THE EFFECTIVENESS OF TRADITIONAL, WEB-BASED, AND BLENDED ACCOUNTING LEARNING METHODS

MINOR THESIS

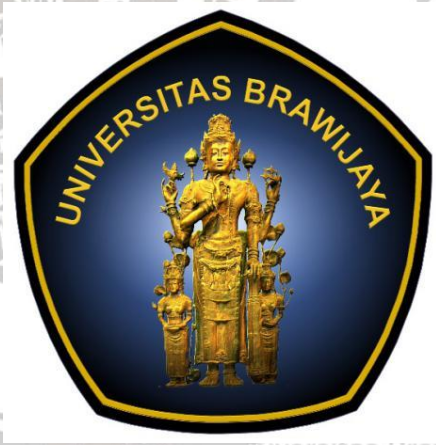
Proposed as One of the Requirements for Achieving

a Bachelor of Accounting Degree

By:

Aurelia Areetha Chiandra

175020307141001



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Minor Thesis entitled:

THE EFFECTIVENESS OF TRADITIONAL, WEB-BASED, AND BLENDED ACCOUNTING LEARNING METHODS

Written by:

Name	: Aurelia Areetha Chiandra
Student Number	175020307141001
Faculty	: Economics and Business
Department	: Accounting
Study Program	: Accounting

Has been examined by the Board of Examiners on July 01st, 2021 and certified and eligible to be accepted as a minor thesis.

1. Dr. Syaiful Iqbal, Ak., CA., CPMA
   NIP 197504052003121001
   (Supervisor) .....
2. Dr. Sari Atmini, SE., M.Si., Ak.
   NIP 197206111997022001
   (First Examiner) .....
3. Noval Adib , SE., M.Si., Ak., P.hD
   NIP 197210052000031001
   (Second Examiner) .....

Malang, July 01st, 2021

Acknowledge by
Head of Undergraduate Program
in Accounting,

Dr. Dra. Arum Prastiwi, M.Si.,Ak.
NIP. 196707142005012001

LEMBAR PENGESAHAN

Skripsi dengan judul:

EFEKTIVITAS METODE PEMBELAJARAN AKUNTANSI SECARA TRADISIONAL, WEB-BASED, DAN BLENDED

Yang disusun oleh:

Nama	: Aurelia Areetha Chiandra
NIM	: 175020307141001
Fakultas	: Ekonomi dan Bisnis
Jurusan	: Akuntansi
Program Studi	: Akuntansi

Telah dipertahankan didepan Dewan Penguji pada tanggal 01 July 2021 dan dinyatakan memenuhi syarat untuk diterima sebagai skripsi.

1. Dr. Syaiful Iqbal, Ak., CA., CPMA
   NIP 197504052003121001
   (Dosen Pembimbing) .....
2. Dr. Sari Atmini, SE., M.Si., Ak.
   NIP 197206111997022001
   (Dosen Penguji 1) .....
3. Noval Adib , SE., M.Si., Ak., P.hD
   NIP 197210052000031001
   (Dosen Penguji 2) .....

Malang, 01 Juli 2021

Diketahui oleh
Ketua Progam Studi S1 Akuntansi,

Dr. Dra. Arum Prastiwi, M.Si.,Ak.
NIP. 196707142005012001

STATEMENT OF ORIGINALITY

Name	: Aurelia Areetha Chiandra
Student ID	: 175020307141001
Faculty	: Economics and Business
Program	: Accounting
Minor Thesis Title	: The Effectiveness of Traditional, Web-based, and Blended Accounting Learning Methods

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Malang, June 09th, 2021

Aurelia Areetha C.
175020307141001

ORIGINAL LETTER OF RESEARCH

I, undersigned explained that:

Name : Aurelia Areetha Chiandra

Student ID : 175020307141001

Faculty : Economics and Business

Department : Accounting

Has conducted in Department of Accounting Faculty of Economics and Business, Brawijaya University in preparing the minor thesis with the title:

THE EFFECTIVENESS OF TRADITIONAL, WEB-BASED, AND BLENDED ACCOUNTING LEARNING METHODS

Thus, this letter of research is made to be used as appropriate.

Malang, June 09th, 2021

Dr. Syaiful Iqbal, Ak., CA., CPMA
NIP. 197504052003121001

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ABSTRACT

THE EFFECTIVENESS OF TRADITIONAL, WEB-BASED, AND BLENDED ACCOUNTING LEARNING METHODS

Oleh:
Aurelia Areetha Chiandra
175020307141001

Supervisor: Dr. Syaiful Iqbal, Ak., CA., CPMA

This study aims to determine the most effective accounting learning methods among face-to-face learning methods, web-based learning, and blended learning at universities throughout Indonesia, especially on the island of Java. The sample used in this study were 385 active students of accounting study programs throughout Indonesia who have learned accounting in both offline and online.

Data collection method in this study used a survey method. The technique used to test the hypothesis is analysis of variance. The results of this study indicate that online accounting learning method has not been able to replace traditional face-to-face learning on campus. However, online learning that can continue to be developed and applied is blended online learning.

Keywords: *Effectiveness of the Learning Process, Traditional Learning Method, Web-based Learning Method, Blended Learning Method, Online Learning, Accounting Education.*

ABSTRAK

EFEKTIVITAS METODE PEMBELAJARAN AKUNTANSI SECARA TRADISIONAL, WEB-BASED, DAN BLENDED

Oleh:
Aurelia Areetha Chiandra
175020307141001

Dosen Pembimbing: Dr. Syaiful Iqbal, Ak., CA., CPMA

Penelitian ini bertujuan untuk mengetahui metode pembelajaran akuntansi yang paling efektif diantara metode pembelajaran tatap muka secara luring, pembelajaran daring secara *web*-based, dan pembelajaran daring secara *blended* pada perguruan tinggi di seluruh Indonesia terkhusunya di pulau Jawa. Sampel yang digunakan dalam penelitian ini adalah 385 mahasiswa Aktif Strata Satu Jurusan Akuntansi di seluruh Indonesia yang telah menempul pembelajaran akuntansi baik secara daring maupun luring.

Pengumpulan data dalam penelitian ini menggunakan metode survei. Teknik yang digunakan untuk menguji hipotesis adalah analisis varians. Hasil penelitian ini menunjukkan bahwa pembelajaran akuntansi secara daring belum dapat menggantikkan pembelajaran traditional secara tatap muka di kampus. Namun, pembelajaran daring yang dapat terus dikembangkan dan diterapkan adalah pembelajaran daring secara *blended.*

Kata kunci: *Efektivitas Proses Pembelajaran, Metode Pembelajaran Tradisional, Metode Pembelajaran Web-based, Metode Pembelajaran Blended, Pembelajaran Daring, Pendidikan Akuntansi.*

CHAPTER I
INTRODUCTION

1.1. Research Background

The degree to which learning outcomes have been achieved, or the consistency theory that guarantees that online learning outcomes are at least equal to learning outcomes in other distribution modes, is referred as learning effectiveness. The efficacy of instructional approaches and the level of student participation differ depending on the delivery style. Student engagement is defined as the amount of time, and effort students devote to activities that are experimentally related to the desired outcome. (Koh, 2009, p. 683). Greater student involvement in learning has been associated with higher quality learning outcomes in higher education studies (Krause and Coates, 2008).

In Indonesia, one of higher education's key performance indicators is the creation of collaborative and participatory classrooms to improve the education quality. Quality here mentions as being outstanding, reaching excellence, and efficiency. There are five possible definitions of quality in higher education, are: (1) Quality, as under renovation, refers to a change in status to a much better status; (2) The quality, as in monetary terms, whether the student, parent, or government financing education is satisfied with the level of education offered; (3) Quality, according to stakeholder needs; (4) Quality, namely perfection, that all parties with interest in the performance of an academic institution are satisfactory; and (5) Quality, such as excellence and efficiency (Hamad &Hamadi, 2011).

However, the efficacy of teaching experience and the extent of student participation differ depending on the delivery method. When planning learning activities that will assist students in developing the skills, knowledge, and understanding needed to achieve the desired learning outcomes (ILOS), which are assessed by an assessment on any topic, the medium of delivery is a critical consideration. In Indonesia, there are three kinds of teaching that are carried out at this time. Among them are traditional learning or conventional learning, mixed method learning or blended learning, and online learning or e-learning.

In Kamus Besar Bahasa Indonesia (1995: 523), it is stated that "conventional means traditional." So, the lecture technique, or also known as conventional learning technique, is a classical learning approach traditionally used as a medium of oral communication between lecturers and students in the teaching and learning process (Djamarah, 2010). In the traditional learning model, the teacher plays a major role in determining the content and sequence of steps in delivering material. It results in the conventional learning method being passive. Students participate in learning activities by listening to lectures from the teacher, taking notes, and doing assignments administered by the teacher. Learning with a conventional approach places the teacher as a single source (Subaryana, 2005, p. 9).

Along with the times, technology has an important role in all aspects of human life. One of them is the field of education. The practice of using technology in education is also called technology-enhancement learning or e-learning, which is called digital education. Educators can obtain critical and timely feedback from students about the effectiveness of the teaching and learning

techniques used to deliver the curriculum when they use technology in the classroom (Race, 2005; Mihret et al., 2017). However, a significant criticism of this type of learning is the absence of a relationship between students and teachers (Laurillad, 2003). The lack of an effective learning process resulting from the rapid switch to e-learning may have unintended implications that could jeopardize students' future career opportunities (Aguguom et al., 2020).

In Indonesia, from 2012 to 2014, the Directorate of Learning and Student Affairs, Directorate General of Higher Education established the Indonesia Open and Integrated Online Learning (PDITT) initiative, which is based on Law Number 12 article 31 of 2012 concerning Higher Education, which was launched on October 15, 2014, by vice President of Indonesia at that time, Boediono, which changed its name to Online Learning System (SPADA) on September 18, 2016.

However, many universities thought it was not necessary at that time. Therefore, until now, almost all tertiary institutions, especially in Indonesia, are not ready to undertake an online learning system which has not all universities joining to become part of SPADA. In other words, only a few universities have begun to adapt to change the face-to-face learning system directly into an online learning system.

In 2020, all sectors of life changed due to the coronavirus disease 2019 (COVID-19). COVID-19 pandemic has had a significant impact on higher education systems worldwide, with marked changes in online instruction as a way to limit the spread of the virus. Therefore, since April 2020, especially in Indonesia, the implementation of work from home and learning from home is stated in the Circular of the Ministry of Education and Culture (Kemendikbud)

Number 4 of 2020, which regulates the implementation of educational initiatives in times of emergency. The spread of the COVID-19 has been strengthened by the Circular of the Secretary General Number 15 of 2020, which outlines the guidelines for studying from home during the school year. This sudden change to online learning sparked concern in elementary school, middle to senior high school, until higher education especially among many teachers and students because of the changes from traditional to online learning method and a large segment of the population which does not have access to internet connection and limited electronic devices.

Learning from home implemented with distance learning, Pembelajaran Jarak Jauh (PJJ), is divided into two methods, namely: online distance learning (daring) and offline distance learning (luring). Therefore, the learning process, which is usually carried out face-to-face cannot be done. Face-to-face learning or traditional learning or conventional learning is a learning method when lecturer and students are in the same time and in the same place. Based on these circumstances, learning from home has different learning strategies. This requires the lecturers and teachers to think creatively and adapt quickly to changing teaching and learning strategies. In Indonesia, learning from home mostly uses the combination of traditional learning and online learning, namely blended learning. But there are three types of online learning that used in Indonesia, there are online distance learning, offline distance learning method, and combination.

Online distance learning is learning that used video conference platform as a place for students and lecturer interact each other. In the video conference lecturer explained the material and discuss about example of question.

Meanwhile, student can access the material which presented by lecturer like the learning happened in university. On the other hand, Blended learning combines traditional and interactive classroom teaching with educational technology (Bielawski & Metclaf, 2003). Blended learning is computer-based learning (online and offline) with various communication options used by the the lecturers and scholars.

Blended learning uses several delivery media to facilitate learning and the application of learned behaviors. Virtual/real-time collaborative software, independent web-based courses, integrated electronic performance support systems (EPSS) in work environments, and knowledge management systems are examples of learning technologies used in mixed learning programs. According to Setyawati (2015), self-directed learning is defined as the ability to take responsibility for one's learning, either with or without the help of others, and includes features such as awareness, learning techniques, learning activities, assessment, and interpersonal skills.

A fundamental benefit of mixed learning, according to Davies and Graff (2005, p. 657), is that it "promotes student-centered learning [and] encourages greater student engagement." Abraham (2007) finds a final benefit, reporting that engineering students in mixed learning accounting courses participated more in non-compulsory learning assignments than students in traditional accounting courses. Dickfos et al. (2014) demonstrate the extent to which blended learning facilitates evaluation flexibility for both students and instructors. Students and instructors can discuss how video technology was used in a corporate law class for accounting students. Blended learning also allows students to experiment with

technology, develop their technical skills, use interactive classes with hands-on feedback, and simulate multimedia scenarios with real-time visualizations through online collaboration (Akhras, 2012).

In the education system, existing and developing e-learning technologies undergo intensive, direct, and disruptive changes (Archer, Garrison & Anderson, 1999); which has a significant impact on practitioners. The online learning system is a distance learning technique via internet telecommunications, which requires information system tools that by both teachers and students must own. The information system equipments include laptops/computers/smartphone as well as a good internet connection.

In Indonesia, the problem arising from distance learning is the various assignments considered heavy and take a lot of internet data. In facing the problems that arise, the Ministry of Culture and Education continue to think about what steps should be prepared to create an effective online learning system while still maintaining the superior quality of graduates. One of the quick steps that the Ministry of Education has taken in supporting online learning in Indonesia is the creation of cooperation between governments and communication services such as the brand of communication services in providing internet data subsidies for teachers, lecturers, students, and scholars.

Almost all tertiary institutions are indicated to experience an impact in the teaching and learning process in research conducted by the International Association of Universities (IAU). The IAU sent a global survey to 9,670 universities, and the results show that the epidemic has touched all of them. Nowadays, accounting education still become a popular subject of study for

young students around the world. These global changes are an important step in the development of professional and competent accountants. Since disruptive innovation is an important issue for accountant profession in the future. As a result, if higher education is badly affected, especially in accounting education, the accounting profession will be adversely affected. Therefore, undergraduate accounting student in Indonesia have to adapt quickly to deal with technology environment.

