

Applying Blended Problem-Based Learning to Accounting Studies in Higher Education; Optimizing the Utilization of Social Media for Learning

<https://doi.org/10.3991/ijet.v15i08.12201>

Ahmad Nurkhin ^(✉), Kardoyo, Hengky Pramusinto,
Rediana Setiyani, Ratieh Widhiastuti
Universitas Negeri Semarang, Central Java, Indonesia
ahmadnurkhin@mail.unnes.ac.id

Abstract—This study aims to examine the implementation of blended problem-based learning in introductory courses on accounting, in order to improve students' critical and creative thinking skills and student learning outcomes. The research design carried out is classroom action research (CAR). The object in this study is accounting students at the Faculty of Economics, Universitas Negeri Semarang (UNNES). The research was conducted during September and October 2019. The procedure for carrying out CAR consists of planning, implementing, observing and reflecting. CAR is implemented in two cycles. The research data is gathered using documentation, observation and testing. For data analysis, quantitative and qualitative descriptive methods are used. The researchers carried out two cycles, with each cycle consisting of two lecture meetings. In the first cycle, researchers used Google Classroom, mind mapping, online quizzes, and Instagram social media to improve interaction and the quality of lectures by applying blended problem-based learning. The researchers focused on improving students' critical and creative thinking skills in the first cycle. The results show that the students have good critical and creative thinking skills. In the second cycle, the researchers still continued to use Google Classroom and combined it with face-to-face lectures using "make a note" assignments and group discussions. The researchers took quantitative measurements to see the success of the treatment. The results showed that students were able to obtain better grades than before being given the treatment.

Keywords—Blended learning, problem-based learning, blended problem-based learning, social media, accounting learning

1 Introduction

The use of information technology in the learning process has led to blended learning approaches being increasingly used in tertiary education around the world [1]. The increasing interest of educators in implementing blended learning is because it can combine variations of face-to-face learning and online learning. Nevertheless, there are challenges in implementing blended learning, including costs, intellectual property

rights, initial conceptions and perceptions, and the practice of blended learning itself [2]. The use of information technology in the learning process will facilitate students accessing educational products and services [3] and [4].

Blended learning is very useful for the learning process. Blended learning provides enormous flexibility for students when they study [5]. The blended learning strongly supports active and meaningful learning [6]. Blended learning facilitates the inclusion of online students, enhancing the financial viability of study abroad courses and programs [7].

Many researchers have demonstrated the application of blended learning in studying economics, accounting, and business. Research by [8] successfully implemented blended learning in property education. He also believes that blended learning can be applied to other material. Likewise, [7] who utilized online learning for international students. And [1] found positive outcomes from the application of blended learning, namely increased conceptual understanding, confidence in learning, and metacognitive reflection upon student learning. Other researcher, [9] succeeded in utilizing an online learning environment (OLE) to improve the ability of students to make presentations in Hong Kong and [10] applied micro lectures as the most effective model of blended learning. The results showed that most students were satisfied with the learning.

Social media can also be used to support learning. Research by [11] found positive results from educators and students who wanted to use mobile devices and social media applications for teaching and learning purposes. Likewise, [12] showed that students feel added value when using social media to carry out academic activities and also [13], [14], and [15] show that not many lecturers at the Faculty of Economics, Universitas Negeri Semarang (FE UNNES), utilize information technology in lectures; although [13] has shown the use of WhatsApp (an instant messaging app) for business English learning. Other researcher, [15] provides examples of the use of social media in accounting studies, such as YouTube, Instagram, Facebook, and instant messaging (WhatsApp, Telegram).

This research seeks to develop blended learning in accounting studies in tertiary institutions. The emphasis of blended learning in this study is on the use of social media as learning media. The learning method used is problem-based learning (PBL). The PBL method is considered to be in accordance with the characteristics of studying accounting. The previous research by [16] has developed a learning module based on the PBL approach for learning accounting education research methodologies.

Bearing this background in mind, the formulation of the problem that will be examined in this study is with regard to how blended-problem based learning is applied to the study of accounting. It is very important for the application of blended-problem based learning in accounting studies to be developed now. It is hoped that the development of PBL-based learning media will produce media that can be applied in lectures so as to improve the quality of the lecture process. In the end, students will be able to obtain better learning outcomes. The use of social media also needs to be implemented in the learning process, because students use it very often.

2 Literature Review

2.1 The concept of blended learning

Blended learning is a combination of face-to-face learning experiences, such as on campus classroom contacts, and online learning experiences [5]. A time-based blended learning model, which combined synchronous elements (face-to-face meetings, video conferences, chats, webinars) with several asynchronous elements (reading, assignments, taking notes, asynchronous research, discussions, and collaboration) [4]. Blended learning is a supplementary resource that complements traditional teaching. In blended learning, technology is used and student interaction is very high because it is a student-centered approach [17].

There are many advantages to using blended learning, including its potential to be transformative, to offer opportunities for institutions to develop technology, to enhance thinking skills in the community, and strongly support active and meaningful learning [6]. In addition, blended learning can increase the flexibility of access to learning, meaning that distance is not an obstacle preventing students from participating in learning [5].

2.2 The concept of problem based learning

Problem based learning (PBL) was first introduced by Barrows and Tamblyn in 1995 in an effort to improve the study of medicine. They stressed that PBL was interpreted as an effort to invite students to think and solve problems in real-life situations. PBL was designed to train medical students how to assess and solve clinical problems through systematic learning activities, to develop their clinical responses and reasoning. PBL is also known as problem-oriented learning [18]. There are several variations in the application of PBL. Aside from PBL, there is self-directed PBL and small-group PBL [19]. PBL can be applied to hybrid, blended, or online learning concepts [20].

