that of students who studied under the demonstration learning model which was 80.03. This finding is reinforced by the result of the significance coefficient = 0.006 < 0.05 so H0 is rejected. Thus, there is a difference in average student learning outcomes between the modification of the ACEP cycle and the demonstration learning model. ACEP cycle modification has practical implications for writing skills. First, it can easily identify the initial condition of students' writing skills. Second, ACEP cycle modification allows teachers to better understand how students build an understanding of writing concepts. Third, students can actively participate in the learning process and fourth, teachers can observe the construction stage and measure student progress more accurately.

Keywords: ACEP cycle modification, Evaluation, News text, Teaching, Student, Writing skills.

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Contents

Contribution of this paper to the literature

The modification of the ACEP cycle was initiated using the APOS theory. APOS is a learning concept for mathematics. From APOS theory, researchers implement concepts into language studies. APOS describes the process of critical thinking in building concepts in language involving analysis, synthesis and evaluation in understanding texts.

1. Introduction

One of the most significant abilities for producing language is writing. Writing is part of science (Sinaga & Feranie, 2017). It is challenging for students to use writing as an effective instrument for learning, communication, and self-expression (McKeown et al., 2023). Writing should be emphasized at all levels of education to use written language well. Improving writing skills needs a development framework (Chong & Lee, 2012; Hall & Grisham-Brown, 2011). Students should build an initial foundation in writing to disseminate ideas effectively and efficiently. For learning objectives to be achieved, teachers must be skilled in delivering subject matter (Crawford, Saul, Mathews, & Makinster, 2005).

In Indonesia, conditions related to students' writing skills are still low on average (Fannies, 2016). Writing difficulties are evident at every stage of writing. Students consider writing to be a difficult job. In the research of Jannah, Gunayasa, & Tahir, (2022) and Oktavia (2019) students had difficulty in writing poetry such as determining diction, figurative language for expression and rhyme. In the research of Inggriyani & Pebrianti (2021) and Lutfiah, Rukayah, & Kamsiyati (2021) the difficulties in writing descriptive texts include determining the content of ideas, engaging the five senses, arranging paragraphs with cohesion and coherence and using correct spelling Difficulty writing explanatory texts (Sari, Trianto, & Utomo, 2020) involves internal, external, structural, and linguistic rules. Writing exposition texts (Umamah, Hidayanti, & Kurniasih, 2019) is also challenging with students facing obstacles in writing ideas, content as well as language accuracy especially grammar and mechanics, caused by differences in systems and cultural backgrounds between the first and second languages. The difficulties of students writing research proposals (Daniel & Taneo, 2019; Zuriati, 2017) include pouring ideas into scientific writing, creating a background for problems, searching for literature, reviewing theories, determining research methodologies and arranging lecture time with the preparation of proposals. Students' difficulty in writing as non-English speakers needs help determining English vocabulary.

In other countries, the difficulty of writing academically from King Saud University students' perspective is the difficulty of distinguishing between spoken and written English making an outline before writing a draft and identifying the skills needed for good writing (Fadda, 2012). The literature review examined how interventions affected sentence-level abilities in usage, grammar, handwriting and sentence building. The results suggest that struggling writers benefit from interventions particularly in handwriting and sentence construction (Datchuk & Kubina, 2012). Challenges in English-language academic writing at Qatar University include writing expectations, using strategies and improving learning resources (Pessoa, Miller, & Kaufer, 2014). Writing anxiety in grades seven, eight and nine is a significant predictor of writing anxiety with grade level and gender of students as significant predictors of anxiety and writing disposition (Berk & Ünal, 2017). Difficulties, emotions, values, and attitudes towards poetry writing show that writing poetry in language involves positive and negative emotions, but positive emotions are often encountered (Liao, 2018). Writing is seen as one of the main problems among EFL (English Foreign Language) learners (Robillos & Thongpai, 2022).

One of the writing skills in classes VII and VIII is news writing based on the independent curriculum. The skill of writing news is found in learning objectives and learning outcomes. Learning objectives can be seen in 8.5 students who can compile essays based on the points of news texts and develop them in writing, structure and language.

An innovative learning model needs to be developed based on the aforementioned explanation. The learning process should be encouraged to develop critical thinking skills. According to Septiani, Ansari, Dewi, and Aprilla (2021) the role of teachers in teaching and learning activities should develop students' potential skills especially writing skills. Teachers should concentrate on essential teaching skills for the development, use and knowledge of the learning process.