This challenge allows students to optimize the use of technology to become competent in the 21st century. In the 21st century, an important skill to have is self-directed learning or independent learning as an outcome of education. In other words, this pandemic changed the learning habits of students from face–to-face interaction to combination self-directed learning (SDL) and face–to–face. Although most accounting courses use technology to engage students, conventional methods of student interaction appear to be more comfortable (Stone et al., 2014). Those methods are called blended learning or mixed method. Not only problems arise, opportunities are also given during this pandemic period for students to compete globally where the Indonesia Ministry of Education and Culture created the policy of Kampus Merdeka, Merdeka Belajar (MB-KM), which in literal English translation says Independent Campus – Freedom to Learn. Through this policy, students are given the opportunity to gain broader learning experience and new competencies outside of their study program. In other words, every student is given the same opportunity to gain a broader learning experience and new competencies outside of their study program and explore deeper career-supporting competencies that will be needed in the future.

(Gagne and Shepherd, 2001; Arbaugh and Stelzer, 2003) conducted a comparison between the student's performance in e-learning and traditional learning, the results indicated no significant difference between the student's performance in both types of learning. However, the lack of human interaction between learners and instructor was the main criticism for this type of learning (Laurillard, 2003). The lack of an effective learning process because of the sudden transition to e-learning might lead to unexpected consequence that might affect the student's future professional prospects (Aguguom et al. 2020).

Based on existing research and conditions, there are pros and cons between the three learning methods, which can be observed which teaching techniques are the most effective that can be used in the future following technological developments. It is hoped that education in Indonesia is ready to follow the changes in the digitalization era and still produce quality graduates, especially in the field of accounting. Since in the other country student already prepare to face and adapt in technology environment and face the disruptive innovation that can give impact to accounting profession in the future.

Based on the explanation above and the problems that arise in the online learning system in Indonesia, the author is interested in conducting a study entitled "The Effectiveness of Traditional, Web-based, and Blended Accounting Learning Method."

1.2. Research Questions

Based in the background above, there are several things that concern the author to be researched. Therefore, the problem formulations made by the authors namely:

1. Is traditional learning method more effective than web-based learning method?
2. Is traditional learning method more effective than blended-learning method?
3. Is web-based learning method more effective than blended-learning method?

1.3. Research Objective

This study aims to compare the learning effectiveness of the three learning methods especially in the field of accounting. So, teachers and lectures in Indonesia can find out which learning methods are most effective and relevant in pandemic COVID-19 situations and deal with the changing times where everything will become completely digital. Three learning methods in this research are Traditional Learning Method, Mixed Learning Method, and Online Learning Method.

1.4. Research Contribution

The benefits that are expected to be obtained through this research are as follows:

1.4.1. Theoretical Contribution

This study can add and expand knowledge in the field of educational accounting, especially in learning methods and can contribute to the academic world and the general public. It can also be used as additional knowledge and references for researchers who study learning methods that continue to adapt to the times.

1.4.2. Practical Contribution

1. For academics, this research can be used as a source of information for further research.
2. For lecturers, this research can be used as information regarding student opinion which learning system is the most effective and relevant following the times

1.5. Research Outline

The systematics of writing in this thesis are organized as follows:

CHAPTER I: INTRODUCTION

This chapter describes the phenomena behind the selection of research topics, the objectives, and the benefits of the research conducted by the author. In this section, the author also describes the problem formulations and goals of the phenomena that the author adopts.

CHAPTER II: THEORETICAL FRAMEWORK

This section describes the theories obtained through literature studies, both previous research, national and international

journals, and books. In addition, this chapter also describes research variables and theoretical frameworks and the development of research hypotheses.

CHAPTER III: RESEARCH METHOD

This chapter contains the population and samples in research, research data consisting of types, sources, and data collection techniques, as well as definitions of data analysis methods used.

CHAPTER IV: FINDINGS AND DISCUSSION

This chapter presents the results of the tests carried out and explains the analysis of the results of the data testing.

CHAPTER V: CONCLUSION AND RECOMMENDATION

This chapter is the closing chapter of this thesis. This chapter contains conclusions from the results of the research conducted, the limitations faced by the authors, and suggestions that can be applied in future research.

CHAPTER II
LITERATURE REVIEW

2.1. Literature Review

2.1.1. Behaviourism Theory

The behavioristic theory is a theory that studies human behavior. The behavioral perspective focuses on the role of learning in explaining human behavior and occurs through stimuli based (stimuli), which give rise to reactive behavioral relationships (responses) to mechanistic laws (Atkins, 1993). In relation to behaviorist classes, four facets of implementing online coursework are highlighted:

1. Learning resources can be broken down into small instructional measures and given in a sequential way, using positive examples to reinforce information and negative examples to explain conceptual limits, starting with a regulation, group, theory, formula, or meaning.
2. The course designer shall allocate a series of directives to additional instructional units using conditional or absolute repercussions, and evaluate the course selection. Activities are usually arranged in an order of increasing difficulty or complexity. The order in which content is presented and the speed at which it is presented are often beyond the control of learners.
3. To increase learning quality, learners can be directed to miss or repeat those parts depending on their success on diagnostic tests or tests in a sequence of learning activities. However, an instructional designer can allow a student to

choose the next activity from a list of options, giving the student more control over the learning process.

4. The behavioristic approach to learning argues that before students are expected to duplicate the desired behavior, it is necessary to demonstrate the operations, techniques, or skills required and break them down into their components with sufficient explanation. Learners are expected to develop their abilities by repeated practice with guidance, routine review or correction, or tests placed at suitable times. The use of remedial loops back through content where necessary is emphasized in instructional design. In addition, reinforcement messages should be used to keep people motivated.

2.1.2. Cognitivism Theory

Learning, according to cognitivist, is memory, thinking, thought, abstraction, inspiration, and meta-cognition are also part of the internal mechanism (Ally, 2004). From an information retrieval perspective, cognitive science encompasses a learning mechanism in which information is absorbed in sensory storage via various senses and then transmitted to short and long-term memory via various cognitive processes. When creating online courses, instructional designers should consider the following factors:

1. Stimulating all senses, concentrating the student's concentration by highlighting relevant and vital knowledge, rationalizing each lesson, and balancing the student's cognitive level can all be used to aid the learning process.

2. Using sophisticated organizers to activate outgoing cognitive structures or to incorporate lesson content, instructional designers must relate new material to existing knowledge from long-term memory. Pre-instructional questions are used to produce perceptions and unlock the learner's current knowledge structure, while prerequisite evaluation questions are used to activate the correct prerequisite information frameworks for new content. This creates a conceptual environment that allows students to remember previous mental constructs.
3. To promote deeper processing of higher levels knowledge and learning, strategies that require learners to interpret, analyze, synthesize, and assess must be used.
4. Activities for various learning and cognitive types should be included in online learning resources. In addition, appropriate and appropriate assistance for students of different types of learners must be provided
5. Students must be motivated to learn to use learning techniques that address both intrinsic (from within the learner) and extrinsic (from outside the learner) (instructor or performance-driven) motivation. As a result, instructors may use techniques such ARCS stands for focus, relevance, self-confidence, and happiness, according to Keller's model. (Keller & Suzuki 1988).
6. As part of an instructional strategy, learners should be forced to use their meta-cognitive skills by focusing on what they have learned, communicating with other pupils, or measuring their success.
7. Teaching techniques should relate learning content to real-life circumstances so that students can relate to their own experiences and, as a result, be better

able to remember information. Furthermore, transferring material to real-life events can help in the creation of personal meaning and contextualization.

Cognitive psychology is concerned with the reception and retrieval of learners' knowledge to move it to long-term memory for storage. In addition, instructional designers must consider a variety of factors, from breaking down learning information into smaller pieces and accommodating various learning styles to higher-level ideas such as motivation, cooperation, and meta-cognition.

2.1.3. Constructivism Theory

Learners develop personal knowledge from the learning experience itself, according to school constructivist learning (McLeod, 2003). As a result, learning can be viewed as a dynamic process in which information cannot be obtained from outside or from other people. Learning is an adaptive activity that takes place in certain situations (Boethel & Dimock, 1999). Students build knowledge while also facing resistance to change. The learning process is influenced by experiences and social interactions. The following claims must be made to have implications for writing instruction for online learning:

1. Learning should be an active process, involving high-level activities such as challenging students to apply what they have learned in real life situations, allowing for personal interpretation of learning materials, holding group discussions, and so on.
2. Instructors must provide strong interactive online instruction to encourage students to develop their own knowledge, because students must take the initiative to learn and engage with other students and teachers, and the

learning agenda is student controlled (Murphy & Cifuentes, 2001). Students must experience the learning content first-hand, as opposed to traditional lectures, as teachers contextualize and adapt knowledge to suit their own needs.

3. Learners must be responsible for their own learning. In addition, there could be some sort of supervised experimentation in which students can select their own learning goals while also getting instructor assistance.
4. To encourage higher-order learning, social presence, and personal sense growth, instructors should prioritize immersive learning experiences. Because learning relies on the acquisition of new abilities, information, and attitudes, e-learning faces challenges to achieve higher-level psychomotor, affective, and learning goals in the virtual learning stage. (Therefore, Mödritscher & Sindler, 2005) mention that other approaches to actualizing the didactic component can include collaborative or immersive games, context-based learning, open-ended topic assessment, and so on.

2.1.4. Learning Effectiveness

Effectiveness is described as the ability of students to achieve certain goals that produce the best possible learning outcomes (Nana Sudjana, 1990, p. 50). The amount of engagement between students and lecturers in managing the curriculum, infrastructure, and learning techniques that have an impact on student learning outcomes is called learning effectiveness.

The effectiveness of learning is a measure of success, according to Djamarah (2004, p. 46), which shows that the more successful a learning is in

achieving predetermined goals, the higher the degree of effectiveness. Meanwhile, Handoko (1997, p. 7) defines efficacy as the ability to choose an appropriate goal or equipment to achieve a predetermined goal.

A learning system is said to be successful if it can help students gain knowledge and skills by producing information and activities that will help them achieve predetermined learning goals. The 'five-factor model' states that only a few factors can influence efficacy (Edmond, 1979). These are the five correlations of educational attainment:

1. Strong educational leadership
2. High expectations of student achievement
3. Emphasis on basic skills
4. A safe and orderly climate
5. Period evaluation of student progress

The competence of instructors to design, manage and assess a learning process is also needed for the success of learning in higher education, because learning requires careful planning, making comfortable learning tools, selecting tactics, media, models, and superior learning assessments. Quality students can be produced if they are long-term and sustainable. Therefore, to develop effective learning activities, diverse and innovative learning models are needed in learning activities.

Learning activities will be more successful and beneficial for students if the approach used is in accordance with the subjects being taught. Teachers who learn and implement various strategies to gain the competencies expected from

this activity are considered effective. According to Suardana (2006), the following indicators can be used to assess the success of learning:

1. Improve your problem-solving skills. Most learners approach problem solving efficiently, starting with problem visualization, description of ideas, problem solving strategies, and re-evaluation.
2. Increase student involvement in the classroom. Teamwork, student-to-student and student-to-lecturer contacts, and students who ask questions and respond to class discussions have all shown considerable advantages over the past.
3. Improve student learning outcomes. Student learning outcomes are considered to be very good or better than before.
4. Reactions to the learning process are positive. This learning practice benefits everyone in the group. The majority of students want this learning paradigm to be maintained and improved.

There are two kinds of evaluation procedures to determine whether a student is studying or not; summative and formative evaluations. Summative evaluation looks at students to see the extent to which they have progressed toward their learning goals. On the other hand, formative assessment is a process of constant review by instructors to determine what students need.

2.1.5. Definition of Learning Activity

Learning activities are described as any action taken by individuals to increase their knowledge, skills, or competence. Learning activities are activities where students learn something. Where there is interaction between lecturers and academics, activities play an important role in the learning process. Learning is

defined as having experience and finding value from that experience while being directed and linked to a goal.

Miarso (2005, p. 550) identifies four references in the concept of learning: (1) changes and new abilities; (2) changes or new abilities that are permanent and may be overwritten; (3) changes or new abilities or new skills that arise as a result of the business; and (4) changes or new abilities that are not only caused by growth factors.

Learning is seeing, reading, imitating, trying something yourself, listening, following directions, according to Harold Spears (cited in Agus Suprijono, 2010: 2) which is in line with Mc. Goeh (in Skinner, 1958: 109) who believes that learning is a change in performance as a result of training. In other words, learning activities are activities that can change a person after reading, imitating, watching, and learning something that has been around for a long time. Changes in learning activities include changes in knowledge (cognitive), skills (psychomotor), and values and attitudes (affective), all of which are the result of interactions between teachers and students. The following are four pillars of educations:

1. Learning to Know

   This learning process aims to adapt certain meaningful activities to a particular cultural environment. Educators usually supervise this learning process carefully. This learning process as a foundation for lifelong learning. This form of learning includes processes such as motor, instrumental basic learning skills, and perceptual learning.

2. Learning to Do

This learning procedure aims to disseminate and improve learning content (subject matter). Learn are explained, discussed, modified, and shared through collective codes in this type of learning (such as inscriptions). The areas of conceptual learning and subject matter are excellent examples of this kind of learning.

3. Learning to Live Together

This type of learning emphasizes the social performance genre; students are assisted in adapting community norms and tools to engage autonomously, critically, and creatively in community practice.

4. Learning to be

This form of learning focuses on the reasons, goals, and moral and aesthetic ideals of students to show learners' identity. This learning concept refers to the maximum development of human potential to actualize itself with freedom and wisdom to make choices and with a strong sense of responsibility. The actions to be done here begin with the learner's senses and continue to be assessed using personal values and standards.

2.1.6. Traditional Learning

Traditionally, face-to-face lectures, tutorials, and / or class discussions, often held on campus, have been the main means of learning and teaching (Boettcher, 2000; Jones and Chen, 2008). In traditional teaching, lecturers play an active role in helping students achieve their learning goals.

In a typical classroom, education relies largely on teaching methods, which emphasize topics more often than learners and variations in aptitude and learning skills. Traditional education includes lectures, capstone, team projects, laboratories, and studios, among others. In a physical learning environment, teaching is carried out simultaneously, meaning that all students are in the same room at the same time. Information is sometimes given to students and then sent back to the instructor via written evaluations initiated in a typical lecture style classroom.