PBL has been widely applied to the learning process for various fields, including business and economics. A researcher implemented PBL in entrepreneurial studies and stated that PBL was a very effective method. The experience gained by students was more realistic and relevant [21]. And other researcher, [22] found there to be a positive effect of implementing PBL in studying logistics and supply chain management (LSCM). Other result indicates that PBL is an effective complementary method in lean manufacturing. PBL can expose students to actual problems [23]. Likewise, [19] also successfully implemented PBL. It has positive implications because it can integrate theory and practice and is able to increase management students' motivation to learn.

2.3 Utilization of social media for learning

There are various forms of social media technology (SMT), namely blogs, wikis, Google apps, image sharing, social bookmarking, social networking, social news sites, VOIP and instant messaging, do-it-yourself networks, file sharing, video sharing, location-based applications, and microblogs [24]. Meanwhile, [25] divided SMTs into text-based, media sharing, social networking, mobile-based applications, virtual worlds and games, synchronous communication, and conferencing applications and mash-ups.

The social learning is very concerned with the use of social media in learning [26]. Social media technology is part of the routine of modern society in various ways, including support and even the replacement of software specifically designed for the acquisition and sharing of knowledge [27]. The adoption of the use of social media and the web in business and economic learning is considered to be very slow. Technology-based learning is only used as a support for face-to-face learning [28].

2.4 Development of blended problem-based learning in accounting studies; optimizing the use of social media for learning

Blended learning can be practiced in accounting studies in tertiary institutions. The combination of online learning with face-to-face learning results in a more interactive lecture approach. UNNES has implemented e-learning (E-LENA) over the last eight years. However, in practice, not many FE UNNES lecturers make good use of these features to support classroom learning. Some of the reasons that emerged include the difficulty lecturers face in applying various features of E-LENA, the considerable amount of time needed to utilize E-LENA, and lecturers finding it easier and more practical to apply face-to-face learning.

This study aims to design and apply the study of accounting utilizing blended learning and PBL approaches. The researchers call this blended problem-based learning. They also increased the use of social media to support the successful implementation of blended learning. Social media that were widely used by the students included YouTube, Instagram, WhatsApp, and Facebook.

Research by [15] showed that YouTube is the social media video format that is most used by students and lecturers for learning purposes. YouTube is often used as a source of information and media for the publication of students' work. In addition, [13] demonstrated the benefits of using WhatsApp as the most popular messaging medium in all circles for learning purposes.

The use of social media includes learning media, learning resources, and others. The group discussion feature in WhatsApp or Telegram was utilized to the maximum; likewise, with the existence of Facebook's live features, Instagram TV, IG story, and others. The interaction between students and lecturers, and between the students, increased and learning was more fun and exciting.

The previous studies by [29] showed that the intention of students to utilize mobile learning is very high. The researchers developed a variety of interactive and Android-based learning media as well as learning materials or resources that were easily acces-

sible from students' mobile phones. Thus, students found it easier to study, wherever and whenever. The interactive media in question was an IT-based media that combined images, video, sound, and others. Android-based learning media that are increasingly popular continue to be developed. In addition, researchers produced flip books to facilitate the students' access to learning modules.

The learning approach used in this research was PBL. This method is considered suitable to be applied to accounting studies. Students solved various cases and problems so it invited students from the lowest level to the highest level to think.

Other researcher, [30] successfully developed and implemented a combination of blended learning and face-to-face PBL. The method is called blended problem-based learning. And [18] found that students' learning attitudes were better, although the effect was statistically insignificant. They also found that the problem-solving attitude of the experimental class students was better than the students in the control class, and this effect was statistically significant. Also [31] combined PBL with 3D virtual worlds so as to create an experience for students in a more complex and realistic environment. And [32] tried to apply an online problem-based learning approach by integrating games. The results showed the learning to be fun and exciting and able to achieve the stated learning goals.

3 Method

The type and design of the research used is classroom action research (CAR). CAR is a form of reflective study involving steps which are carried out by actors to increase the rational stability of the carrying out of their tasks, and to deepen the understanding of conditions in learning practices [33]. CAR is intended to fix and improve the quality of learning and help empower teachers to solve learning problems in schools [34].

The object of the research was the accounting students at the Faculty of Economics, Universitas Negeri Semarang. The research was conducted during September and October, 2019. The subject for the development of material in this research was Introduction to Accounting in the first semester of the academic year 2019-2020.

Documentation, observation, and testing were the data collection methods used. These methods were used to obtain data about the implementation of the steps carried out on the class. The data analysis method used was quantitative descriptive analysis. The research was seeking to produce interactive learning designs and apply the variety of media and teaching materials that had been produced by utilizing a Google Classroom-based learning management system (LMS).

4 Result and Discussion

The research that was carried out sought to develop a blended problem-based learning design for an introductory course in accounting. Classroom action research (CAR) was carried out in this study by running two CAR cycles. The results of the study are described in the following explanation.

4.1 Results of the implementation of cycle I

Plan: Research into the application of blended PBL began with developing lecture tools such as SLP (semester learning plans) and the required teaching materials. In Cycle I, the target competency is for students to be able to describe the basic concepts of accounting. Learning or study materials include accounting as an information system, the users of accounting information, the designation of accountants, types of companies, and basic accounting assumptions. The researchers used Google Classroom as an e-learning application because it is considered the simplest and easiest to use by lecturers and students. The object of the research is students enrolled in the 2019 International Accounting Education Graduate Program. The researchers also used Instagram social media to publish the students work in the form of mind maps. Mind maps are used as media to translate lecture material into a chart that is more interesting and easier to understand. The plan for this first cycle was to have two meetings.