The learning model is a means to create a supportive and engaging ecology in which students can participate and learn (Joyce, Weil, & Calhoun, 2015). The modification of the ACEP cycle was developed from the APOS (Action, Process, Object, and Scheme) theory. APOS is an acronym for Action, Process, Object and Scheme. APOS theory is a conceptual framework that discusses how mathematical concepts can be understood. The theory derives from basic ideas first introduced in the early 1980s by Piaget (1973) as outlined in the work of Dubinsky (1984). Subsequently, there has been widespread development and application of this theory by researchers, curriculum developers and teachers in various countries worldwide.

The basic concepts of APOS can be adapted to understand the concept of language learning. Action can refer to writing skill activities. This can include reading comprehension and writing production. The process involves students' understanding of the action to be performed. In the concept of language, students not only say words or sentences but also understand sentence structure, word meaning and the relationship between grammatical and grammatical ideas. Objects can include understanding grammatical concepts, vocabulary development, word meaning and forming linguistic concepts. Schema can refer to students' ability to use sentence structure, vocabulary and meaning in communication situations, both oral and written. The modification of the ACEP cycle is a perspective from the APOS theory (Dubinsky, 1984). From APOS theory, Nurlaelah and Sumarno (2009) investigated the transformation of APOS learning models into M-APOS. From the perspective of APOS theory, research has been conducted on how the concept of vector spaces is constructed (Parraguez & Oktaç, 2010). Research case studies of mental constructs learn from the concept of probability (Ortiz & Parraguez, 2014). Research on the use of APOS theory as a frame of mind to understand slope (Nagle, Martínez-Planell, & Moore-Russo, 2019). Research on the use of APOS theory as an application of APOS-ACE theory to improve student understanding of derivative graphs (Borji, Alamolhodaei, & Radmehr, 2018) and meta-analysis of APOS learning models on language skills (Hidayat, Andayani, & Anindyarini, 2021).

Writing skills are of more concern to teachers based on research findings (Ramadhani & Lailatul, 2020). Writing is considered complicated in both the first and second languages (Jeanjaroonsri, 2023). A positive pedagogical approach is required (Ganapathy, Kaur, Jama, & Phan, 2022). Therefore, the purpose of this study is to overcome the difficulty of writing news texts. Researchers try to apply ACEP cycle modifications (activities, classroom discussion, exercises and performance). ACEP cycle modification is a learning strategy that includes cycles. Students work individually and in groups on exercises designed to help students make mental constructs. The focus of these exercises is to promote reflective abstraction rather than good writing. Writing activities and assessments of students' performance are displayed in wall magazines.

In this study, research questions can be formulated as follows:

1. Is the application of ACEP cycle modification effective in improving writing skills?
2. Is there a significant improvement in the quality of ACEP cycle modifications?

2. Literature Review

2.1. Writing News Text

Writing news is an effort to present information or news about an event in the form of writing (Ansoriyah, 2017). News stories can include actual event reports or factual reports about those events. News is written to present reports on events and concepts that will attract the attention of readers (Satini, Atmazaki, & Abdurahman, 2015). News can also be defined as true and shocking events or life stories that occur in the present and interest a wide audience.

Certain elements must be included in a news story. The elements of news are who, what, why, where, when, how and many other information that must be arranged in sequence (Karimi, 2012). The news element must be unified as a whole.

News is not merely an event but an event that needs to be revealed. News is not only documented because of its significant nature but also must be compiled in written form to convey information to the public. In news writing, Marzuqi (2019) stated that a journalist must pay attention to the pillars of news writing such as accuracy, clarity, and style.

Furthermore, writing assessment rubrics require mastery of context, content, form and language (Bratcher & Ryan, 2003). Conceptual, social and metacognitive understanding is also required during writing. Moreover, it deals with organization, cohesiveness and coherence (Rashtchi & Moradzadeh, 2018). Written words must be cohesive (unified form), coherent (integration of meaning) and unifying to be understood. It is consistent with the assertion of Hyland (2003) that writing requires consideration of structure and content, coherence and organization as well as the creation of sentences and language. From several assessment rubrics (Cornwell & Robertson, 2011) the author adopts and modifies the assessment model (Nurgiyantoro, 2010) to be more detailed in giving scores, namely a) completeness of content. b) Completeness of the news structure. c) Use of sentences. d) Continuity of exposure to news content. e) Use of EYD (Ejaan yang Disempurnakan) or improved spelling version V (see Table 1).