Face-to-face interaction between students and educators, as well as with other students, is a significant benefit of conventional learning. Learning increases in atmosphere where it is more like a team effort than a solitary race. Learning should be collaborative and pleasant rather than competitive and isolated. Collaborating with others increases learning engagement. Sharing your thoughts and responding to other people's reactions helps improve thinking and understanding (Chickering & Gamson, 1987). In small classrooms, teachers have the opportunity to get to know and inspire each student individually. Many doubters reject the prospect of online learning as being as successful as conventional knowledge transmission methods because of their belief in the "human contact" educational element (Benson, 2001).

2.1.7. Online Learning

Online learning is transforming an academic institution into a home institution where students can build a universe that includes anything they can imagine through a virtual environment of interaction, simulation, and cooperation

(Thamarana, 2016). Online learning is described as the use of information and communication technologies to enable access to online learning opportunities. According to H Li., J. Masters (2009), "e" in e-learning should mean "developing, improving, anywhere, all the time, and everyone," not "electronic". Rodrigues et al. (2019, p.95) describe e-learning as a cutting-edge web-based framework based on digital media and other forms of educational tools that aims to provide students with a personalized, learner-centered, accessible, engaging, and immersive learning experience that facilitates and improves the learning process.

Online learning has the following characteristics: (a) student-centered; (b) spread out functionally, professionally, and organizationally; (c) crowd-driven support and emergence; (d) synchronized, timely, and original; (e) the spouse will play a lesser role; and (f) learning will be distinguished from accreditation.

By using evidence from developing educational practices, technology suppliers, and academic literature, Njenga and Fourie identify ten myths of e-learning in higher education: (1) e-learning is a valuable platform that can be used by all educational institutions; (2) e-learning will eliminate human contact; (3) e-learning saves money on tuition; (4) increased academic availability and access to large amounts of knowledge are good for learning; (5) in higher education, new media must be the primary learning medium or source; (6) there are two types of activities: study and recreation (which includes games and entertainment); (7) e-learning will increase the competitiveness of university institutions; (8) the most challenging task in e-learning is building infrastructure (hardware and software); (9) e-learning would usher in the demise of the conventional campus; and (10) e-learning has the potential to reduce student absenteeism and dropout rates.

From traditional to online education, there are four broad types of definitions (Sloan Consortium, 2007) such as:

Proportion of Content Delivered	Online Type of Course	Typical Description
0%	Traditional	Content is provided in writing or verbally in class that do not use internet technologies.
1-29%	Web Facilitated	This course, which is a face-to-face course uses web-based technology to assist it. For example, the syllabus and assignments are posted using a course management system (CMS) or a web page.
30-79%	Blended/Hybrid	This course combines online and in-person delivery. A significant percentage of the curriculum is provided online, and there are usually online conversations and some face-to-face sessions.
>79%	Online	Courses where most of the material is offered online. There are usually no face-to-face

		meetings.

Table 2.1. Four General Categories from traditional to online learning

1. Web-Based Learning

Courses that require minimal technology are known as web-based learning. Content is delivered in writing or verbally or through web-based technologies to facilitate a face-to-face course. The syllabus, assignment, materials of the courses are posted in the course management system or learning management system. Designing and delivering online training requires careful consideration and exploration of how to best utilize the capabilities of the web in conjunction with instructional design concepts (Ritchie & Hoffman, 1997). Various facets of a web-based learning system face pedagogical, technical, user architecture, evaluation, logistical, resource support, legal, and structural challenges (Khan, 2001).

Web-based learning is a ground-breaking method of providing hypermedia-based educational services to a remote audience by using the Web's attributes and tools to create well-designed, learner-centered, immersive, engaging, and facilitated learning experience. One of the most important instructional activities in web-based learning is interactivity. Students should be meaningfully involved in learning activities through contact with other people and valuable assignments, according to engagement theory based on online learning (Kearsley & Shneiderman, 1999). In web-based education, students can communicate with each other, with lecturers, and with internet resources.

In web-based courses, the hypermedia environment allows students to explore and find material that best suits their needs. Students can choose to actively participate in the debate or observe quietly in the background, thanks to the filtered environment. Students have more flexibility over a wider range of information, time, feedback, and media choices to express their understanding of web-based learning (Relan &Gillani, 1997).

2. Blended / Hybrid Learning

According to Ward and LaBranche (2003, p.22), “blended learning” or “mixed mode“ most teaching over the internet, with several face-to-face class sessions peppered throughout the semester. Blended learning is a novel learning approach used in online learning systems to improve learning in traditional classrooms. According to Discol (2002), blended learning is when a student uses a combination of web-based tools to achieve educational goals. One expert described blended learning as a combination of e-learning and multimedia technology, such as video streaming, virtual courses, and online text animation, coupled with traditional types of classroom teaching, as defined by Throme (2013).

According to Heinze A and Procter C (2010), blended learning is a set of different learning methodologies and implementation processes that help users get the most out of their learning. Meanwhile, according to Harding, Kacynski, and Wood (2005), blended learning blends conventional face-to-face learning with online (primarily web-based) learning opportunities and a variety of communication platforms that can be used by both teachers and students. Blended learning has several learning concepts, including:

1. Learning that incorporates a variety of web-based technologies to meet educational objectives.
2. Learning that combines various learning approaches to create optimal learning with or without learning technology. The approaches that occur are behaovrism, constructivism, and cognitivism.
3. Learning that uses various learning technologies, such as web-based training, films, video conferences, online classrooms.
4. Learning that combines learning technology with actual exposure and assignment to create a good and optimal impact.

In general, Moore (in Albion, 2008) classifies four types of interactions that occur in online learning, including (1) student interaction with content refers to users associated with instructional information, (2) student interaction with technical interfaces: the use of technology in learning or student interaction with technology interfaces can be referred to as another type of interaction, (3) interaction with instructors is a technique or instructor's way of teaching, guiding, and supporting students (4) the interaction of students with students: this is a way for students to communicate with fellow students in the learning process.

In the blended learning approach, which relates to ICT-based learning, there are mainly three stages (Ramsay, 2001):

1. Seeking of information

Includes searching for information from various sources of information available online and offline based on relevance, validity, content

reliability and academic clarity. Education or facilitators play a role in providing input for students to seek effective and efficient information.

2. Acquisition of information

   Students individually and in cooperative groups - collaboratively try to find, understand, and confront them with ideas that already exist in the minds of students, then interpret information / knowledge from various available sources, until they are able to communicate again and interpret the ideas and interpretation results using the facilities.

3. Synthesizing of knowledge

   Assimilation and accommodation in the development and reconstruction of knowledge, starting from the results of analysis, discussion, and formulation of conclusions from the information collected.

Carman (2005), using Keller, Gagne, Bloom, Merrill, Clark, and Gray's learning theory, explains five fundamental keys in the integrated learning process:

1. Live Broadcast, direct or face-to-face learning that occurs simultaneously at the same time and place or in various locations.
2. Self-Paced Learning, which combines independent learning with online learning to enable students to study whenever and wherever they want.
3. Cooperation, which includes educator-student cooperation and student-student cooperation.
4. Assessment: Investigators should be able to create a mix of online and offline assessment formats, including test and non-test scenarios (class project)

5. Ensure that learning materials are available in digital format and can be accessed by students both offline and online.

2.1.8. Accounting Education

Accounting education is a popular subject of study for young students around the world as it is an important step in the development of professional and competent accountants. The Accounting Education Commission (AEC) emphasizes the need to rehabilitate accounting education so that it is more relevant to practice so that higher quality accountants can be produced (AEC, 1990). The principle of learning that is carried out in accounting learning is that students explain the theory, followed by a discussion of sample questions by the lecturer. Furthermore, students are given the task to do the practice questions either on campus or homework and will be discussed in the tutorial class.

Cutting-edge technology in accounting education has become one of the most critical concerns for professional advancement (Elliot, 1992; Walsh, 1998). Due to rapid evolution in the accounting context, Albrecht (2000) argues that better teaching techniques are needed to offer accounting concepts. Educators can obtain critical and timely feedback from students about the effectiveness of teaching and learning strategies used in presenting information when they use technology in education (Race, 2005; Mihret et al., 2017). Although digitizing accounting education may provide more freedom, educators may be concerned about student learning.

Digital disruption and rapidly developing technology present enormous potential and threat to the accounting profession, which will turn into a

completely different profession. Lastly, digital disruption will affect the types of demand and expectations of accountants. Accounting will be cloud-based in the next few years, harness the potential of big data, integrate non-traditional financial data, and become more efficient and mobile. As a result, accountant jobs change rapidly and will continue to change. According to ACCA (Association of Chartered Certified Accountants), all digital data will be accessible to everyone by 2025.

2.2. Hypothesis Development

2.2.1 Theoretical Framework

This study is based on the theory of behaviorism, cognitivism, and constructivism. According to behaviorism theory, online courses should be designed in a logically organized manner so that students can quickly grasp important concepts, skills, and factual information. In addition, students have a greater influence on the learning process when they learn online.

As a result, learning is seen as an internal mechanism that includes memory, thinking, meditation, abstraction, inspiration, and meta-cognition, according to cognitivism (Ally, 2004). When developing online courses, teaching techniques should focus on highlighting important facts, justifying each teaching, and balancing the learner's cognitive level all help to concentrate the learner's attention. According to cognitive theory, students must be motivated to learn using learning techniques that address both extrinsic motivation (from beyond the learner, instructor or lecture) and inherent motivation (from inside the learner).

The constructivism hypothesis based on this study states that online learning should be an active process in which learners are asked to apply information in real scenarios, promote personal interpretation of learning material, discuss subjects in groups, and so on. Case of theory material should be used to make learning more meaningful and enlightening for students.

Based on the theoretical basis and the results of several previous similar studies, it can be concluded that online learning methods and the ease of using technology have a relationship with the effectiveness of learning. Based on the three theories, learning is said to be effective if a positive response occurs in a class with good interactions between students or between students and lecturers, students asking questions and answering discussions in class, and good group cooperation. In addition, learning is said to be effective if students feel satisfied and feel they can increase their knowledge and competencies and expect that the learning model can be continued and developed.

Changes in technology that continue to develop every year make the world of education also change and keep up with the times, especially with the COVID-19 pandemic which has become a stepping stone for the world of education to enter the digital era. Therefore, there are three kinds of teaching techniques in Indonesia, including traditional learning or face-to-face or conventional learning, web-based learning, and blended learning or hybrid learning in accounting subject. The three lessons have their way. Therefore, it is important to know the students' response to which learning techniques they are interested in and effective. So that education in Indonesia can determine steps in designing

education that is still relevant for students but still prepares Indonesian students to face the all-digital world.

2.2.2 Past Studies and Hypothesis Development

A. Traditional Learning Method and Web-Based Learning

The traditional learning method is face-to-face learning that occurs directly between students and lecturers at the same place and at the same time. The traditional learning process is centered on the lecturer, where the lecturer plays an active role and designs a lesson. A study by Robinson and Hulliger (2008), despite the spectacular expansion of online learning, reveals that many academics prefer to use conventional approaches to student interaction in face-to-face settings and find online engagement daunting. There are the lack human interaction between learners and instructors as the main criticism for this the web-based learning method (Laurillard, 2003)

Al-Hadrami and Morris (2014) investigated the key elements influencing students' success in web-based accounting courses at a Jordanian institution. The researchers employed a combination of study methodologies (interviews and questionnaires) and the results showed that the environmental factors that include instructor's interactivity, the efficient use of technology and the learning environment have significant and major impact on student's performance measured by the student;s final grade.

Arbaugh and Stelzer (2003) found that there is no substantial difference in student performance when using traditional learning or online learning. Other studies conducted a comparison between the student's performance in e-

learning and traditional learning, the results indicated no significant difference between the student's performance in both type of learning (Gagne and Shepherd, 2001; Arbaugh and Stelzer 2003)

The author formulates the following hypothesis H_1 based on the previous description:

H_1: Traditional learning method is more effective than web-based learning method

B. Traditional Learning and Blended Learning

Blended learning is a teaching and learning method that combines conventional or face-to-face learning with online learning, utilizing electronic media and the internet as a direct communication channel between lecturers and students. The class calendar will be flexible in a mixed learning approach, allowing students to combine academic and non-academic activities. Mixed learning has the potential to reduce education expenditure while improving learning outcomes. As a result, mixed learning does not replace traditional teaching-learning methods but complements them.

A comprehensive study by Jones and Chen (2008) elaborates students' opinions about conventional learning and the mixed part of accounting MBA courses. It argues that while mixed learning students had preferred group work experiences and preferred evaluations of instructor comments and responses to out-of-class questions, mixed learning was lacking in terms of greater engagement, either with professors or with other students. Students in the blended learning method were more likely to feel the teacher was continuously

informing their progress than students in the conventional section. Still, they were less likely to find the instructor engagingly conveying the subject.

However, Keller et al. (2009) In the introductory managerial accounting course found that there is no significant difference in academic achievement. Jones and Chen (2008) found that 90% of students prefer conventional classroom delivery. Other research has revealed that students value the capacity to ask questions and receive instant responses, and that students value face-to-face interactions (Edington and Holbrook, 2010; Larkin 2010).

The author formulates the following hypothesis H_2 based on the previous description:

H_2: Traditional learning method is more effective than blended learning method

C. Web Based Learning and Blended Learning

Meanwhile, blended learning is a modification of online learning and traditional learning where students and teachers sometimes haveface-to-face contact through video conferencing such as Zoom, Google Meet, and other apps. The communication used in blended learning is synchronous and asynchronous. Blended learning seeks to align the strengths of face-to-face teaching and e-learning in order to reap the advantages of these pure instructional approaches (Singer & Stoicescu, 2011, p. 1528).

Students and faculty member benefit from the flexibility of hybrid, mixed, or online PBL classrooms, allowing them to balance the differing demands of work and home (Hiltz & Turoff, 2005), same as the gained access

to education (Owston, Wideman, Murphy, & Lupshenyuk, 2008). Instructors can track their students' progress in a number of methods, giving them several opportunities to provide comments (Cornelius & Gordon, 2009). Finally, blended courses provide effective competition for non-traditional student community who are not in the same place as companies (Hiltz & Turoff, 2005) in a cost-effective manner (Mansour & Mupinga, 2007; Owston et al., 2008), in terms of providing adaptable, flexible, and active learning environments.

However, there are many drawbacks of the hybrid, mixed or online courses that are highlighted. To begin with, many study options may provide a lack of direction for learners, who must demonstrate independent study skills to benefit from such arrangements (Mansour & Mupinga, 2007). Furthermore, aspects that must be performed independently and outside of contact hours might slow down the learning process since they are difficult for the teacher to regulate (Wang & Newlin, 2001).