The design of lectures in the first cycle was arranged so that students were able to present their acquired understanding of the basic concepts of accounting, in the form of an interesting mind map. The first cycle's implementation plan was as follows: The students were formed into groups and asked to study the lecture material first, then to make a mind map based on material from various sources that had been studied, and then post the mind map on one of the group members' Instagram accounts. At the second meeting, each group presented the results of the mind map that had been made and explained the material in front of the class, which then continued with a discussion. At the end of the meeting, students worked on a quiz which was used as a means to evaluate the course.

For the evaluation in this first cycle, researchers used the Google Forms feature which is integrated with Google Classroom, in the form of an online quiz. The assessment criteria in the first cycle are the ability to explain accounting as an information system and the ability to explain who the users of accounting information are, the designation of accountants, types of companies, and the basic concepts of accounting.

Action: Blended PBL in the first cycle was implemented well during the two meetings. At the first meeting, students in groups solved "problems" by studying lecture material and compiling a mind map. The materials reviewed during the first and second meetings were the basic concepts of accounting and financial statements. Students used their reference books and searched for material from internet sources to be able to compile an interesting and easy to understand mind map. Students were required to gain a complete and comprehensive understanding of the basic concepts of accounting and financial reports. The researchers prepared materials (stationery etc.) in the form of cardboard and colored markers for students to use to make their mind maps. The researchers also prepared teaching materials, and these were uploaded to Google Classroom.

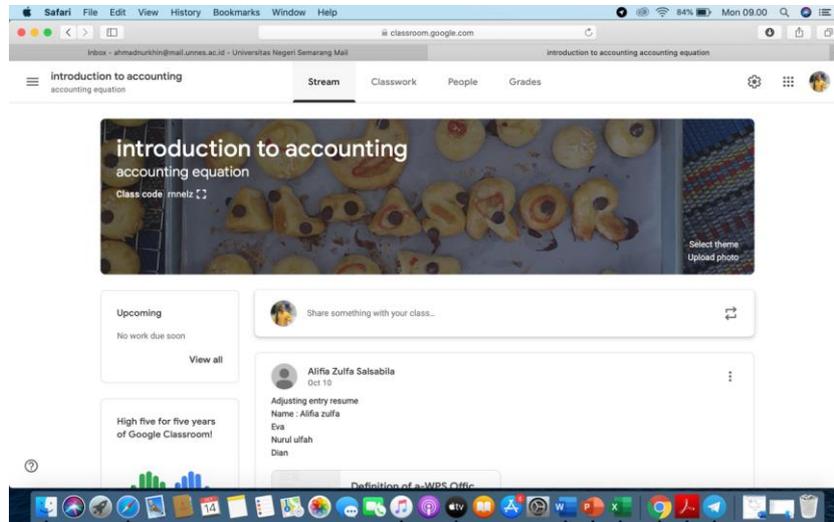


Fig. 1. Initial appearance of Google Classroom

The students were quite enthusiastic about learning the material and then together compiling the mind maps. They were also required to use critical and creative thinking skills to obtain sufficient material and record it down as a picture or chart (mind mapping). They could complete the task of compiling mind maps at the first meeting, which was a lecture which lasted for two hours. The researchers provided assistance and made observations while the lecture was in progress. At the end of the lecture, the students posted the completed mind maps to Instagram social media. The group work pictures and mind map results posted on group members' Instagram accounts can be seen in the following pictures.



Fig. 2. Group Discussion

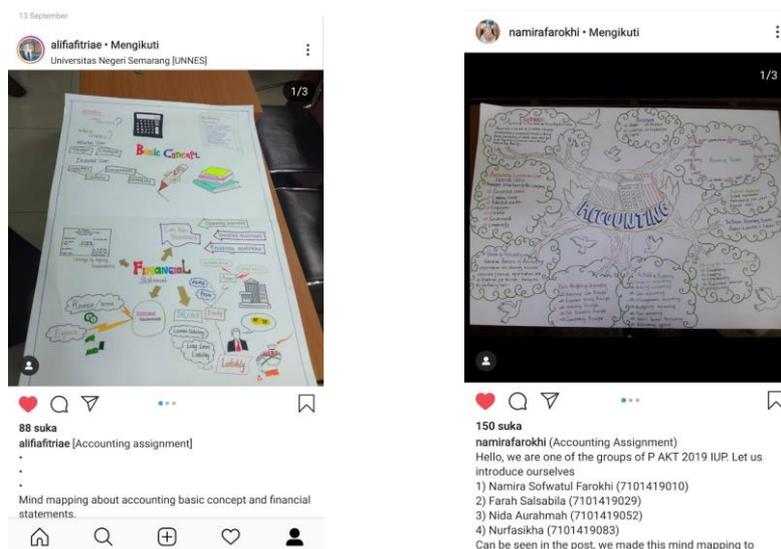


Fig. 3. Posting Work to an Instagram Account

Each group was asked to appoint one member to be the “presenter” at the second meeting. The presenter’s qualifications were the ability to present material in front of the class, master the lecture material discussed, and have sufficient English language skills. The students who were appointed from each group had to study independently to prepare to present their explanations at the second meeting.