Table 1. Criteria and weights of assessment of news writing skills.

No.	Assessment aspects	Score					Value weight	Maximum weight
		Ex	G	E	L	VL		
		4	3	2	1	0		
1.	Completeness of the news content						4	30
2.	Completeness of the news structure						3	25
3.	Use of sentences						2	20
4.	Demands for the exposure of news content						1	15
5.	Use of EYD version V						0	10

Note: Rate the column
Ex: Excellent.
G: Good.
E: Enough.
L: Less.
Vl: Very lacking.
Source: Modifications of Nurgiyantoro (2010).

2.2. ACEP Cycle Modification

The modification of the ACEP cycle is a pedagogical strategy consisting of four components: (A) Activities. (C) Classroom discussion. (E) Exercises. (P) Performance. According to Dubinsky and Leron (1994) and Cetin and Dubinsky (2017) there is a way to answer a challenge for any mental construct. Students are more likely to create the corresponding mental construct if they are actively interested in the activity. This serves as the foundation for an educational strategy known as the ACE cycle which is linked to APOS theory. From the educational strategy of the ACE cycle to the theory of APOS, researchers developed the basic framework of the ACEP cycle education strategy because in language skills, there is a productivity of student work that must be performed.

The ACEP cycle modification involves students engaging alone and in groups. The activity process supports students in creating mental constructs. This exercise encourages reflective abstraction raising the bar for work well done.

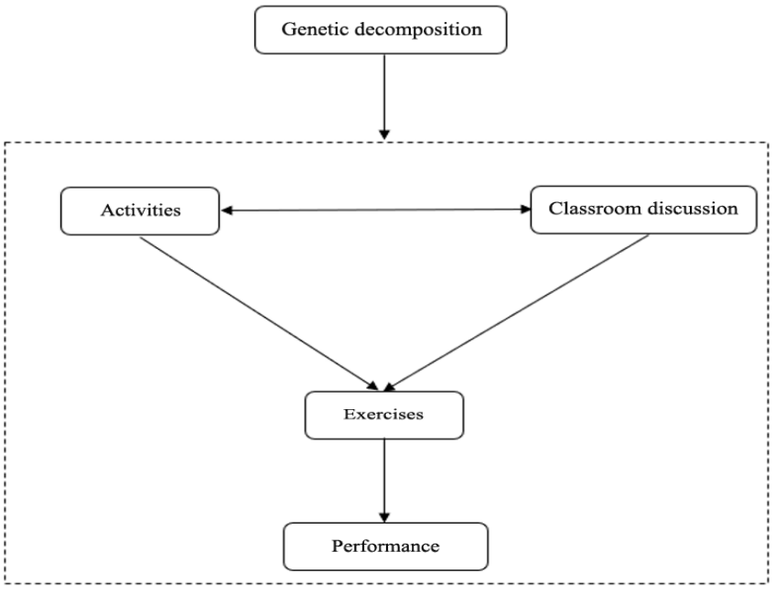

Figure 1. ACEP cycle modification.
Source: Personal analysis.

Figure 1 is the result of the modification of the ACEP cycle whose explanation is as follows: Activities stage: the initial stage of perception while preparing students psychologically and physically to know the readiness of the learning process. This stage is critical because the teacher conveys the learning objectives and the subject matter. The material is not delivered theoretically but uses authentic assessments that allow students to conclude the material. At this stage, students take tests (question-and-answer discussions or answer tests) oriented to the student's initial abilities or mental structure. After getting an initial ability test (reflective abstraction), the teacher creates a heterogeneous group of four students.

At the class discussion stage in the ACEP cycle modification APOS learning model, the teacher guides the discussion about the material and problems that arise in the activities. This stage is after students get into heterogeneous groups; each group consists of 4 students. The group was given an authentic assessment task in the form of a project assessment. The core of the APOS learning model is the assignment of writing abilities as required in news writing content to assist students in creating mental structures based on actions and interior them into processes before encapsulating them into objects. In this stage, students discuss in class, work in groups and complete authentic assessment assignments and problems presented by the teacher. The teacher controls going from one group to another guiding the problem-solving process.