The author formulates the following hypothesis H_3 based on the previous description:

H_3: Blended learning method is more effective than web-based learning method.

CHAPTER III
RESEARCH METHOD

3.1. Type of Research

This study is a comparative study with a quantitative approach. This study aimed to determine the most effective learning methods among the three learning methods in accounting courses. The intervention of researchers in this study was low, so this study was based on natural facts because there was no regulation in the study. This study is carried out in a natural environment. Hypothesis testing was carried out to determine the highest level of effectiveness among the existing variables.

3.2. Population and Sample

3.2.1. Population

Population is the whole group of people, events, or things the researcher wants to investigate (Sekaran dan Bougie, 2017:53). Population is the whole, totality or generalization of units, individuals, objects or subjects that have certain quantities and characteristics to study in the form of people, objects, institutions, and so on. Which can provide research information (data) which can then be withdrawn. conclusion. The population in this study were all undergraduate accounting students in Indonesia.

3.2.2. Sample

Sekaran dan Bougie (2017:54) said that sample is the part of the population consisting of selected members of the population. The sample is determined by

the researcher based on consideration of the problem, objective, hypothesis, and method in the study. Determination of the sample in this study was carried out by the purposive sampling method, namely, taking samples from the population based on certain criteria (Jogiyanto, 2004).

The sample size is a reflection of the population which is very important in this study so that this study can draw conclusions. In this study, the researcher determines the sample based on Lemeshow Formula by Stanley Lemeshow (1997) because the population of undergraduate accounting students cannot be determined. Researcher used the error tolerance limit (d) = 5% and confidence level (α) = 95%. So, the value of (Z) = 1.96. The smaller the error tolerance, the more accurate the sample describes the population.

$$n = \frac{Z^2 . p(1-p)}{d^2}$$

Where:

n = Sample Size

Z = Z value based on α

p = Sample proportion

d = Margin of error

The population of the whole accounting undergraduate students in Indonesia cannot be counted. So, the following formula presents the computation of the sample size based on Lemeshow Unknown Population.

$$n = \frac{1{,}96^2 . 0{,}3(1-0{,}3)}{0{,}05^2}$$

$$= \frac{0{,}8067}{0{,}0025}$$

$$= 322$$

The calculation to determine the number of samples show a result of 322 respondents. Based on the calculation of the number of samples, the number of samples used in this study was minimumly of 322 respondents. The criteria for this research sample are undergraduate accounting students from the 2015 - 2019 class who have followed traditional learning methods and online learning methods in accounting subjects.

3.3. Data Source

Statistics and numbers that can be used as content to structure knowledge are referred to as research evidence or research data (Arikunto, 2010: 161). In this section, the researcher explains the research data. The source of the data used in this study is quantitative data. The primary data source used in this analysis is the data originally obtained by the researcher for the purposes of their study (Now & Bougie, 2016: 113).

The data are obtained through Google Form from all undergraduate accounting students in Indonesia, especially students in Java who have taken face-to-face and online accounting lessons. The data in question are the answers given by the respondents to the statements contained in the questionnaire related to the research.

a. Survey

In this study, the data collection process was a survey. Questionnaire was used as a data collection tool or survey instrument, which consisted of a series of questions that were prepared to obtain information from individuals with a closed question style (Kothari, 2004). A questionnaire is useful for covering a large sample at a low cost that is reflective of the population (Akbayrak, 2000).

By directly distributing questionnaires to respondents, the types of data collected in this study are considered primary data. Based on Bougie and Sekaran (2013, p.113), primary data refers to information that researchers obtain in advance about the variables of interest for specific research purposes through instruments that are generally designed to obtain large amounts of quantitative data. The researchers collect information from respondents through manuals and online distribution.

3.4. Data Collection Method

This study used a questionnaire survey method to obtain data. This questionnaire method will produce primary data. In this study, a survey was conducted using a google form that was distributed through social media and their opinions were obtained in the questionnaire provided.

The statement items listed in the questionnaire in this study were measured using a Likert scale. The Likert scale was used to measure students' opinions about the effectiveness of learning in the three methods. This measurement was carried out using a 4-point Likert scale starting from point 1 strongly disagree (SD), point 2 disagree (D), point 3 agree (A), and point 4 strongly agree (SA).

Furthermore, the researchers distributed questionnaires to non-respondents to conduct a trial which aims to test whether the statements contained in the questionnaire are valid and can be used. Questionnaires were distributed to 32 students of Universitas Brawijaya using Google Forms. This step was taken by researchers to avoid bias in data collection in the actual research.

After getting the results of the trial which stated that the statement items were valid and could be used, the researcher distributed questionnaires to the respondents. To get the data needed, the researchers distributed questionnaires through Google Forms which were distributed through social media in the form of Whatsapp, Line, Instagram, and linked in.

After all the data from the minimum target that has been determined are obtained by the researcher, the next step is to classify and process the data on the answers from these respondents. Then the data is tested using Statistical Product and Service Solution (SPSS) and the results of the data are analyzed.

3.4.1. Variables

a. Type

Sekaran and Bougie (2017:77) explain that variables can change values or provide variations in values. In this study, there are three variables, namely traditional learning method effectiveness, web-facilitated learning method effectiveness, and blended learning method effectiveness. In this research, to measure the variable researcher use

b. Operational Definitions

The following is an explanation of the operational and measurement definitions for variable:

1. Traditional Learning Method Effectiveness

Traditional learning is a face-to-face learning system where students and lecturers are at the same place and at the same time. The effectiveness of learning using the additional learning method can be measured by a variety of indicators, the indicators used in this study are based on three main learning theories, namely behaviorism theory, cognitivism theory, and constructivism theory.

In this study, traditional learning or commonly known as face-to-face learning, is measured based on the respondent's experience in the ease of comprehension, learning facilities, the classroom atmosphere, the interactions during class, and the material prepared by the lecturer.

The effectiveness of traditional learning method can be measured by the presence of good interactions between students and lecturers, the existence of interactive classes by asking and answering a question, and the satisfaction, increased knowledge, and competence felt by students who are covered in three learning theories, such as behaviorism theory, cognitivism theory, and constructivism theory. These indicators are then developed into questions which stated in the appendix 1.

2. Web-based Learning Method Effectiveness

Web-based learning is a learning system that is carried out face-to-face through technology such as video conferencing applications and using a learning

management system to provide the material that can be accessed by students anywhere and anytime. The effectiveness of web-based learning can be measured by a variety of indicators. The indicators used in this study are based on three learning theories, namely behaviourism theory, cognitivism theory, and constructivism theory.

The effectiveness of web-facilitated learning method can be measured by the presence of good interactions between students and lecturers, the existence of interactive classes by asking and answering a question, and the satisfaction, increased knowledge, and competence felt by students who are covered in three learning theories, such as behaviorism theory, cognitivism theory, and constructivism theory. These indicators are then developed into questions which stated in the appendix 1.

3. Blended Learning Method Effectiveness

Blended learning is a learning system that combines online methods and traditional methods. The face-to-face system has begun to be reduced by using videos that have been made by the teacher and conducted online discussions. The material on blended learning can also be accessed anywhere and anytime. The face-to-face intensity is certainly less with the traditional learning method. Blended learning can be measured by a variety of indicators. The indicators used in this study are based on three learning theories, namely behaviourism theory, cognitivism theory, and constructivism theory.

The effectiveness of blended learning method can be measured by the presence of good interactions between students and lecturers, the existence of interactive

classes by asking and answering a question, and the satisfaction, increased knowledge, and competence felt by students who are covered in three learning theories, such as behaviorism theory, cognitivism theory, and constructivism theory. These indicators are then developed into questions which stated in the appendix 1.

3.4.2. Instrument Testing

The instrument test is a test prepared by the researcher to produce good and appropriate instruments to be used in a study. There are two conditions for conducting an instrument test, namely valid and reliable. To get valid and reliable results researcher used Pilot Testing to ensure that the variables used have been measured accurately. The use of appropriate instruments will produce accurate results that will improve the quality of research. Therefore, to determine the extent to which respondents understand the statements that have been made by the researchers, the researchers conducted a pilot test of the questionnaire. It was done by distributing questionnaires to 32 respondents who had taken accounting courses.

The research instrument is said to be valid if the coefficient is more than or equal to 0.349. If r_{count} is greater than or equal to 0.349, then the result is valid, but if r_{count} is less than 0.349, then the result is invalid, and the petition items must be deleted (Sugiyono, 2010: 166). On the other hand, Reliability testing is used to determine the consistency of measuring instruments, whether the measuring instruments used are reliable and remain consistent if the measurement is repeated. Reliability is required to obtain data in accordance with measurement

objectives. In this study, the reliability test was carried out using SPSS 25.0 for Windows with the Cronbach's Alpha system. An instrument is declared reliable if it has an alpha coefficient greater than 0.6 and vice versa. If an instrument has an alpha coefficient less than 0.6, then the instrument is unreliable.

3.5. Data Analysis Method

This research uses Microsoft Excel 2019 and SPSS 25.0 for windows to process data. In this study, several data analysis techniques were used, including the following:

3.5.1. Descriptive Statistic

Descriptive statistics are used to provide an overview of the demographics of the research respondents. The demographic data in this study are the semester and the scores obtained in the accounting course and the province of the respondent's university. This data analysis tool is presented with a frequency distribution table that describes the theoretical range, the actual range, and the mean of the standard deviation.

3.5.2. Normality Testing

The normality test is used to determine whether the data population is normally distributed or not. A good regression model is a model that has a normal or near-normal distribution. The approach to the normality assumption is based on graphs and statistical tests. In this study, the Kolmogorov-Smirnov test was used

using a significance level of 0.05. The data is declared to be normally distributed if the significance value is greater than 5% or 0.05.

3.5.3. Hypothesis Testing – Paired Sample T-Test

The paired sample t-test, sometimes called the dependent sample t-test, is statistical procedure used to determine whether the mean difference between two sets. According to Widiyanto (2013), paired sample t-test is one of the testing methods used to assess the effectiveness of a treatment, which is characterized by the difference in average before and after treatment. The basis for making decisions to accept and reject H0 in this test is if t count > t table and probability Sig < 005 then H0 is rejected and Ha is accepted. If t count < t table and probability Sig > 0.05 then H0 and Ha are rejected.

CHAPTER IV
FINDING AND DISCUSSION

4.1. Result of Instrument Testing

The researchers distributed online questionnaires to the respondents who were the study population, namely undergraduate accounting students in Indonesia who had studied accounting traditionally and online. The period for distributing the pilot test questionnaire is 24 hours. Based on the results of the pilot test, the following results can be concluded.

4.1.1. Validity Testing

The questionnaire is said to be valid if the questions on the questionnaire are able to reveal something from what is measured by the questionnaire (Ghozali, 2011: 52). To test the validity of a data, the validity test was carried out on each questionnaire statement instrument. The level of validity of a questionnaire is calculated using the SPSS 25.0 for Windows with Pearson Product-Moment Correlation Method, namely by calculating the correlation between the item scores of each statement and the total score.

The research instrument is said to be valid if the coefficient is more than or equal to 0.349. If r_{count} is greater than or equal to 0.349, then the result is valid, but if r_{count} is less than 0.349, then the result is invalid, and the petition items must be deleted (Sugiyono, 2010: 166).

Based on table 4.1. below, the results of the validity test with the Pearson Correlation to the learning method questionnaire obtained that the r count value of each item fulfills the requirements, namely > 0.349 so that the item is valid and

can be continued. The following shows the results of the validity and reliability tests on the learning method questionnaire.

No.	r_{count} Value	r_{table} Value (α=0,05)	Information
TL01	0.672	0.349	Valid
TL02	0.645	0.349	Valid
TL03	0.568	0.349	Valid
TL04	0.729	0.349	Valid
TL05	0.566	0.349	Valid
TL06	0.834	0.349	Valid
TL07	0.731	0.349	Valid
TL08	0.820	0.349	Valid
TL09	0.662	0.349	Valid
TL10	0.675	0.349	Valid
TL11	0.727	0.349	Valid
TL12	0.715	0.349	Valid
TL13	0.731	0.349	Valid
TL14	0.745	0.349	Valid
TL15	0.733	0.349	Valid
TL16	0.655	0.349	Valid
TL17	0.435	0.349	Valid
WB01	0.649	0.349	Valid
WB02	0.605	0.349	Valid
WB03	0.789	0.349	Valid
WB04	0.760	0.349	Valid
WB05	0.671	0.349	Valid
WB06	0.717	0.349	Valid
WB07	0.728	0.349	Valid
WB08	0.622	0.349	Valid
WB09	0.380	0.349	Valid
WB10	0.689	0.349	Valid
WB11	0.375	0.349	Valid
WB12	0.785	0.349	Valid
WB13	0.738	0.349	Valid
WB14	0.362	0.349	Valid
WB15	0.398	0.349	Valid
WB16	0.453	0.349	Valid

WB17	0.543	0.349	Valid
BL01	0.838	0.349	Valid
BL02	0.595	0.349	Valid
BL03	0.870	0.349	Valid
BL04	0.822	0.349	Valid
BL05	0.802	0.349	Valid
BL06	0.797	0.349	Valid
BL07	0.836	0.349	Valid
BL08	0.796	0.349	Valid
BL09	0.505	0.349	Valid
BL10	0.625	0.349	Valid
BL11	0.781	0.349	Valid
BL12	0.880	0.349	Valid
BL13	0.888	0.349	Valid
BL14	0.597	0.349	Valid
BL15	0.461	0.349	Valid
BL16	0.399	0.349	Valid
BL17	0.746	0.349	Valid

Source: Research Data is Processed (2021)

Table 4.1. The Results of The Validity Test

4.1.2. Reliability Testing

Reliability test is used to determine the consistency of measuring instruments, whether the measuring instruments used are reliable and remain consistent if the measurement is repeated. Reliability is required to obtain data in accordance with measurement objectives. In this study, the reliability test was carried out using SPSS 25.0 for Windows with the Cronbach's Alpha system. An instrument is declared reliable if it has an alpha coefficient greater than 0.6 and vice versa. If an instrument has an alpha coefficient less than 0.6, then the instrument is declared unreliable.

Based on the table below, the reliability test with Cronbach Alpha obtained that the Cronbach Alpha value meets the requirements, namely > 0.600 so that the variables used are reliable. The following table shows the result of the reliability test on the questionnaire.