The second meeting began with presentations and questions and answers about the mind mapping that had been prepared by each group. The researchers had prepared rewards for the groups who were able to do the mind mapping and were able to present the results well. The students who represented each group took turns to become a “presenter” in front of the class with the mind mapping tools that had been prepared. The students were able to demonstrate their communication skills in front of the class quite well. This could be seen in the confidence they displayed and their mastery of the material discussed. They were able to use the time allotted (approximately 5-10 minutes) to explain the material in front of the class. There were students who added learning resources in the form of a short video and tips on understanding the material (concise elements of financial statements). This showed that the students had the ability to think critically and creatively in solving “problems” posed by the lecturer. The students were able to find the right sources and then were able to present them through the mind mapping, and explain them in front of the class.



Fig. 4. Students Presenting Their Work

The lecture process was continued by completing an online quiz that had been prepared by the lecturer (researcher). By utilizing one of the Google Forms that was integrated with Google Classroom, the researchers compiled online quizzes which could be done by the students quickly and accurately. The students were able to complete these online quizzes in just 10-15 minutes, with five multiple choice questions. There was a problem with the internet connection and English language skills were needed to complete this online quiz. However, in general, the students were able to complete it. The results of the online quiz can be seen in the following image.

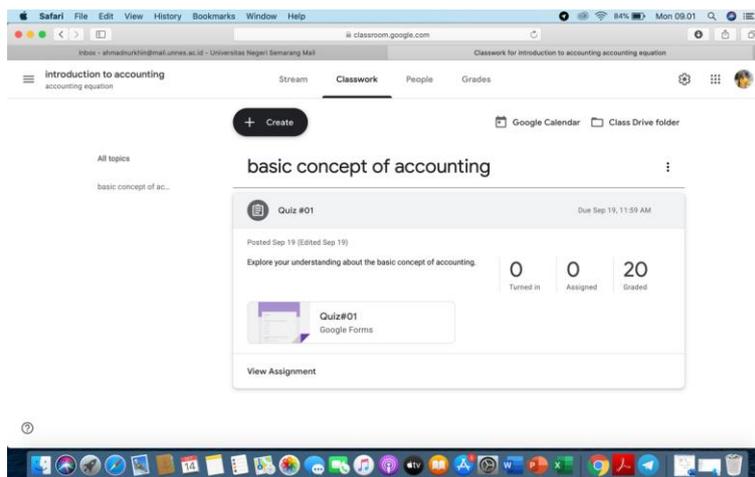


Fig. 5. Display of Online Quiz Timeline

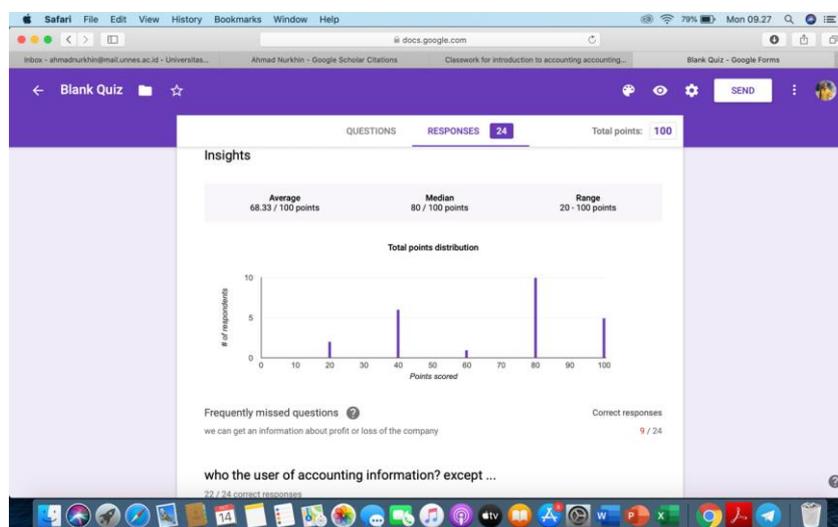


Fig. 6. Display of Online Quiz Results

The students and lecturers discussed the online quizzes together. The results of evaluations using online quizzes indicated that there were variations in the students' ability to understand the material about the basic concepts of accounting and financial statements. They had some difficulty in distinguishing between the different types of financial statements.

The lecturers continued the lecture by reviewing the material being studied and the learning process so far. The lecturers expressed appreciation for the performance and seriousness of students in solving problems through the online quiz. The lecturers gave rewards to all the students in the form of water bottles. The group that had the highest score, based on the results of the mind mapping and presentation, received a better reward than the other groups.

Observation: The observations that were made about the first cycle focused on the students' ability to engage in problem solving and their ability to think critically and creatively. The researchers observed the activeness and responses of students who attended the lecture and completed the assignments and other activities. The students were very enthusiastic about attending the lecture in the first cycle. The researchers provided an overview of the implementation of the lecture at the beginning, including activities and assignments. The students showed enthusiasm and were earnest about following the lecture process step by step. The students did not hesitate to ask about what to do.

In the first assignment, namely compiling mind maps as a medium for tackling problems that must be resolved, the students were able to work together with their respective groups to find learning resources and then turn them into mind maps. Each group was able to work well and able to complete the task correctly. Students' critical and creative thinking skills could be observed when they were searching for learning

resources, composing their mind maps, and presenting group work in front of the class.

The students' critical abilities were shown when they were searching for material from various sources via the internet. Each group read the material they found carefully, to gain a comprehensive understanding of the "problem" that had to be resolved, namely regarding the basic concepts of accounting and financial statements. They discussed the material obtained with the other members of their group. The aim was to understand the material being studied. Group members who understood more quickly were able to guide other group members.