In the exercise stage, there are two meetings: the first meeting and the second meeting. At the first meeting, the illustrated class discussion process can be completed in 50 minutes. Therefore, for the exercises stage in the first stage, the teacher provides instructions related to writing skills that will be done at the second meeting with authentic assessment techniques in the form of self-assessment to strengthen the concepts he learned. Exercise also helps to support the continued development of mental constructs (Weller, Arnon, & Dubinsky, 2009). Students conduct authentic assessment exercises at school within the time set by the teacher. The modification of the ACEP cycle applies a comprehensive educational approach that tries to motivate students to understand the importance of the material learned by placing it in the context of everyday life. Methods of teaching in which teachers assist students in connecting what they are learning by integrating real-life situations into the classroom. The modification of the ACEP cycle emphasizes natural learning in the form of student work activities, not the transfer of knowledge from teacher to student. Teachers evaluate students' writing skills using pre-made assessment rubrics. According to the concept of modification of the ACEP cycle, the teacher gives particular motivation and attention to students whose grades are low. The teacher provides almost the same exercises as the initial steps at the practice stage. It is expected that all students get the predicted grades to improve their writing skills.

Performance is the last stage in the APOS learning model cycle. This cycle is used as a means of evaluating the APOS learning process to see whether or not it is successful in improving productive skills. The results of the exercise are graded by two assessors according to the assessment rubric and the students' writing results are pasted on the school wall magazine. The performance cycle is the final cycle of a series of modifications to the ACEP cycle. After applying the APOS learning model, modify the ACEP cycle to successfully demonstrate the output of students' writing skills.

3. Methodology

3.1. Research Design

The research method used in this study is a mixed-method approach. Considering the fundamental differences between quantitative and qualitative methodologies, it is logical to expect that combining the two will present a unique set of characteristics (Terrell, 2016). The main focus is the qualitative approach which aims to identify and understand phenomena by collecting data directly from participants such as teachers and students (Creswell, 2014; Merriam, 2009). In the qualitative stage, explanatory descriptive design strategies are used to collect comprehensive and in-depth information about the classroom learning model teachers apply (Saldana, 2016; Silverman, 2004).

The qualitative stage explores ten schools in Bogor Regency. Teachers and students are interviewed in depth to learn more about the challenges and needs of teachers and students in the learning process. The results of the

interview were analyzed through three stages: open coding, axial coding and selective coding (Corbin & Strauss, 2006; Creswell & Clark, 2018).

The experimental design in this study used a pre- and post-test control group design (Terrell, 2016). The study used a two-group research design (Creswell & Clark, 2018; Leavy, 2017). There are experimental classes and control classes (Bos, 2020). Both groups were given pre-tests with one as the control group and the other as the experimental group. The experimental group received ACEP cycle treatment. The control group received a demonstration learning treatment. The two groups were compared at the end of the treatment to see how much difference the results from the post-test showed.

3.2. Research Population

The population in this study is junior high schools that have implemented an independent curriculum in Bogor Regency consisting of 98 schools. The sampling technique used is simple random sampling. Leavy (2017) suggests that this sampling technique mixes subjects within the population to consider each subject equal. According to Terrell (2016) simple random sampling is the best strategy to minimize sampling bias and ensure that the sample is representative of the population from which it came.

In the exploration stage, researchers took samples in each area of Bogor Regency from each region, namely SMPN 1 Cileungsi (Public Junior High School 1 Cileungsi), SMPN 1 Klapanunggal, and SMP Nurul Azman (Junior High School Nurul Azman) representing East Bogor. SMPN 1 Jasinga, SMPN 2 Jasinga, and SMP Muhammadiyah Jasinga 08 represent West Bogor. SMPN 1 Cariu and SMP Nusantara represent South Bogor. SMPS Al Kausar represents North Bogor. Three schools were used as a trial to implement the ACEP cycle modification, namely SMPN 3 Cileungsi, SMP Nusantara, and SMPN 1 Klapanunggal. The research was carried out for one semester.

3.3. Instruments

Research instruments are used according to the type of data collected. A research tool in the form of a news writing test was used in this study to collect information about news writing skills. This test measures the ability to determine the completeness of news content and news structure. The completeness of the news content and the completeness of the structure of the news delivered aims to convey information to readers about what is conveyed with empirical evidence that can be accounted for. The modified indicators of Nurgiyantoro (2010) assessed in the news writing skills test include (a) completeness of news content. (b) Completeness of the news structure. (c) Use of sentences. (d) Continuity of exposure of news content. (e) Use of EYD version V.