Variable	Amounts of Item	Cronboachs Alpha	Information
TL	17	**0,738**	Reliable
WB	17	**0,890**	Reliable
BL	17	**0,942**	Reliable

Source: Research Data is Processed (2021)

Table 4.2. Result of Reliability Test

4.2. Result of Data Collection

The research data collection uses the questionnaire method. The following is an explanation of the results of data collection that have been obtained through distributing questionnaires.

4.2.1. Respondents

Respondents in this study were active undergraduate students majoring in accounting in all tertiary institutions in Indonesia who had taken online and offline learning. Data collection was carried out for approximately one week by distributing online research questionnaires using Google Form.

The researchers conducted the distribution and data collection from May 3rd, 2021, until May 11th, 2021. The number of questionnaires distributed online is 400 and received as many as 97% response rate, namely 388 respondents. Four questionnaires were invalid for research data because respondents had not followed both online and offline learning methods.

Therefore, there were 384 questionnaires that can be used as research material. Thus, the response rate in the study was 96%. The number of samples and the rate of return of questionnaires is presented in Table 4.3.

Table 4.3. Sample, Usable Responds, and Response Rate

Description	Questionnaire
Questionnaires are distributed	400
Questionnaires are not returned	12
Questionnaires are returned	388
Questionnaires that are unusable	4
Questionnaires which are usable	384
Response Rate	**97%**
Usable Response Rate	**96%**

4.2.2. Demographic Characteristics

Respondent data in this study can be seen from demographic data obtained through attachments in the questionnaire filled out by the respondents. Demographic data include the provinces traveled and the respondents' entry year. Table 4.4. shows the respondent's data based on respondents' entry year.

Table 4.4.

Respondents Composition Based on Student Entry Year.

Number	Year entered	Amount	Percentage
1	2015	1	0,3%
2	2016	6	1,6%
3	2017	123	32,0%
4	2018	174	45,3%
5	2019	80	20,8%
Total		**384**	**100%**

Source: Primary Data (Processed: 2021)

Based on table 4.4. above, it can be seen that the respondents are students from five different entry years at different universities, namely 2015, 2016, 2017, 2018 and 2019. The number of respondents from the year of 2015 is one person with a percentage of 0.3%, six respondents from the year of 2016 with percentage 1.6%, 123 respondents from the year of 2017 with a percentage of 32%, 174 respondents from the year of 2018 with 45.3%, and 80 respondents from the year of 2019 with a percentage of 20.8%.

Table 4.5.

Respondents Composition Based on University Province

No.	University Province	Amount	Percentage
1.	Special Capital Region of Jakarta	48	12,6%
2.	Banten	29	7,6%
3.	West Java	50	13,0%
4.	Central Java	1	0,3%
5.	East Java	221	57,6%
6.	Special Region of Yogyakarta	17	4,4%
7.	Bali	11	2,9%
8.	North Sumatera	1	0,3%

9.	Bengkulu	1	0,3%
10.	Riau Island	2	0,5%
11.	South Sulawesi	3	0,8%
Total		384	100%

Source: Primary Data (Processed: 2021)

Based on the results of the questionnaire that has been processed in Table 4.5., the locations of the respondents' university are known. In Table 4.5., it is explained that the majority of respondents' universities are located in East Java Province. From a total of 384 respondents, 57.6% or as many as 221 people studied in East Java. Second place was followed by West Java Province at 13.0% or 50 people, then followed by Special Capital Region of Jakarta at 12.5% or 48 people, Banten 7.6% or 29 people, Special Region of Yogyakarta at 4.4% or 17 people, Bali 2.9% or 11 people, South Sulawesi 0.8% or 3 people, Riau Island 0.5% or 2 people, and North Sumatra, Central Java, and Bengkulu respectively 0.3% or 1 person.

Table 4.6. Respondent Composition Based on

Used Online Learning Method

No.	Used Online Learning Method	Amount	Percentage
1.	100% Web-Based Learning	108	28,1%
2.	100% Blended Learning	18	4,7%
3.	75% Blended Learning 25% Web-based Learning	42	10,9%
4.	75% Web-Based Learning 25% Blended Learning	125	32,6%
5.	50% Web-Based Learning 50% Blended Learning	91	23,7%

Total	**384**	**100%**

Source: Primary Data (Processed: 2021)

Based on the results of the processed questionnaire in Table 4.6, the online learning methods used today are known. In Table 4.6, it was stated that as many as 67.2% or as many as 258 people used both methods, either web-based learning or blended learning. The most widely used method in accounting courses is 75% web-based learning and 25% blended learning with 125 respondents or the equivalent of 32.6%. It is followed by 100% web-based learning with as many as 108 people, equivalent to 28.1%. The 50% web-based learning & 50% blended learning has as many as 91 people or 23.7%. The 75% blended learning & 25% web-based learning has as many as 42 people or 10.9%, and the least used was 100% blended learning as many as 18 people or 4.7%.

4.3. Descriptive Statistic

Analysis of descriptive statistics was carried out on 384 respondents for further processing. Measurement of sample statistics is useful for providing an overview of sample data and for drawing conclusions. Through the calculations that have been done, an outline of the sample will be obtained so that it can approach the truth of the population. This study observed learning that is carried out using three different methods with independent variables, such as traditional methods, web-based methods, and blended methods.

Based on the Table 4.7. the biggest mean between three learning methods are traditional learning method which is 3,396. The mean of blended learning

method is 2,6352 and the smallest mean is web-based learning method which is 2,5508.

Learning Method

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Traditional	384	3.3396	.37495	.01913	3.3020	3.3773	2.24	4.00
Web-based	384	2.5508	.41847	.02135	2.5088	2.5928	1.35	3.94
Blended	384	2.6352	.38911	.01986	2.5962	2.6743	1.18	3.82
Total	1152	2.8419	.52972	.01561	2.8113	2.8725	1.18	4.00

Table 4.7. Descriptive Statistic

The description of the characteristics of the respondent's answer to each variable in terms of the results of the average frequency distribution. Measurement of each item from each variable uses a Likert scale with a score of 1-4. For more details, the following is a descriptive description of each method.

4.3.1. Traditional Learning Method

In the variable of the traditional learning method, where students and lecturers meet at the same place at the same time, there are seventeen statements. Overall, the answers of the respondents studied were varied. The following is the result of the frequency distribution of traditional learning methods.

Table 4.8. Distribution of Variable Frequency of Traditional Learning

Item	1		2		3		4		Mean	SD
	F	%	F	%	F	%	F	%		
TL01	0	0%	15	4%	150	39%	219	57%	3.53	0.57
TL02	0	0%	26	7%	201	52%	157	41%	3.34	0.60
TL03	2	1%	35	9%	168	44%	179	47%	3.36	0.67
TL04	1	0%	40	10%	201	52%	142	37%	3.26	0.65
TL05	1	0%	35	9%	214	56%	134	35%	3.25	0.62
TL06	0	0%	33	9%	187	49%	164	43%	3.34	0.63
TL07	2	1%	30	8%	205	53%	147	38%	3.29	0.63
TL08	3	1%	41	11%	208	54%	132	34%	3.22	0.66
TL09	1	0%	22	6%	78	20%	283	74%	3.67	0.59
TL10	0	0%	19	5%	206	54%	159	41%	3.36	0.58
TL11	12	3%	65	17%	216	56%	91	24%	3.01	0.73
TL12	2	1%	25	7%	234	61%	123	32%	3.24	0.59
TL13	0	0%	31	8%	239	62%	114	30%	3.22	0.58
TL14	1	0%	37	10%	204	53%	142	37%	3.27	0.64
TL15	0	0%	20	5%	163	42%	201	52%	3.47	0.60
TL16	0	0%	14	4%	185	48%	185	48%	3.45	0.57
TL17	0	0%	8	2%	184	48%	192	50%	3.48	0.54
									3.33	

Source: Primary Data (Processed: 2021)

The mean data shows the average opinion of the respondents on each statement item in each variable. The data shows the mean result is more than 2.00, so the average respondent agrees with the statement items on each variable. In Table 4.7, it can be seen that the average score on the variable of traditional

learning methods is 3.33. It shows that the respondents' answers on traditional learning method variables is in a good category.

The standard deviation value represents a measure of the deviation. If the standard deviation value exceeds the average variable, it is likely that there is a deviation from the expected result. Based on Table 4.7, all variables do not have a standard deviation value that exceeds the mean, so it can be concluded that there is no data that deviates from each research variable.

4.3.2. Web-Based Learning Method

In the variable web-based learning method where students and lecturers meet at the same place at the same time, there are seventeen statements. Overall, the answers of the respondents studied were varied. The following is the result of the frequency distribution of the web-based learning method.

Table 4.9. Distribution of Variable Frequency of Web-Based Learning

Item	1		2		3		4		Mean	SD
	F	%	F	%	F	%	F	%		
WB01	36	9%	196	51%	148	39%	4	1%	2.31	0.65
WB02	33	9%	215	56%	129	34%	7	2%	2.29	0.64
WB03	32	8%	177	46%	159	41%	16	4%	2.41	0.70
WB04	52	14%	199	52%	122	32%	11	3%	2.24	0.72
WB05	38	10%	189	49%	145	38%	12	3%	2.34	0.70
WB06	18	5%	156	41%	168	44%	42	11%	2.61	0.74
WB07	38	10%	188	49%	145	38%	13	3%	2.35	0.70
WB08	36	9%	170	44%	163	42%	15	4%	2.41	0.71
WB09	3	1%	24	6%	101	26%	256	67%	3.59	0.64

Item	1		2		3		4		Mean	SD
	F	%	F	%	F	%	F	%		
WB10	8	2%	160	42%	197	51%	19	5%	2.59	0.62
WB11	20	5%	168	44%	176	46%	20	5%	2.51	0.68
WB12	28	7%	206	54%	144	38%	6	2%	2.33	0.63
WB13	28	7%	201	52%	146	38%	9	2%	2.35	0.65
WB14	15	4%	148	39%	184	48%	37	10%	2.63	0.71
WB15	4	1%	45	12%	263	68%	72	19%	3.05	0.59
WB16	4	1%	71	18%	259	67%	50	13%	2.92	0.59
WB17	20	5%	198	52%	151	39%	15	4%	2.42	0.65
									2,55	

Source: Primary Data (Processed: 2021)

The mean value of the data shows the average opinion of the respondents on each statement item in each variable. The data shows the mean result is more than 2.00, so the average respondent agrees with the statement items on each variable. In Table 4.8, it can be seen that the average score on the variable web-based learning method is 2.55. It shows that the respondents' answers on the variables of web-based learning methods is in a good category.

The standard deviation value represents a measure of the deviation. If the standard deviation value exceeds the average variable, it is likely that there is a deviation from the expected result. Based on Table 4.8, all variables do not have a standard deviation value that exceeds the mean, so it can be concluded that there is no data that deviates from each research variable.

4.3.3. Blended Learning Method

In the blended learning method variable, where students and lecturers meet at the same place at the same time, there are seventeen statements. Overall, the answers of the respondents studied were varied. The following is the result of the frequency distribution of the blended learning method.

Table 4.10. Distribution of Variable Frequency of Blended Learning

	1		2		3		4			
Item	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**	**SD**
BL01	13	3%	166	43%	185	48%	20	5%	2.55	0.65
BL02	18	5%	192	50%	164	43%	10	3%	2.43	0.63
BL03	18	5%	170	44%	178	46%	18	5%	2.51	0.66
BL04	26	7%	178	46%	167	43%	13	3%	2.43	0.67
BL05	16	4%	194	51%	162	42%	12	3%	2.44	0.63
BL06	12	3%	143	37%	198	52%	31	8%	2.65	0.67
BL07	15	4%	180	47%	178	46%	11	3%	2.48	0.62
BL08	12	3%	178	46%	171	45%	23	6%	2.53	0.66
BL09	1	0%	51	13%	92	24%	240	63%	3.49	0.73
BL10	11	3%	139	36%	214	56%	20	5%	2.63	0.63
BL11	17	4%	162	42%	185	48%	20	5%	2.54	0.66
BL12	13	3%	196	51%	163	42%	12	3%	2.45	0.62
BL13	13	3%	190	49%	172	45%	9	2%	2.46	0.60
BL14	12	3%	131	34%	221	58%	20	5%	2.65	0.63
BL15	5	1%	40	10%	284	74%	55	14%	3.01	0.55
BL16	2	1%	49	13%	304	79%	29	8%	2.94	0.47
BL17	9	2%	153	40%	208	54%	14	4%	2.59	0.60

Item	1		2		3		4		Mean	SD
	F	%	F	%	F	%	F	%		
									2,63	

Source: Primary Data (Processed: 2021)

The mean data shows the average opinion of the respondents on each statement item in each variable. The data shows the mean result is more than 2.00, so the average respondent agrees with the statement items on each variable. In Table 4.9, it can be seen that the mean score on the blended learning method variable is 2.63. It shows that the respondent's research on the blended learning method variable is in a good category.

The standard deviation value represents a measure of the deviation. If the standard deviation value exceeds the average variable, it is likely that there is a deviation from the expected result. Based on Table 4.9, all variables do not have a standard deviation value that exceeds the mean, so it can be concluded that there is no data that deviates from each research variable.

4.4. Result of Data Analysis

This study consists of three independent variables, namely traditional learning methods, web-based learning methods, and blended learning methods. Analysis of the model evaluation in research using the Statistical Package for the Social Science (SPSS). The software used in this study is IBM SPSS 21.0.

4.4.1. Normality Test

The normality test aims to determine the distribution of the research data. A good comparative model is a model that has a normal data distribution. The normality test in this study used the Kolmogorov-Smirnov statistical test with the following conditions

The hypothesis used:

H_0: Data distribution is normal

H_1: Data distribution is abnormal

Table 4.11. Result of Normality Test

		Traditional	Web-based	Blended
N		384	384	384
Normal Parameters[a,b]	Mean	3.3396	2.5508	2.6352
	Std. Deviation	.37495	.41847	.38911
Most Extreme Differences	Absolute	.069	.049	.060
	Positive	.040	.049	.060
	Negative	-.069	-.047	-.036
Kolmogorov-Smirnov Z		1.356	.958	1.183
Asymp. Sig. (2-tailed)		.050	.318	.122

Source: Primary Data (Processed: 2021)

A data is said to be normally distributed if the significance value is more than 0.05 (Sig> 0.05). Table 4.10 shows a significant value for the traditional learning method group of 0.5034, the web-based learning method group of 0.318, and the blended learning method group of 0.122. So, it can be concluded that the

H_0 requirement is accepted, namely that the normality of the data on the three learning methods is fulfilled.