The next thing to do was to make a mind map. Each group was able to discuss the mind mapping framework that would be created. Then each group member received their respective tasks to jointly complete the mind mapping project. The creative abilities of students were honed in completing the task of making the mind maps. This was evident from what they were able to complete. The mind maps made by the students were quite good and creative. The content or material listed in the mind maps was quite complete. The students were able to present the material well in the form of their mind maps.

The last observation the researcher made was at the presentation stage. Each group appointed their representatives as "presenters". Each group was able to present the mind mapping it had produced well and creatively. There were groups that added media such as videos and tips and tricks to understand the lecture material more easily. The students also demonstrated their confidence in presenting what they had produced in front of the class. They were very enthusiastic and confident. Their English language skills still need to be improved, but, despite this, they could be categorized as sufficient.

Reflection: The first cycle went well. However, there were some things that needed to be fixed. The researchers still needed to fully understand the method being applied. Implementing blended PBL is not easy. The students must be able to comprehend the "problems" that must be resolved in the face-to-face lectures combined with online lectures. The weakness seen in the first cycle was the researchers' mastery of utilizing Google Classroom. This was not surprising because the researchers had only just learned this feature of Google.

Utilization of the social media app called Instagram was quite appropriate as a medium for the publication of the work produced by the students. The students were also able to enjoy their lectures, starting with doing the mind mapping then presenting their work. The ability of the students, in terms of their cooperation and communication skills, fell within the good category. Likewise, the students' ability to think critically and creatively was categorized as good. Evaluation in the first cycle focused on measuring these abilities. An online quiz was taken by the students but it only measured the students' understanding after the treatment. Additionally, quantitative measurements of the students' cognitive abilities were needed for the implementation of the next cycle, both before and after the treatment had been given to the students.

4.2 Cycle II implementation results

Plan: The basic competency achieved in the second cycle was that the students were able to compile financial statements of service companies through the accounting cycle. Learning indicators included students being able to identify and analyze transactions, record transactions in a journal, categorize accounts, prepare a trial balance, prepare adjustments, and prepare financial reports. The design of the learning process in the second cycle was not too different from the implementation of the first cycle. However, in the second cycle, the researchers tended to implement the lecture method to provide an initial understanding of the material and also give emphasis to the material that students had learned. The researchers still used Google Classroom as an online learning medium.

The researchers carried out this second cycle in two lecture meetings. For the first meeting, the indicator was that the students would be able to analyze transaction documents, prepare a journal, categorize accounts, and prepare a trial balance. The second meeting discussed adjustments and work sheets and the preparation of the trial balance after adjustments. The material learned in the second cycle was very complex and required a fairly high degree of concentration by the students. The researchers had prepared teaching materials, practice questions, assignments, and evaluation questions, in order that the implementation of the second cycle would be interesting and pleasant.

Action: The blended PBL method applied in the second cycle can be described as follows in Table 1.

Table 1. Implementation of Blended PBL in the Second Cycle

Meeting	Description of Steps
First	The material presented was a journal, general ledger, and a trial balance. The researchers used the PBL method in the first meeting combined with the discussion lecture method. The researchers explained the material using the discussion lecture method for one hour of the lecture. They provided examples of problem solving. They provided practice questions to be solved by the students individually. The researchers discussed the matter of training with the students.
Second	The material discussed at the second meeting was about adjustments. The researchers applied blended PBL by utilizing Google Classroom. They provided learning materials for the students. As a group, the students were asked to study this material and then complete the "make a note" assignment. The students were invited to search for material from other sources in order to gain an easier and comprehensive understanding. They uploaded "make a note" tasks that had been completed according to the Google Classroom's time line. Researchers provided responses to these posts. The lecture continued with a quiz. The students individually completed the "problems" about adjustments in this quiz within 10 minutes. Corrections to the quiz were carried out together. Then the lecture continued with an explanation of the material by the researchers. After the quiz was finished, the researchers explained the material about adjustments with teaching materials that had been previously distributed. The researchers gave a second quiz after completing the explanation. However, the students were asked to pass on their understanding of the material just explained before the second quiz was carried out. The second quiz was also done individually and then discussed together. Students knew the progress of the results achieved in the first and second quizzes. Some students were satisfied because they understood enough, while others still lacked a good understanding. At the end of the meeting, the students solved the third "problem" about adjustments in

Meeting	Description of Steps
	groups. Group members who got good grades (meaning they understood the study materials) were obliged to provide an explanation to the other group members. The students were enthusiastic about solving problems in groups. Some students asked genuine questions that were not understood by other students.

The researchers twice gave a quiz during the second cycle, to find out about the students' understanding before and after the steps. Both quizzes discuss the "problem" of adjustments. The average value obtained by students on the first quiz was 37.5 and increased to 63.5 on the second quiz. There were four students (25%) who scored 0 on the first quiz. On the second quiz, there were no students who received a score of 0. However, there were two students who experienced a decline in their scores for the second quiz compared to the first quiz. Meanwhile, there were eight students (40%) who experienced a sharp increase in the scores they obtained on the second quiz compared to their scores from the first quiz. The results of the evaluation in the second cycle showed that the treatment given by the researchers was quite successful in terms of the increase in scores obtained by the students. However, the average score obtained on the second quiz (after treatment) still showed an unsatisfactory level of understanding.

Documentation of the implementation of the second cycle can be seen in the following pictures.