Some of the stages involved in instrument preparation involve: 1) reviewing theories or concepts related to variables. 2) Identifying indicators for each variable. 3) Drawing up operational definitions. 4) Compiling instrument grids. 5) Compiling instrument items along with measurement scales. 6) Testing instruments.

3.4. Test Validity and Reliability

News writing skills are validated by content validity and construct validity. The instrument was adjusted to the material contained in Indonesian lessons in junior high school before being used to capture research data to construct validity based on the theories or concepts used.

The news writing skills test uses the statistical formula reliability ratings to measure the level of reliability of the news writing skill items (Trihendradi, 2012). The steps are as follows:

Calculate the sum of the total squares (JK_T) .

$$JK_T = \sum x\,t^2 - \frac{(\sum xt)^2}{(\sum raters)\,(\sum aspek)}$$

Calculate the sum of squares between raters (JKt).

$$JK_t = \frac{(\sum xt_1)^2+(\sum xt_2)^2+(\sum xt_3)^2}{\sum aspek} - \frac{(\sum xt_1)^2}{(\sum raters)(\sum aspek)}$$

Calculate the sum of interfaced values (JKS).

$$JK_s = \frac{(\sum xs_1)^2+(\sum xs_2)^2+(\sum xs_3)^2+(\sum xs_4)^2+(\sum xs_5)^2+(\sum xs_6)^2}{\sum raters} - \frac{(\sum X_1)^2}{(\sum raters)(\sum aspek)}$$

The calculation results are entered into the following ANOVA summary table.

Table 2. ANOVA summary for reliability ratings calculation news writing skills test.

Variations	Jk	Db	Mk
Total	628.9	14	-
Raters	14.9	2	-
Subject	588.9	4	147.2
Residue	25.1	8	3.1

Table 2 is a summary of the ANOVA for calculating the reliability of writing skill test ratings. The results of calculating the average reliability coefficient of ratings from k raters:

$$r_{kk}2 = \frac{St^2 - Sr^2}{Ss^2} = \frac{147.2 - 3.1}{147.2} = 0.97$$

The results of the reliability test of the news writing skills test were declared reliable because after calculations were made, a reliability coefficient of 0.97 was obtained.

3.5. Data Analysis

The quantitative data analysis technique Analysis of Variance (ANOVA) is one way to test the hypothesis in this study. ANOVA is integrated into parametric statistical analysis methods. ANOVA is performed to assess the

comparative reliability of the sample average when data are presented as intervals or ratios. Qualitative data were analyzed using content analysis and descriptive analysis methods.

Normality tests are carried out to find out whether the research data is normally distributed or not. If the data is normal, then use parametric statistical analysis. If the data is abnormal then use non-parametric statistical analysis. Normal data is an absolute requirement before performing parametric statistical analysis (one-way ANOVA).

4. Results and Discussion

4.1. Results of the Preliminary Study and Results of ACEP Cycle Modification Implementation

It is important to highlight a particular point of view addressing the demands of teachers and students with regard to learning writing skills material which is based on the findings of preliminary research or the exploration stage involved in interviewing teachers and students. An overview of the learning model teachers apply to the learning process shows that out of nine schools of 20 teachers interviewed by researchers, 16 teachers still use traditional learning models. In contrast, four teachers have used innovative learning models.

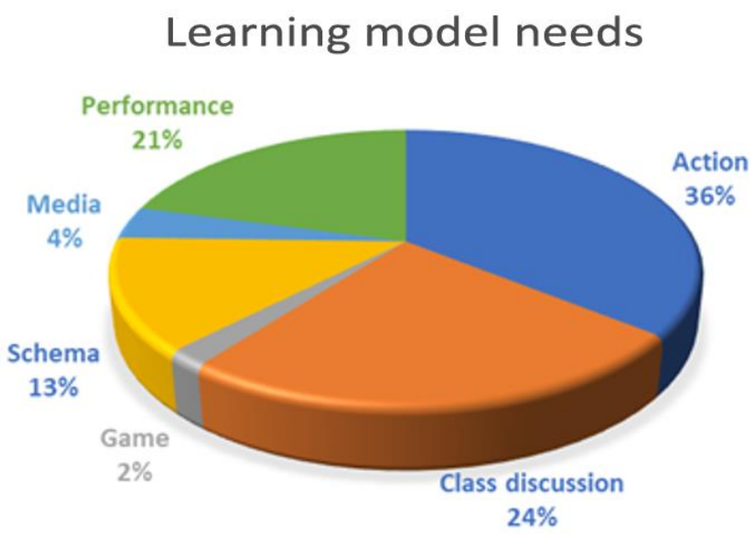

Figure 2. Interview analysis results.