4.4.2. Hypothesis Testing

Hypothesis testing is an important part of research after the data has been collected and processed. The main use of hypothesis testing is to answer hypotheses that can be dipole by the researcher.

In this study, researchers used paired sample t-test. Paired sample t-test was used to test for differences in the mean of three groups or more. In addition, Paired sample t-test makes it easier for researchers to analyze several different sample groups with the smallest risk of error by compare each of variable. In this study, the paired sample t-test parametric statistical test was used.

Table 4.12. Result of Paired Sample T-test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Traditional - Web-based	.78885	.56546	.02886	.73212	.84559	27.338	383	.000
Pair 2	Traditional - Blended	.70440	.49803	.02541	.65443	.75437	27.716	383	.000
Pair 3	Blended – Web-based	.08445	.50730	.02589	.03355	.13535	3.262	383	.001

Source: Primary Data (Processed: 2021)

Based on the table above, the results of the paired sample t test show a t count of 27.338 with a significance of 0.000. For comparison, the t-table value with 383 degrees of freedom and 5 percent alpha is 1.966. These results show that the t-count value is greater than the t-table value (t-hit > t-table) and the significance value is less than 0.05 (sig < 0.05), so it is stated that there is a significant difference between traditional learning and web-based learning.

The comparison between traditional learning and blended learning obtained a t-count value of 27.716 with a significance value of 0.000. For comparison, the t table value on the degrees of freedom is 383 and the 5 percent alpha is 1.966. These results show that the t-count value is greater than the t-table value (t-hit > t-table) and the significance value is less than 0.05 (sig <0.05) so that it is stated that there is a significant difference between traditional learning and blended learning.

The comparison between web-based learning and blended learning obtained a t-count value of 3.262 with a significance value of 0.001. For comparison, the t table value on the degrees of freedom is 383 and the 5 percent alpha is 1.966. These results indicate that the t-count value is greater than the t-table value (t-hit > t-table) and the significance value is less than 0.05 (sig < 0.05), so it is stated that there is a significant difference between web-based learning and mixed learning.

4.4.3. Discussion of Research Results

Based on the hypothesis test above, which can be seen from the results of the calculation of the paired sample t-test, it can be concluded that:

a. Hypothesis 1

Hypothesis 1 states that traditional learning method is more effective than web-based learning method. It can be concluded based on data processing above that traditional learning method is more effective than web-facilitated learning method. Supported by the previous research the lack of human interaction between learners and instructors was the main criticism for online learning method (Laurillard, 2003). Moreover, based on the behaviourism theory which prioritize the change on behaviour of student online learning method cannot motivate student and satisfy about the subject because of the lack of interaction between student and lecturer. Furthermore, the lack of interaction between student and lecturer make student hard to understand the sample question in accounting subject which made the cognitivism theory is hard to implement in online learning method.

Based on the results, it is determined that **Hypothesis 1 is accepted**. This result is consistent with research conducted by Robinson and Hullinger (2008), Mc Brien and Jones (2009), and Czerkawski and Lyman (2016).

b. Hypothesis 2

Hypothesis 2 states that traditional learning is more effective than blended learning. It can be concluded based on data processing above that traditional learning method is more effective than blended learning method. Supported by the previous research by Terry et al. (2001) find that students in traditional courses outperform those in web courses. Similarly, Ponzurick et al. (2000) find that

effectiveness and overall satisfaction are lower for students in distance courses than for students in a face-to-face course.

Those condition support the researcher findings which behaviorism theory is also hard to implement in online learning. Since students are more satisfy with traditional learning method than blended learning method.

Based on the result, it is determined that **Hypothesis 2 is accepted.** This result is consistent with research conducted by Jones and Chen (2008), Edington and Holbrook (2010), and Larkin (2010).

c. Hypothesis 3

Hypothesis 3 states that blended learning method is more effective than web-based learning method. It can be concluded based on data processing above that blended learning method is more effective than web-based learning method.

Supported by previous research by Trasler (2002) identifies flexibility, variety and adaptability as some of the key benefits of blended learning. Another benefit of blended learning is online collaboration, which allows students to experiment with technology, develop their own technical skills, use interactive tutorials with timely feedback and simulate multimedia environments with live-like visualizations (Akhras, 2012).

Those researches support the researcher findings that blended learning give more benefit for students to explore more about the subject that their learn which make constructivism theory can be implemented when lecturer as a facilitator and student learn by themselves to find out the subjects since web-based learning

method made a lack of interaction between student and lecturer which not make student satisfy about the learning experience.

Based on the result, it is determined that **Hypothesis 3 is accepted.** This result consistent with research conducted by Singer & Stoicescu (2011), Hiltz & Turoff (2005), Cornelius & Gordon (2009), Mansour & Mupinga (2007), Owston et al. (2008)

In conclusion, that respondent believes that online learning methods either web-based learning methods or blended learning method, cannot replace traditional learning method because of the lack of interaction between lecturer and student which give impact in comprehension of the accounting subject for student and cannot motivate which change student behaviour to find out more about the accounting subject. However, blended learning can be the one technique to interpret online learning for the future because blended learning help undergraduate students in accounting major can explore more about the subjects by themselves and lecturer and technology as a supporter and facilitator which in tune with constructivism theory.

CHAPTER V
CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This study aims to determine the differences in the effectiveness of accounting learning methods between traditional or face-to-face, web-based learning methods, and blended learning methods in active undergraduate accounting students in universities in Indonesia. This study involved 384 active accounting students in all tertiary institutions in Indonesia who had taken accounting courses using both traditional and online learning methods, either web facilitated or blended. Based on the results of this study, below is a summary of the results of the study, the limitations of the study, and suggestions.

The result of data processing used paired sample t-test are traditional learning method is more effective than web-based learning method, traditional learning method is more effective than blended learning method, and blended learning method is more effective than web-based learning method. This condition indicates that traditional learning method is the most effective.

Based on the research results, this study concludes that the application of online learning methods is still considered ineffective and cannot replace face-to-face learning directly on campus because of the lack of interaction between students and lecturer which made student cannot learn optimally based on behaviorism theory. Online learning methods have been implemented well, both from the government and the academic community, have optimized all existing facilities, both from internet quotas, applications used to facilitate online learning

to be able to meet the needs of students in a short time in order to achieve good quality learning online.

However, an adaptation is still required to each individual, both students, and teaching staff, which affects the effectiveness of online learning from motivation, concentration, interaction, learning facilities, and other factors since in the other world there are findings that show there are no significant difference between student's performance between traditional and online learning. In addition, this study shows that online learning is assessed effectively for respondents is online learning by blended learning.

Therefore, for further adaptation with online learning, higher education institutions can interpret blended learning to get a more effective online learning method. Blended learning method is such an implementation of constructivism theory, when lecturer as a facilitator and supervisor that help student to learn by themselves explore the subject, multimedia, technology environment to adapt in future.

5.2. Research Limitations

This study has been carried out with scientific procedures. However, there are limitations to this study. With these limitations, it is hoped that improvements and developments can be made for future research. The limitation experienced in this study is that the level of effectiveness of the teaching process of accounting subjects used in this study is assessed based on student perceptions so that the level of subjectivity is high. The subjectivity problem of the respondent can make

the researcher vulnerable to bias in the respondent's answer. This respondent of this research is centralized in Java Island.

5.3. Recommendation

Based on the overall research results and the conclusions obtained, several suggestions can be developed for interested parties in future research. Suggestions for future researchers are as follows:

1. Developing this study by means of an even distribution of the questionnaire, not only focusing on the Java island, especially in the province of East Java.
2. Improving the previous questionnaire used in this study or using a questionnaire with a higher level of validity and reliability.
3. Further research should not only use a questionnaire in collecting data, but be accompanied by interviews with respondents, as well as observations of actual learning so that more detailed data can be obtained.

REFERENCE

Abraham, A. (2007), "Student centred teaching of accounting to engineering students: comparing blended learning with traditional approaches", ICT: Providing Choices for Learn

Albion, Peter (2008) Web 2.0 In Teacher Education: Two Imperatives For Action. Computers in the Schools, 25 (3/4). pp. 181-198. ISSN 0738-0569ers and Learning.

Proceedings Ascilite Singapore 2007, Singapore, pp. 1-9.

Benson, R. 2001. What do we do in face to face classrooms? (Conference paper) http://illinois.online.uillinois.ed

Chickering, A. W. & Gamson, Z. F. 1987. Seven Principles of Good Practice in Undergraduate Education: Faculty Inventory (www.aahe.org/technology/ehrmann.htm).

Czerkawski, B.C. and Lyman, E.W. (2016), "An instructional design framework for fostering student engagement ihn online learning environments", Tech Trends, Vol. 60, pp. 53-539.

Dahar. (1996). Teori-teori Belajar. Bandung: Erlangga.

Davies, J. and Graff, M. (2005), "Performance in e-learning: online participation and student grades", British Journal of Educational Technology, Vol. 36 No. 4, pp. 657-663.

Driscoll, M. (2002) Blended Learning: Let's Get beyond the Hype. IBM Global Services.

Djamarah, Syaiful Bahri dan Aswan Zain. 2010. Strategi Belajar Mengajar. Jakarta: Rineka Cipta.

Gagne, M. and Shepherd, M. (2001), "Distance learning in accounting", Technology in Higher Education Journal, Vol. 28 No. 9, pp. 58-65.

Grant Ramsay. 2001. Teaching and Learning With Information and Communication Technology: Succes Through a Whole School

Hamalik, O. (2005). Proses Belajar Mengajar. Jakarta: Bumi Aksara.

H Li, J. Masters, "ELearning and knowledge management in the early years: Where are we and where should we go", Knowledge Management and eLearning: An International Journal, 2009, 1(4), 245-250.

Kearsley, G., & Shneiderman, B. (1999). Engagement theory: A framework for technology-based teaching and learning; home.sprynet.com/~gkearsley/engage.htm

Keller, J.H., Hassell, J.M., Webber, S.A. and Johnson, J.N. (2009), "A comparison of academic performance in traditional and hybrid sections of introductory managerial accounting", Journal of Accounting Education, Vol. 27 No. 3, pp. 147-154.

Khan, B.H. (2001). A framework for Web-based learning. In B. H. Khan (Ed.), Web-based training. Englewood Cliffs: Educational Technology Publications.

Larkin, H.E. (2010), "But they won't come to lectures […]'. The impact of audio recorded lectures on student experience and attendance", Australasian Journal of Educational Technology, Vol. 26 No. 2, pp. 238-249.

Laurillard, D. (2003), "The changing university, paper presented to the instructional technology forum", University of Georgia, available at: http://itech1.coe.uga.edu/itforum/paper13/paper13.html (accessed 21 March 2021).

Lemeshow, S., et al. (1997). Large sample in health research. Pramod, Diboyo & Day Kusnant. Tr.London: University of Gajah Mada

McBrien, J.L. and Jones, P. (2009), "Virtual spaces: employing a synchronous online classroom to facilitate student engagement in online learning", International Review of Research in Open and Distance Learning, Vol. 10 No. 3, pp. 1-16

Relan, A., & Gillani, B. B. (1997). Web-based instruction and the traditional classroom: Similarities and differences. In B. H. Khan (Ed.), Web-based instruction (pp. 41-46). Englewood Cliffs: Educational Technology Publications.

Ritchie, D.C., & Hoffman, B. (1997). Incorporating instructional design principles with the Word Wide web.In B. H. Khan (Ed.), Web-based instruction (pp. 135-138). Englewood Cliffs: Educational Technology Publications.

Robinson, C.C. and Hullinger, H. (2008), "New benchmarks in higher education: student engagement in online learning", Journal of Education for Business, Vol. 84 No. 2, pp. 101-108.

Rodrigues, H.; Almeida, F.; Figueiredo, V.; Lopes, S.L. Tracking e-learning through published papers: A systematic review. Comput. Educ. 2019, 136, 87–98. [CrossRef]

Sangrà, A.; Vlachopoulos, D.; Cabrera, N. Building an inclusive definition of e-learning: An approach to the conceptual framework. Int. Rev. Res. Open Distrib. Learn. 2012, 13, 145–159. [CrossRef]

Sekaran, U., & Bougie, R. (2017). Research Method for Business Sixth Edition. USA: John WIley and Sons, Inc

Subaryana. 2005. Pengembangan Bahan Ajar. Yogyakarta: IKIP PGRI Wates.

Sugiyanto. (2009). Model Model Pembelajaran Inovatif. Surakarta: Panitia Sertifikasi Guru Rayon 13 FKIP UNS.

Sugiyono. (2010). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Stone, G., Fiedler, B.A. and Kandunias, C. (2014), "Harnessing Facebook for student engagement in accounting education: guiding principles for accounting students and educators", Accounting Education, Vol. 23 No. 4, pp. 295-321.

Taylor, M., Marrone, M., Tayar, M. and Mueller, B. (2018), "Digital storytelling and visual metaphor in lectures: a study of student engagement", Accounting Education, Vol. 27 No. 6, pp. 552-569.

Trasler, J. (2002), "Effective learning depends on the blend", Industrial and Commercial Training, Vol. 34 No. 4, pp. 191-194.

Ward, J. and LaBranche, G.A. (2003), "Blended learning: the convergence of e-learning and meetings", Franchising World, Vol. 35 No. 4, p. 22.

APPENDICES

APPENDICES 1

SURVEY QUESTIONNAIRE

Dear participant,

I am an undergraduate student in Faculty of Economics and Business Department of International Accounting, University of Brawijaya. I am conducting my research to find the more effectiveness accounting learning method in this pandemic between traditional learning method, web-based learning method, and blended learning method. This research is for graduation requirement in undergraduate program. For the smooth running of this research, I need help from you to fill out this questionnaire.

The requirements for filling out this questionnaire are S1 / D4 Accounting students throughout Indonesia who have taken learning both offline and online. I will guarantee your identity as confidential and will only be used for research purposes. Your response will be of great help to me in completing this research. For your help and willingness in filling out this questionnaire, thank you.

Researcher,

Aurelia Areetha C.

175020307141001

A LIST OF QUESTIONS

There are several accounting learning methods since the pandemic. Two of them is web-based learning method and blended learning method. Web-based learning method is online learning that is done 100% synchronously. However, the blended learning method is online learning which is done 30-70% asynchronously.

Section I – Respondent Information

To complete this questionnaire, you are asked to answer the questions by placing a cross mark (x) on one of the available options. I will keep the identity of your brother / I confidential and will only be used for research purposes.