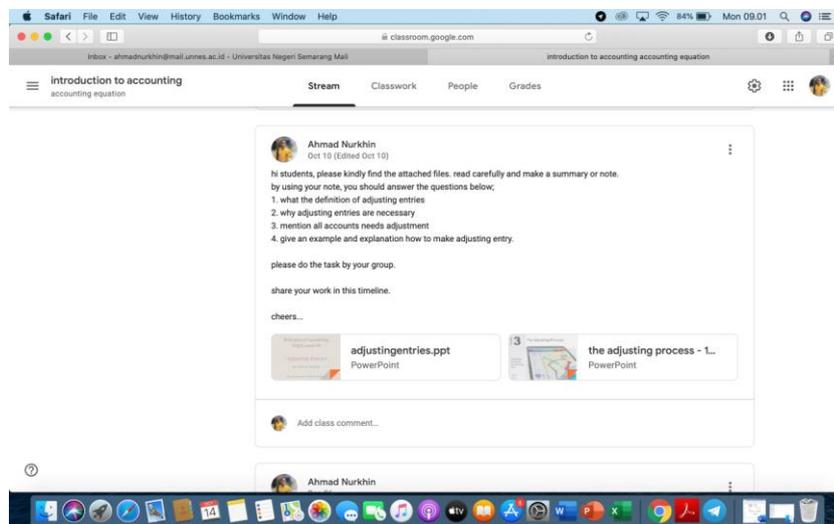


Fig. 7. Display of Posted Material and Assignments

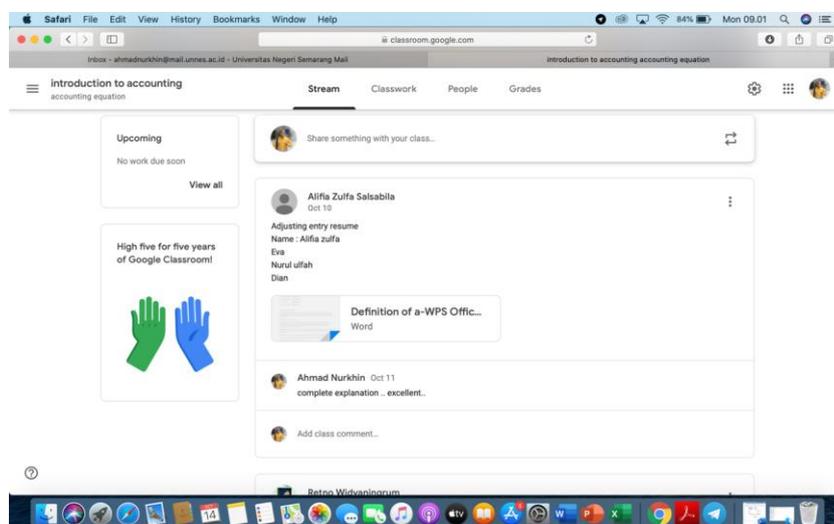


Fig. 8. Display of Student Postings on the "Make a Note" Assignments



Fig. 9. Students completing the quiz.

Observation: The observation of the implementation of the second cycle conducted by the researchers was intended to find the enthusiasm and level of student participation when attending lectures. The students were still very enthusiastic about attending lectures, because the activities and assignments were quite different and it was a

challenge for the students to complete them well. They were able to increase their confidence and not hesitate to ask their lecturers about problems they were experiencing. The students were able to complete their assignments in groups, similar to group learning, to understand the material about adjustments and then compile their "make a note" task together and post them to Google Classroom.

Reflection: The implementation of the second cycle in the application of blended problem-based learning ran well. The measurements of success were different from the first cycle. For the second cycle, the researchers used quantitative measurements to see the level of success. They found that the treatment given in the cycle was quite successful, although less than satisfactory. This can be seen in the increase in grades obtained by the students before and after the treatment.

The researchers still considered that the blended learning conducted in the second cycle was still not optimal. They only used Google Classroom to upload and post material and work from the students. There was no maximal interaction between lecturers and students, or between the students, through utilizing the existing features in Google Classroom. However, the researchers noted that the enthusiasm and the level of the students' participation in lectures had increased. The students were very motivated and enjoyed the lectures.

5 Conclusion

This research has been carried out by applying the blended PBL method to the Introduction to Accounting course in the first semester of the 2019-2020 academic year. Both stages of the research were carried out quite well and ran smoothly. The researchers carried out two cycles, and each cycle comprised two lecture meetings. In the first cycle, researchers used Google Classroom, mind mapping, online quizzes, and Instagram social media to improve interaction and the quality of lectures by applying blended problem-based learning.

The researchers focused on improving the students' critical and creative thinking skills in this first cycle. The results show that students had good critical and creative thinking skills. In the second cycle, researchers still continued to use Google Classroom and combined it with face-to-face lectures with "make a note" assignments and group discussions. The researchers conducted quantitative measurements to see the success of the treatment. The results showed that students were able to get better grades than before the treatment was given.

The researchers have demonstrated that blended PBL can improve the students' abilities. However, the application of blended problem-based learning in the second phase of research is still not optimal. Researchers should still be able to maximize the features of Google Classroom, so that learning is more interesting and enjoyable. In addition, they should be able to prepare better sources and teaching materials. It is hoped that future researchers will be able to improve the ability of online learning management systems so they can better implement blended PBL.

6 Acknowledgment

This study was funded by Lembaga Penelitian dan Pengabdian kepada Masyarakat (LP2M) Universitas Negeri Semarang.