The results of the interview analysis from raw data then created a segment of meaning and produced themes from the interview results. The theme can be seen in Figure 2 (actions or activities, class discussions, performances, schemes, media, and games exist). The interview results are similar to the APOS theory developed by Dubinsky. According to APOS theory, for any mental construct, the exercise can be answered so that if the student engages in the activity, the student will most likely develop the mental construct. This is the starting point for a pedagogical approach connected to APOS theory and referred to as ACEP cycle modification. ACEP is a repeating loop of four components: Activity, class discussion, exercise and performance performed in class.

In the preliminary study, the problem of teacher needs and abilities is to identify the challenges and requirements faced by students when they acquire writing skills material. Based on the results of observations in the field, student problems in learning writing skills are learning model problems commonly applied by teachers.

When the author asks about what the students require from the Indonesian learning model in terms of writing skills, several important demands become apparent based on the results of observations and student interviews as shown in Figure 3.

Figure 3. Results of student interview analysis.

The student interviews indicate the need for learning models and the requirement for the teacher to be more engaged in the learning process (see Figure 3). The results above are students' answers regarding students' needs for language learning. From these results, the average student learning Indonesian needs a learning model because teachers use conventional models or lectures only.

4.1.1. Results of Descriptive Analysis

The data analysis of the writing skills test results is based on the findings of the effectiveness test and the calculations that have been carried out. The ACEP cycle was modified in the experimental class, and the demonstration learning model was modified in the control class. It can be seen from statistical calculations that it is necessary to explain the series of statistical stages. First, after obtaining data on the pre- and post-test results of student grades, statistical calculations were obtained in Table 3.

Table 3. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std. deviation
Pre-test control	120	47.00	90.00	75.20	8.56
Post-test control	120	59.00	95.00	80.03	7.63
Pre-test experiment	120	55.00	90.00	75.25	7.29
Post-test experiment	120	60.00	98.00	82.64	6.90
Valid N (Listwise)	120	-	-	-	-

The above data were obtained, the average value of the experimental pre-test was 75.25 and the average value of the experimental post-test was 82.64. The average score of the control pre-test was 75.21 and the average post-test score was 80.03.

Table 4. Independent sample test.

	Leven's test for equality of variances		T-test for equality of means		
	F	Sig.	T	df	Sig. (2-tailed)
Equal variances are assumed.	0.908	0.342	2.776	238	0.006
Equal variances are not assumed.	-	-	2.776	235.683	0.006

Table 4 of the test results which were previously published reveals the following conclusions: The results demonstrated by the coefficient sig.= 0.342 > 0.05 showed that the final ability data for both the experimental class and the control class had homogenous variances. The experimental class and the control class differ significantly in how findings are delivered as indicated by the coefficient sig.= 0.006 > 0.05.

Table 5. One-way ANOVA.

	Sum of squares	df	Mean square	F	Sig.
Between groups	408.204	1	408.204	7.705	0.006
Within groups	12609.458	238	52.981	-	-
Total	13017.662	239	-	-	-

4.1.2. Results of ANOVA

The sig coefficient of 0.006 < 0.05 supports the conclusion that there are notable variations in the difference between the experimental and control classes based on the data in Table 5.