Respondent Identity

1. Name:
2. Higher Education Province:
3. Used Online Learning Method:
   - 100% Web-based learning method
   - 100% Blended learning method
   - 75% Web-based learning method 25% blended learning method
   - 75% Blended learning method 25% web-based learning method
   - 50% Web-based learning method 50% blended learning method

Section II

You provide a statement that describes you in the statement below. You respond to each statement by marking (x) one of the numbers under the answer. In each statement there are 4 (four) answer choices, namely:

1. SD = Strongly Disagree
2. D = Disagree
3. A = Agree
4. SA = Strongly Agree

No	Statement	SD	D	A	SA
Traditional / Face-to-face Learning Method					
1	Face-to-face accounting lessons have been very effective for me	1	2	3	4
2	Face-to-face accounting learning method is very interactive	1	2	3	4
3	I am very interested in face-to-face accounting learning method	1	2	3	4
4	I really concentrate on learning accounting face-to-face	1	2	3	4
5	I am very fast at capturing face-to-face accounting lessons	1	2	3	4
6	Face-to-face learning on campus is very convenient for me	1	2	3	4
7	I am very motivated when studying accounting face-to-face	1	2	3	4
8	I am very passionate about doing accounting course assignments during face-to-face learning	1	2	3	4
9	I always attend classes during face-to-face accounting lessons	1	2	3	4
10	I really got a lot of knowledge during face-to-face accounting lessons	1	2	3	4
11	I always review material that I have learned during face-to-face learning	1	2	3	4
12	I really understand the material taught during face-to-face learning	1	2	3	4
13	The conceptual emphasis was very easy to understand for me during face-to-face learning	1	2	3	4
14	Discussion of lecture assignments is very often carried out during face-to-face learning	1	2	3	4
15	Lecturers are very ready to prepare material during face-to-face learning	1	2	3	4
16	Lecturers greatly facilitate learning activities	1	2	3	4

	during face-to-face learning				
17	Lecturers are very effective in explaining the practice questions during face-to-face learning	1	2	3	4
	Web – Based Learning Method				
1	Web-based accounting lessons have been very effective for me	1	2	3	4
2	Web-based accounting learning is very interactive	1	2	3	4
3	I am very interested in learning accounting on a web-based basis	1	2	3	4
4	I am very concentrated in learning accounting on a web-based basis	1	2	3	4
5	I am very fast in capturing accounting lessons online	1	2	3	4
6	Web-based learning method is very convenient for me	1	2	3	4
7	I was very motivated when I studied accounting on the web	1	2	3	4
8	I am very enthusiastic about doing accounting course assignments when learning is done web-based	1	2	3	4
9	I always attend classes while learning accounting web-based	1	2	3	4
10	I really got a lot of knowledge while learning accounting on a web-based learning method	1	2	3	4
11	I always review the material that I have learned during web-based learning method	1	2	3	4
12	I really understand the material taught during web-based learning	1	2	3	4
13	The conceptual emphasis is very easy to understand for me during web-based learning	1	2	3	4
14	Discussion of lecture assignments is very often carried out during web-based learning	1	2	3	4
15	Lecturers are very ready to prepare material during web-based learning	1	2	3	4
16	Lecturers greatly facilitate learning activities during web-based learning	1	2	3	4
17	Lecturers are very effective in explaining question exercises during web-based learning	1	2	3	4
	Blended Learning Method				
1	Blended accounting learning method is very	1	2	3	4

	effective for me				
2	Blended accounting learning method is very interactive	1	2	3	4
3	I am very interested in learning accounting in a blended manner	1	2	3	4
4	I am very concentrated in learning accounting in a blended manner	1	2	3	4
5	I am very quick in catching blended accounting lessons	1	2	3	4
6	Blended learning method is very comfortable for me	1	2	3	4
7	I was very motivated when I studied accounting in a blended learning method	1	2	3	4
8	I was very excited about doing my accounting course assignments when learning was done in a blended learning method	1	2	3	4
9	I always attend class at a time of blended accounting learning method	1	2	3	4
10	I really got a lot of knowledge while studying accounting in a blended learning method	1	2	3	4
11	I always review the material that I have learned during blended learning method	1	2	3	4
12	I really understand the material taught during blended learning method	1	2	3	4
13	Emphasis on the concept is very easy to understand for me at the time of blended learning	1	2	3	4
14	Discussion of lecture assignments is very often carried out during blended learning	1	2	3	4
15	Lecturers are very ready to prepare material during blended learning	1	2	3	4
16	Lecturers greatly facilitate learning activities during blended learning	1	2	3	4
17	Lecturers are very effective in explaining the practice questions during blended learning	1	2	3	4

DAFTAR PERTANYAAN

Ada beberapa metode pembelajaran akuntansi sejak pandemi. Dua diantaranya adalah metode pembelajaran berbasis web dan metode blended learning. Pembelajaran metode *web-based* merupakan pembelajaran secara daring yang dilakukan 100% secara singkronus. Namun, metode pembelajaran *blended* merupakan pembelajaran daring yang dilakukan 30-70% secara asinkronus.

Section I – Respondent Information

Untuk mengisi kuesioner ini, Saudara/I diminta unutk menjawab pertanyaan dengan cara memberikan tanda silang (x) pada salah satu pilihan yang tersedia. Identitas Saudara/I akan saya jaga kerahasiaanya dan hanya akan digunakan untuk kepentingan penelitian.

Identitas Responden

1. Nama:
2. Provinsi Universitas:
3. Pembelajaran daring yang dilakukan:

- 100% Web-based learning method
- 100% Blended learning method
- 75% Web-based learning method 25% blended learning method
- 75% Blended learning method 25% web-based learning method
- 50% Web-based learning method 50% blended learning method

Bagian II

Anda diminta untuk memberikan tanggapan yang paling menggambarkan diri anda pada pernyataan di bawah ini. Anda diminta untuk memberikan tanggapan pada setiap pernyataan dengan memberi tanda (x) pada salah satu angka pada kolong jawaban. Pada setiap pernyataan terdapat 4 (empat) pilihan jawaban yaitu:

1. STS = Sangat Tidak Setuju
2. TS = Tidak Setuju
3. S = Setuju
4. SS = Sangat Setuju

No	Pernyataan	STS	TS	S	SS
	Pembelajaran Traditional / Tatap Muka				
1	Pembelajaran akuntansi secara tatap muka sangat efektif bagi saya	1	2	3	4
2	Pembelajaran akuntansi secara tatap muka sangat interaktif	1	2	3	4
3	Saya sangat tertarik dalam pembelajaran akuntansi secara tatap muka	1	2	3	4
4	Saya sangat konsentrasi dalam pembelajaran akuntansi secara tatap muka	1	2	3	4
5	Saya sangat cepat dalam menangkap pelajaran akuntansi secara tatap muka	1	2	3	4
6	Pembelajaran secara tatap muka di kampus sangat nyaman bagi saya	1	2	3	4
7	Saya sangat termotivasi pada saat belajar akuntansi secara tatap muka	1	2	3	4
8	Saya sangat bersemangat dalam mengerjakan tugas mata kuliah akuntansi pada saat pembelajaran tatap muka	1	2	3	4

9	Saya selalu menghadiri kelas pada saat pembelajaran akuntansi secara tatap muka	1	2	3	4
10	Saya sangat mendapat banyak pengetahuan pada saat pembelajaran akuntansi secara tatap muka	1	2	3	4
11	Saya selalu mengulas materi yang telah saya pelajari saat pembelajaran tatap muka	1	2	3	4
12	Saya sangat memahami materi yang diajarkan pada saat pembelajaran tatap muka	1	2	3	4
13	Penekanan konsep sangat mudah dipahami bagi saya pada saat pembelajaran tatap muka	1	2	3	4
14	Pembahasan tugas perkuliah sangat sering dilakukan pada saat pembelajaran tatap muka	1	2	3	4
15	Dosen sangat siap menyiapkan materi pada saat pembelajaran tatap muka	1	2	3	4
16	Dosen sangat memfasilitasi kegiatan belajar pada saat pembelajaran tatap muka	1	2	3	4
17	Dosen sangat efektif dalam menjelaskan latihan soal pada saat pembelajaran tatap muka	1	2	3	4
	Pembelajaran Daring (Web-Based)				
1	Pembelajaran akuntansi secara web-based sangat efektif bagi saya	1	2	3	4
2	Pembelajaran akuntansi secara web-based sangat interaktif	1	2	3	4
3	Saya sangat tertarik dalam pembelajaran akuntansi secara web-based	1	2	3	4
4	Saya sangat konsentrasi dalam pembelajaran akuntansi secara web-based	1	2	3	4
5	Saya sangat cepat dalam menangkap pelajaran akuntansi secara web-based	1	2	3	4
6	Pembelajaran secara web-based sangat	1	2	3	4

	nyaman bagi saya				
7	Saya sangat termotivasi pada saat belajar akuntansi secara web-based	1	2	3	4
8	Saya sangat bersemangat dalam mengerjakan tugas mata kuliah akuntansi pada saat pembelajaran dilakukan secara web-based	1	2	3	4
9	Saya selalu menghadiri kelas pada saat pembelajaran akuntansi secara web-based	1	2	3	4
10	Saya sangat mendapat banyak pengetahuan pada saat pembelajaran akuntansi secara web-based	1	2	3	4
11	Saya selalu mengulas materi yang telah saya pelajari saat pembelajaran web-based	1	2	3	4
12	Saya sangat memahami materi yang diajarkan pada saat pembelajaran web-based	1	2	3	4
13	Penekanan konsep sangat mudah dipahami bagi saya pada saat pembelajaran web-based	1	2	3	4
14	Pembahasan tugas perkuliah sangat sering dilakukan pada saat pembelajaran web-based	1	2	3	4
15	Dosen sangat siap menyiapkan materi pada saat pembelajaran web-based	1	2	3	4
16	Dosen sangat memfasilitasi kegiatan belajar pada saat pembelajaran web-based	1	2	3	4
17	Dosen sangat efektif dalam menjelaskan latihan soal pada saat pembelajaran web-based	1	2	3	4
	Pembelajaran Daring (Blended)				
1	Pembelajaran akuntansi secara blended sangat efektif bagi saya	1	2	3	4
2	Pembelajaran akuntansi secara blended sangat interaktif	1	2	3	4
3	Saya sangat tertarik dalam pembelajaran	1	2	3	4

	akuntansi secara blended				
4	Saya sangat konsentrasi dalam pembelajaran akuntansi secara blended	1	2	3	4
5	Saya sangat cepat dalam menangkap pelajaran akuntansi secara blended	1	2	3	4
6	Pembelajaran secara blended sangat nyaman bagi saya	1	2	3	4
7	Saya sangat termotivasi pada saat belajar akuntansi secara blended	1	2	3	4
8	Saya sangat bersemangat dalam mengerjakan tugas mata kuliah akuntansi pada saat pembelajaran dilakukan secara blended	1	2	3	4
9	Saya selalu menghadiri kelas pada saat pembelajaran akuntansi secara blended	1	2	3	4
10	Saya sangat mendapat banyak pengetahuan pada saat pembelajaran akuntansi secara blended	1	2	3	4
11	Saya selalu mengulas materi yang telah saya pelajari saat pembelajaran blended	1	2	3	4
12	Saya sangat memahami materi yang diajarkan pada saat pembelajaran blended	1	2	3	4
13	Penekanan konsep sangat mudah dipahami bagi saya pada saat pembelajaran blended	1	2	3	4
14	Pembahasan tugas perkuliah sangat sering dilakukan pada saat pembelajaran blended	1	2	3	4
15	Dosen sangat siap menyiapkan materi pada saat pembelajaran blended	1	2	3	4
16	Dosen sangat memfasilitasi kegiatan belajar pada saat pembelajaran blended	1	2	3	4
17	Dosen sangat efektif dalam menjelaskan latihan soal pada saat pembelajaran blended	1	2	3	4

APPENDICES 2

Validity Test Pilot Test

1. Validity Test Result of Traditional Learning Method

Correlations

		TL1	TL2	TL3	TL4	TL5	TL6	TL7	TL8	TL9	Trd
TL1	Pearson Correlation	1	.399*	.666**	.455**	.212	.556**	.388*	.421*	.352*	.672**
	Sig. (2-tailed)		.024	.000	.009	.244	.001	.028	.016	.048	.000
	N	32	32	32	32	32	32	32	32	32	32
TL2	Pearson Correlation	.399*	1	.342	.281	.570**	.520**	.267	.477**	.534**	.645**
	Sig. (2-tailed)	.024		.056	.119	.001	.002	.139	.006	.002	.000
	N	32	32	32	32	32	32	32	32	32	32
TL3	Pearson Correlation	.666**	.342	1	.412*	.360*	.348	.434*	.374*	.395*	.568**
	Sig. (2-tailed)	.000	.056		.019	.043	.051	.013	.035	.025	.001
	N	32	32	32	32	32	32	32	32	32	32
TL4	Pearson Correlation	.455**	.281	.412*	1	.339	.549**	.777**	.739**	.493**	.729**
	Sig. (2-tailed)	.009	.119	.019		.058	.001	.000	.000	.004	.000
	N	32	32	32	32	32	32	32	32	32	32
TL5	Pearson Correlation	.212	.570**	.360*	.339	1	.344	.209	.464**	.375*	.566**
	Sig. (2-tailed)	.244	.001	.043	.058		.054	.250	.008	.035	.001
	N	32	32	32	32	32	32	32	32	32	32
TL6	Pearson Correlation	.556**	.520**	.348	.549**	.344	1	.612**	.720**	.426*	.834**
	Sig. (2-tailed)	.001	.002	.051	.001	.054		.000	.000	.015	.000
	N	32	32	32	32	32	32	32	32	32	32
TL7	Pearson Correlation	.388*	.267	.434*	.777**	.209	.612**	1	.733**	.570**	.731**

	Sig. (2-tailed)	.028	.139	.013	.000	.250	.000		.000	.001	.000
	N	32	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.421*	.477**	.374*	.739**	.464**	.720**	.733**	1	.531**	.820**
TL8	Sig. (2-tailed)	.016	.006	.035	.000	.008	.000	.000		.002	.000
	N	32	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.352*	.534**	.395*	.493**	.375*	.426*	.570**	.531**	1	.662**
TL9	Sig. (2-tailed)	.048	.002	.025	.004	.035	.015	.001	.002		.000
	N	32	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.672**	.645**	.568**	.729**	.566**	.834**	.731**	.820**	.662**	1
Trd	Sig. (2-tailed)	.000	.000	.001	.000	.001	.000	.000	.000	.000	
	N	32	32	32	32	32	32	32	32	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		TL10	TL11	TL12	TL13	TL14	TL15	TL16	TL17	Trd
TL10	Pearson Correlation	1	.356*	.423*	.448*	.499**	.486**	.454**	.306	.675**
	Sig. (2-tailed)		.045	.016	.010	.004	.005	.009	.088	.000
	N	32	32	32	32	32	32	32	32	32
TL11	Pearson Correlation	.356*	1	.683**	.682**	.563**	.367*	.325	.166	.727**
	Sig. (2-tailed)	.045		.000	.000	.001	.039	.070	.364	.000
	N	32	32	32	32	32	32	32	32	32
TL12	Pearson Correlation	.423*	.683**	1	.835**	.515**	.413*	.236	.119	.715**