7 References

- [1] Y. C. Lee, K. Lau, V. Wing, and Y. Yip, “Blended learning for building student-teachers’ capacity to learn and teach science-related interdisciplinary subjects,” *Asian Assoc. Open Univ. J.*, vol. 11, no. 2, pp. 166–181, 2016. <https://doi.org/10.1108/aaouj-09-2016-0029>
- [2] J. Fleck, “Blended learning and learning communities: opportunities and challenges,” *J. Manag. Dev.*, vol. 31, no. 4, pp. 398–411, 2012. <https://doi.org/10.1108/02621711211219059>
- [3] F. B. Bruno, T. L. K. Silva, R. P. Silva, and F. G. Teixeira, “Web-based learning design tool,” *Campus-Wide Inf. Syst.*, vol. 29, no. 4, pp. 201–212, 2012. <https://doi.org/10.1108/10650741211253804>
- [4] A. Norberg, C. D. Dziuban, and P. D. Moskal, “A time-based blended learning model,” *Horiz.*, vol. 19, no. 3, pp. 207–216, 2011. <https://doi.org/10.1108/10748121111163913>
- [5] J. Poon, “Use of blended learning to enhance the student learning experience and engagement in property education,” *Prop. Manag.*, vol. 30, no. 2, pp. 129–156, 2012. <https://doi.org/10.1108/02637471211213398>
- [6] D. R. Garrison and H. Kanuka, “Blended learning: Uncovering its transformative potential in higher education,” *Internet High. Educ.*, vol. 7, no. 2, pp. 95–105, 2004. <https://doi.org/10.1016/j.iheduc.2004.02.001>
- [7] M. H. Slotkin, C. J. Durie, and J. R. Eisenberg, “The benefits of short-term study abroad as a blended learning experience,” *J. Int. Educ. Bus.*, vol. 5, no. 2, pp. 163–173, 2012.
- [8] J. Poon, “An examination of a blended learning approach in the teaching of economics to property and construction students,” *Prop. Manag.*, vol. 31, no. 1, pp. 39–54, 2013. <https://doi.org/10.1108/02637471311295405>
- [9] A. W. B. Tso, “Reflections on Blended Learning: A Case Study at the Open University of Hong Kong,” *Asian Assoc. Open Univ. J.*, vol. 10, no. 1, pp. 77–86, 2015. <https://doi.org/10.1108/aaouj-10-01-2015-b008>
- [10] X. Zhang and J. Xu, “Integration of Micro Lectures into the Blended Learning Discourse in Tertiary Education #,” *Asian Assoc. Open Univ. J.*, vol. 10, no. 2, pp. 13–28, 2015. <https://doi.org/10.1108/aaouj-10-02-2015-b003>
- [11] M. B. Ada, M. Stansfield, and G. Baxter, “Using mobile learning and social media to enhance learner feedback,” *J. Appl. Res. High. Educ.*, vol. 9, no. 1, pp. 70–90, 2017.
- [12] L. S. Garcia and C. M. C. Silva, “Differences between perceived usefulness of social media and institutional channels by undergraduate students,” *Interact. Technol. Smart Educ.*, vol. 14, no. 3, pp. 196–215, 2017. <https://doi.org/10.1108/itse-01-2017-0009>
- [13] R. N. Anissa, S. Utami, R. Setiyani, Tusyanah, M. Sholikah, and A. Nurkhin, “What’s up with whatsapp? The contribution of blended learning through wa group discussion for better english writing in Indonesia,” *Adv. Sci. Lett.*, vol. 23, no. 8, pp. 7539–7544, 2017. <https://doi.org/10.1166/asl.2017.9517>