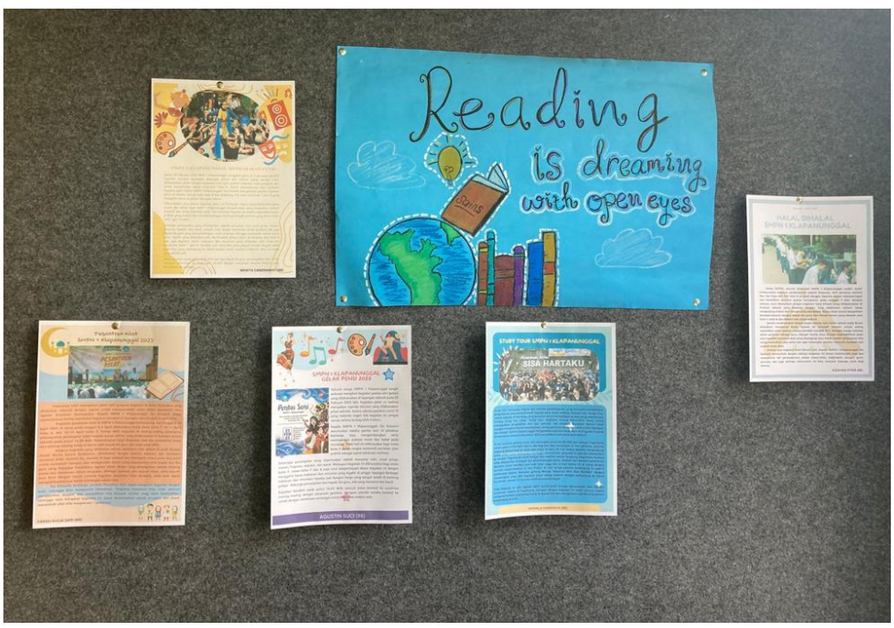

Figure 4. Results of writing skills.

Students' writing shows that they are actively involved in developing writing skills. Figure 4 shows the work of the highest-graded students in line with the principle of the ACEP cycle modification where the student's writing from the last cycle of "performance" is displayed on the wall of the magazine. Other students' writing is scheduled to be posted in turns due to the limited space on the magazine wall.

4.2. Discussion

The preliminary study found problems in learning Indonesian specifically writing skills. According to the findings, there is a need for an innovative learning model to make students active as researched by Ariyanti (2015) in an effort to increase creativity in producing texts. The above findings are similar to the APOS theory developed by Dubinsky (1984). According to APOS theory, for any mental construct, a task can be answered (Dubinsky & Leron, 1994) so if a student engages in an activity, it is most likely that the student develops a mental construct.

APOS theory has been developed by researchers as a modification of M-APOS (Nurlaelah & Sumarno, 2009), the concept of vector space (Parraguez & Oktaç, 2010), the concept of probability (Ortiz & Parraguez, 2014) eigenvectors (Salgado & Trigueros, 2015), construction principles (García-Martínez & Parraguez, 2017), problem solving (Kurniati, Purwanto, & Dwiyana, 2018), frameworks (Nagle et al., 2019), linear functions (Yuniati, Nusantara, Subanji, & Made Sulandra, 2020), Geo Gebra (Baye, Ayele, & Wondimuneh, 2021) and a meta-analysis of language skills (Hidayat et al., 2021). Still, the modification of the ACEP cycle is only the first time it has been used. The majority of previous APOS research has focused on exploring students' understanding of a concept rather than how teaching can impact students' understanding.

Writing skills are chosen because they are one of the productive skills that students must master but many students find it difficult to write. The experimental group used the ACEP cycle developed in this study. The performance of the experimental class was compared with that of the control group. Students in the control group were taught using demonstration learning.

The results of the research analysis in Table 4 revealed that the ACEP cycle provided significant evaluation results on writing skills. Pre-test and post-test findings show that the ACEP cycle has a strong effect on the writing ability of junior high school students. The ACEP cycle learning paradigm strongly influences students' writing skills compared to demonstration learning.

Here are teachers' responses to the cycle: ACEP cycles can empower students to think critically, creatively, and innovatively as seen in (1) systematic ACEP cycle delivery techniques that keep students active. (2) Student-centered presentation of material to produce cognitive, affective and psychomotor development. (3) The development of ACEP cycle modifications for highly written writing skills is beneficial because ACEP cycles are focused on exercise.

5. Conclusion

The preliminary stage shows that the conditions for learning productive language skills in SMP Bogor Regency are theoretical. The learning conditions for writing skills are carried out by the teacher. Most of the learning process is teacher-centered.

Testing the effectiveness of ACEP cycle modifications is carried out through an experiment. Independent sample tests and one-way ANOVA were used to evaluate the effect of ACEP cycle modification on writing skills. The results from Table 5 show that the significance coefficient is $0.006 < 0.05$ indicating a significant difference between the experimental and control classes.

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