	Sig. (2-tailed)	.016	.000		.000	.003	.019	.193	.515	.000
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.448*	.682**	.835**	1	.418*	.461**	.344	.185	.731**
TL13	Sig. (2-tailed)	.010	.000	.000		.017	.008	.054	.312	.000
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.499**	.563**	.515**	.418*	1	.683**	.499**	.111	.745**
TL14	Sig. (2-tailed)	.004	.001	.003	.017		.000	.004	.547	.000
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.486**	.367*	.413*	.461**	.683**	1	.738**	.337	.733**
TL15	Sig. (2-tailed)	.005	.039	.019	.008	.000		.000	.059	.000
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.454**	.325	.236	.344	.499**	.738**	1	.690**	.655**
TL16	Sig. (2-tailed)	.009	.070	.193	.054	.004	.000		.000	.000
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.306	.166	.119	.185	.111	.337	.690**	1	.435*
TL17	Sig. (2-tailed)	.088	.364	.515	.312	.547	.059	.000		.013
	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.675**	.727**	.715**	.731**	.745**	.733**	.655**	.435*	1
Trd	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.013	
	N	32	32	32	32	32	32	32	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

2. Validity Test Result of Web-Based Learning Method

Correlations

		WB1	WB2	WB3	WB4	WB5	WB6	WB7	WB8	WB9	Web
WB1	Pearson Correlation	1	.728**	.526**	.655**	.554**	.537**	.514**	.397*	.087	.649**
	Sig. (2-tailed)		.000	.002	.000	.001	.002	.003	.024	.637	.000
	N	32	32	32	32	32	32	32	32	32	32
WB2	Pearson Correlation	.728**	1	.326	.610**	.495**	.424*	.354*	.211	-.179	.605**
	Sig. (2-tailed)	.000		.069	.000	.004	.016	.047	.247	.326	.000
	N	32	32	32	32	32	32	32	32	32	32
WB3	Pearson Correlation	.526**	.326	1	.633**	.674**	.659**	.643**	.447*	.222	.789**
	Sig. (2-tailed)	.002	.069		.000	.000	.000	.000	.010	.223	.000
	N	32	32	32	32	32	32	32	32	32	32
WB4	Pearson Correlation	.655**	.610**	.633**	1	.650**	.459**	.627**	.460**	.024	.760**
	Sig. (2-tailed)	.000	.000	.000		.000	.008	.000	.008	.894	.000
	N	32	32	32	32	32	32	32	32	32	32
WB5	Pearson Correlation	.554**	.495**	.674**	.650**	1	.446*	.397*	.382*	.067	.671**
	Sig. (2-tailed)	.001	.004	.000	.000		.010	.025	.031	.716	.000
	N	32	32	32	32	32	32	32	32	32	32
WB6	Pearson Correlation	.537**	.424*	.659**	.459**	.446*	1	.539**	.536**	.285	.717**

	Sig. (2-tailed)	.002	.016	.000	.008	.010		.001	.002	.114	.000
	N	32	32	32	32	32	32	32	32	32	32
WB7	Pearson Correlation	.514**	.354*	.643**	.627**	.397*	.539**	1	.563**	.101	.728**
	Sig. (2-tailed)	.003	.047	.000	.000	.025	.001		.001	.581	.000
	N	32	32	32	32	32	32	32	32	32	32
WB8	Pearson Correlation	.397*	.211	.447*	.460**	.382*	.536**	.563**	1	.359*	.622**
	Sig. (2-tailed)	.024	.247	.010	.008	.031	.002	.001		.043	.000
	N	32	32	32	32	32	32	32	32	32	32
WB9	Pearson Correlation	.087	-.179	.222	.024	.067	.285	.101	.359*	1	.380*
	Sig. (2-tailed)	.637	.326	.223	.894	.716	.114	.581	.043		.032
	N	32	32	32	32	32	32	32	32	32	32
Web	Pearson Correlation	.649**	.605**	.789**	.760**	.671**	.717**	.728**	.622**	.380*	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.032	
	N	32	32	32	32	32	32	32	32	32	32

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		WB10	WB11	WB12	WB13	WB14	WB15	WB16	WB17	Web
WB10	Pearson Correlation	1	.063	.521**	.523**	.185	.106	.212	.316	.689**
	Sig. (2-tailed)		.730	.002	.002	.311	.562	.244	.078	.000
	N	32	32	32	32	32	32	32	32	32

WB11	Pearson Correlation	.063	1	.296	.356*	.366*	.128	.160	.470**	.375*
	Sig. (2-tailed)	.730		.100	.045	.039	.485	.383	.007	.035
	N	32	32	32	32	32	32	32	32	32
WB12	Pearson Correlation	.521**	.296	1	.680**	.137	.068	.097	.299	.785**
	Sig. (2-tailed)	.002	.100		.000	.453	.713	.596	.096	.000
	N	32	32	32	32	32	32	32	32	32
WB13	Pearson Correlation	.523**	.356*	.680**	1	.295	.271	.461**	.367*	.738**
	Sig. (2-tailed)	.002	.045	.000		.102	.133	.008	.039	.000
	N	32	32	32	32	32	32	32	32	32
WB14	Pearson Correlation	.185	.366*	.137	.295	1	.219	.255	.259	.362*
	Sig. (2-tailed)	.311	.039	.453	.102		.228	.159	.152	.042
	N	32	32	32	32	32	32	32	32	32
WB15	Pearson Correlation	.106	.128	.068	.271	.219	1	.666**	.188	.398*
	Sig. (2-tailed)	.562	.485	.713	.133	.228		.000	.304	.024
	N	32	32	32	32	32	32	32	32	32
WB16	Pearson Correlation	.212	.160	.097	.461**	.255	.666**	1	.309	.453**
	Sig. (2-tailed)	.244	.383	.596	.008	.159	.000		.086	.009
	N	32	32	32	32	32	32	32	32	32
WB17	Pearson Correlation	.316	.470**	.299	.367*	.259	.188	.309	1	.543**
	Sig. (2-tailed)	.078	.007	.096	.039	.152	.304	.086		.001
	N	32	32	32	32	32	32	32	32	32

Web	Pearson Correlation	.689**	.375*	.785**	.738**	.362*	.398*	.453**	.543**	1
	Sig. (2-tailed)	.000	.035	.000	.000	.042	.024	.009	.001	
	N	32	32	32	32	32	32	32	32	32

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

3. Validity Test Results of Blended Learning Method

Correlations

		BL1	BL2	BL3	BL4	BL5	BL6	BL7	BL8	BL9	Bld
BL1	Pearson Correlation	1	.442*	.912**	.654**	.649**	.772**	.703**	.640**	.542**	.838**
	Sig. (2-tailed)		.011	.000	.000	.000	.000	.000	.000	.001	.000
	N	32	32	32	32	32	32	32	32	32	32
BL2	Pearson Correlation	.442*	1	.482**	.566**	.430*	.337	.473**	.446*	.132	.595**
	Sig. (2-tailed)	.011		.005	.001	.014	.059	.006	.010	.471	.000
	N	32	32	32	32	32	32	32	32	32	32
BL3	Pearson Correlation	.912**	.482**	1	.682**	.726**	.758**	.720**	.641**	.385*	.870**
	Sig. (2-tailed)	.000	.005		.000	.000	.000	.000	.000	.030	.000
	N	32	32	32	32	32	32	32	32	32	32
BL4	Pearson Correlation	.654**	.566**	.682**	1	.609**	.572**	.765**	.704**	.421*	.822**
	Sig. (2-tailed)	.000	.001	.000		.000	.001	.000	.000	.016	.000
	N	32	32	32	32	32	32	32	32	32	32

BL5	Pearson Correlation	.649**	.430*	.726**	.609**	1	.580**	.684**	.583**	.270	.802**
	Sig. (2-tailed)	.000	.014	.000	.000		.000	.000	.000	.135	.000
	N	32	32	32	32	32	32	32	32	32	32
BL6	Pearson Correlation	.772**	.337	.758**	.572**	.580**	1	.798**	.613**	.334	.797**
	Sig. (2-tailed)	.000	.059	.000	.001	.000		.000	.000	.061	.000
	N	32	32	32	32	32	32	32	32	32	32
BL7	Pearson Correlation	.703**	.473**	.720**	.765**	.684**	.798**	1	.612**	.196	.836**
	Sig. (2-tailed)	.000	.006	.000	.000	.000	.000		.000	.283	.000
	N	32	32	32	32	32	32	32	32	32	32
BL8	Pearson Correlation	.640**	.446*	.641**	.704**	.583**	.613**	.612**	1	.474**	.796**
	Sig. (2-tailed)	.000	.010	.000	.000	.000	.000	.000		.006	.000
	N	32	32	32	32	32	32	32	32	32	32
BL9	Pearson Correlation	.542**	.132	.385*	.421*	.270	.334	.196	.474**	1	.504**
	Sig. (2-tailed)	.001	.471	.030	.016	.135	.061	.283	.006		.003
	N	32	32	32	32	32	32	32	32	32	32
Bld	Pearson Correlation	.838**	.595**	.870**	.822**	.802**	.797**	.836**	.796**	.504**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.003	
	N	32	32	32	32	32	32	32	32	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		BL10	BL11	BL12	BL13	BL14	BL15	BL16	BL17	Bld
BL10	Pearson Correlation	1	.381*	.468**	.414*	.483**	.175	.218	.460**	.625**
	Sig. (2-tailed)		.031	.007	.018	.005	.338	.230	.008	.000
	N	32	32	32	32	32	32	32	32	32
BL11	Pearson Correlation	.381*	1	.762**	.688**	.519**	.211	.160	.536**	.781**
	Sig. (2-tailed)	.031		.000	.000	.002	.246	.383	.002	.000
	N	32	32	32	32	32	32	32	32	32
BL12	Pearson Correlation	.468**	.762**	1	.886**	.434*	.257	.225	.683**	.880**
	Sig. (2-tailed)	.007	.000		.000	.013	.156	.215	.000	.000
	N	32	32	32	32	32	32	32	32	32
BL13	Pearson Correlation	.414*	.688**	.886**	1	.421*	.354*	.317	.657**	.888**
	Sig. (2-tailed)	.018	.000	.000		.016	.047	.078	.000	.000
	N	32	32	32	32	32	32	32	32	32
BL14	Pearson Correlation	.483**	.519**	.434*	.421*	1	.329	.218	.460**	.597**
	Sig. (2-tailed)	.005	.002	.013	.016		.066	.230	.008	.000
	N	32	32	32	32	32	32	32	32	32
BL15	Pearson Correlation	.175	.211	.257	.354*	.329	1	.693**	.304	.461**
	Sig. (2-tailed)	.338	.246	.156	.047	.066		.000	.090	.008
	N	32	32	32	32	32	32	32	32	32
BL16	Pearson Correlation	.218	.160	.225	.317	.218	.693**	1	.316	.399*
	Sig. (2-tailed)	.230	.383	.215	.078	.230	.000		.078	.024
	N	32	32	32	32	32	32	32	32	32
BL17	Pearson Correlation	.460**	.536**	.683**	.657**	.460**	.304	.316	1	.746**
	Sig. (2-tailed)	.008	.002	.000	.000	.008	.090	.078		.000

	N	32	32	32	32	32	32	32	32	32
	Pearson Correlation	.625**	.781**	.880**	.888**	.597**	.461**	.399*	.746**	1
Bld	Sig. (2-tailed)	.000	.000	.000	.000	.000	.008	.024	.000	
	N	32	32	32	32	32	32	32	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

APPENDICES 3

Reliability Test Pilot Test

1. Reliability Test Result of Traditional Learning Method

Reliability Statistics

Cronbach's Alpha	N of Items
.930	17

2. Reliability Test Result of Web-based Learning Method

Reliability Statistics

Cronbach's Alpha	N of Items
.890	17

3. Reliability Test Result of Blended Learning Method

Reliability Statistics

Cronbach's Alpha	N of Items
.942	17

APPENDICES 4

Descriptive Test Result

Descriptives

Learning Method

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Traditional	384	3.3396	.37495	.01913	3.3020	3.3773	2.24	4.00
Web-based	384	2.5508	.41847	.02135	2.5088	2.5928	1.35	3.94
Blended	384	2.6352	.38911	.01986	2.5962	2.6743	1.18	3.82
Total	1152	2.8419	.52972	.01561	2.8113	2.8725	1.18	4.00

APPENDICES 5

Normality Testing

One-Sample Kolmogorov-Smirnov Test

		Traditional	Web-based	Blended
N		384	384	384
Normal Parameters[a,b]	Mean	3.3396	2.5508	2.6352
	Std. Deviation	.37495	.41847	.38911
Most Extreme Differences	Absolute	.069	.049	.060
	Positive	.040	.049	.060
	Negative	-.069	-.047	-.036
Kolmogorov-Smirnov Z		1.356	.958	1.183
Asymp. Sig. (2-tailed)		.050	.318	.122

a. Test distribution is Normal.

b. Calculated from data.

APPENDICES 6

Paired T-Test Result

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Traditional	3.3396	384	.37495	.01913
	Web-based	2.5508	384	.41847	.02135
Pair 2	Traditional	3.3396	384	.37495	.01913
	Blended	2.6352	384	.38911	.01986
Pair 3	Blended	2.6352	384	.38911	.01986
	Web-based	2.5508	384	.41847	.02135

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Traditional & Web-based	384	-.013	.801
Pair 2	Traditional & Blended	384	.151	.003
Pair 3	Blended & Web-based	384	.212	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Traditional - Web-based	.78885	.56546	.02886	.73212	.84559	27.338	383	.000
Pair 2	Traditional - Blended	.70440	.49803	.02541	.65443	.75437	27.716	383	.000
Pair 3	Blended - Web-based	.08445	.50730	.02589	.03355	.13535	3.262	383	.001