- [14] Kardoyo, A. Nurkhin, R. Setiyani, and R. Widhiastuti, "The Use of Information and Communication Technology in Economics Teaching and Learning," *Int. J. Comput. Internet Manag.*, vol. 25, no. 1, pp. 29–32, 2017.
- [15] A. Nurkhin and Fachrurrozie, "Pemanfaatan Media Sosial Untuk Pembelajaran Akuntansi Di Perguruan Tinggi; Studi Empiris Di Universitas Negeri Semarang," in *Seminar Nasional Pendidikan (SNP)*, 2018, pp. 1–10.
- [16] P. Thomas and A. Nurkhin, "The Development of Learning Sets and Research Methodology Module Using Problem Based Learning for Accounting Education Students," *J. Account. Bus. Educ.*, vol. 1, no. 1, pp. 77–97, 2016. <https://doi.org/10.26675/jabe.v1i1.6731>
- [17] C. Fearon, S. Starr, and H. McLaughlin, "Blended learning in higher education (HE): Conceptualising key strategic issues within a business school," *Dev. Learn. Organ.*, vol. 26, no. 2, pp. 19–22, 2012. <https://doi.org/10.1108/14777281211201196>
- [18] M. H. Tsai and Y. C. Tang, "Learning attitudes and problem-solving attitudes for blended problem-based learning," *Libr. Hi Tech*, vol. 35, no. 4, pp. 615–628, 2017. <https://doi.org/10.1108/lht-06-2017-0102>
- [19] A. B. Da Silva, A. C. K. de A. Bispo, D. G. Rodriguez, and F. I. F. Vasquez, "Problem-based learning: A proposal for structuring PBL and its implications for learning among students in an undergraduate management degree program," *Rev. Gestão*, vol. 25, no. 2, pp. 160–177, 2018. <https://doi.org/10.1108/rege-03-2018-030>
- [20] K. B. Carbonell, A. Dailey-Hebert, M. Gerken, and T. Grohnert, "Problem-based learning in hybrid, blended, or online courses: Instructional and change management implications for supporting learner engagement," vol. 6, no. PARTG. Emerald Group Publishing Limited, 2013. [https://doi.org/10.1108/s2044-9968\(2013\)000006g015](https://doi.org/10.1108/s2044-9968(2013)000006g015)
- [21] J. R. Bell, "Utilization of Problem-Based Learning in an Entrepreneurship Business Planning Course," *New Engl. J. Entrep.*, vol. 11, no. 1, pp. 53–61, 2008. <https://doi.org/10.1108/neje-11-01-2008-b004>
- [22] A. Grasas and H. Ramalhinho, "Teaching distribution planning: A problem-based learning approach," *Int. J. Logist. Manag.*, vol. 27, no. 2, pp. 377–394, 2016. <https://doi.org/10.1108/ijlm-05-2014-0075>
- [23] G. Tortorella and P. A. Cauchick-Miguel, "Teaching lean manufacturing at a postgraduate level: Integrating traditional teaching methods and problem-based learning approach," *Int. J. Lean Six Sigma*, vol. 9, no. 3, pp. 301–323, 2018. <https://doi.org/10.1108/ijlss-08-2017-0101>
- [24] T. Valtonen, P. Dillon, S. Hacklin, and P. Väisänen, "Net generation at social software: Challenging assumptions, clarifying relationships and raising implications for learning," *Int. J. Educ. Res.*, vol. 49, no. 6, pp. 210–219, 2010. <https://doi.org/10.1016/j.ijer.2011.03.001>
- [25] J. S. Y. Lim, S. Agostinho, B. Harper, and J. Chicharo, "The engagement of social media technologies by undergraduate informatics students for academic purpose in Malaysia," *J. Information, Commun. Ethics Soc.*, vol. 12, no. 3, pp. 177–194, 2014. <https://doi.org/10.1108/jices-03-2014-0016>
- [26] J. Bharucha, "Exploring education-related use of social media: business students perspectives in a changing India," *Educ. + Train.*, vol. 60, no. 2, pp. 198–212, 2018. <https://doi.org/10.1108/et-07-2017-0105>
- [27] L. S. Garcia and C. M. C. Silva, "Differences between perceived usefulness of social media and institutional channels by undergraduate students," *Interact. Technol. Smart Educ.*, vol. 14, no. 3, pp. 196–215, 2017. <https://doi.org/10.1108/itse-01-2017-0009>

- [28] M. Thomas and H. Thomas, “Using new social media and Web 2.0 technologies in business school teaching and learning,” *J. Manag. Dev.*, vol. 31, no. 4, pp. 358–367, 2012. <https://doi.org/10.1108/02621711211219013>
- [29] Kardoyo, A. Nurkhin, and S. Arief, “the Determinants of Student’s Intention To Use Mobile Learning,” *PEOPLE Int. J. Soc. Sci.*, vol. Special Is, pp. 102–117, 2015.
- [30] P. Lynch, M. T. Holden, A. Foley, D. Harrington, and J. Hussey, *Engaging entrepreneurs with a blended problem-based learning degree programme*, vol. 6, no. PARTG. Emerald Group Publishing Limited, 2013. [https://doi.org/10.1108/s2044-9968\(2013\)000006g010](https://doi.org/10.1108/s2044-9968(2013)000006g010)
- [31] V. Parson and S. Bignell, “Using Problem-Based Learning Within 3D Virtual Worlds,” *Transform. Virtual World Learn.*, vol. 30, no. 01, pp. 241–261, 2015. [https://doi.org/10.1108/s2044-9968\(2011\)0000004014](https://doi.org/10.1108/s2044-9968(2011)0000004014)
- [32] B. Kapralos, S. Fisher, J. Clarkson, and R. van Oostveen, “A course on serious game design and development using an online problem-based learning approach,” *Interact. Technol. Smart Educ.*, vol. 12, no. 2, pp. 116–136, 2015. <https://doi.org/10.1108/itse-10-2014-0033>
- [33] D. Hopkins, *Panduan Guru Penelitian Tindakan Kelas*. Yogyakarta: Pustaka Pelajar, 2011.
- [34] M. Muslich, *Melaksanakan PTK Itu Mudah (Class Action Research) Pedoman Praktis Bagi Guru Profesional*. Jakarta: Bumi Aksara, 2016.

8 Authors

Ahmad Nurkhin is a faculty member of the Faculty of Economics, Universitas Negeri Semarang, Semarang City, Central Java, Indonesia. He works as a lecturer and researcher in the Department of Economic Education. His research fields are accounting education, Islamic accounting, and learning strategies and media.

Kardoyo is a faculty member of the Faculty of Economics, Universitas Negeri Semarang, Semarang City, Central Java, Indonesia. He works as a lecturer and researcher in the Department of Economic Education. His research fields are economic education and management education.

Hengky Pramusinto is a faculty member of the Faculty of Economics, Universitas Negeri Semarang, Semarang City, Central Java, Indonesia. He works as a lecturer and researcher in the Department of Economic Education. His research fields are office administration education and management information system.

Rediana Setiyani is a faculty member of the Faculty of Economics, Universitas Negeri Semarang, Semarang City, Central Java, Indonesia. She works as a lecturer and researcher in the Department of Economic Education. Her research fields are accounting principles and statistics.

Ratieh Widhiastuti is a faculty member of the Faculty of Economics, Universitas Negeri Semarang, Semarang City, Central Java, Indonesia. She works as a lecturer and researcher in the Department of Economic Education. Her research fields are accounting principles and financial accounting.

Article submitted 2019-11-04. Resubmitted 2020-01-17. Final acceptance 2020-01-19. Final version published as submitted by the authors.