TPACK-based blended learning as an implementation of progressivism education: A systematic literature review

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ABSTRACT

Blended learning research has been developed recently. Still, research has yet to examine the rationale for emerging trends and issues regarding TPACK and Blended learning in terms of educational philosophy. This article focuses on analyzing blended learning based on TPACK (Technological Pedagogical Content Knowledge) from the perspective of the philosophy of progressivism. The educational philosophy of progressivism requires making progress consistently and applying it comprehensively, constructively, and innovatively. In progressivism philosophy, every human being also needs a change to be invariably developed and get improvement. The research method used is qualitative. This research uses library research to explore relevant concepts using various writings on blended learning and TPACK and then analyzed using the progressivism theory. This article explores the results of a literature review on blended learning, TPACK, and progressivism philosophy. A few books and articles published from 2006 to 2021 were searched using Harzing's Publish and Perish through Scopus, Google Books, and Google Scholar databases. The systematic review followed the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses) guidelines. The literature review includes 44 articles and books on blended learning, TPACK, and progressivism philosophy. In this context, a conclusion can be drawn where TPACK-based blended learning is an innovation in education following the needs and developments of the times, which is the implementation of the philosophy of progressivism. TPACK-based blended learning results from the philosophy of progressivism, which considers education to be moving in the direction of the times. The philosophy of progressivism requires a fundamental change in the implementation of education towards a better, quality, and real benefit for students.

INTRODUCTION

The pursuit of education always lives in a dynamic world, along with advances in information technology and demographic changes. If the world of education does not align with the development of the era, education will become obsolete and out of tune with progress in the second millennium. The impact of this development causes the tendency to learn, especially in future

learning, which has changed the traditional learning approach towards future learning (Mulyani & Syah, 2014; Prayogi & Estetika, 2020).

Blended learning is recommended as future learning that people can learn anywhere, whether in the classroom, in the library, at home, or on the road; at any time, not according to the schedule can be morning, afternoon, or evening. Blended learning is an innovation in responding to the challenges of the times when human mobility is increasingly dense and the birth of new technologies. This learning model can be applied to anyone, especially those with high mobility who find it challenging to continue to meet face-to-face with educators or lecturers. Another reason is to learn together for those who feel they need additional material. They are less satisfied with conventional learning in the classroom because, with blended learning, they can quickly get new and even more up-to-date materials from various sources and even experts from all over the world (Asarta & Schmidt, 2020; Bernard et al., 2014; Hung & Chou, 2015; Zhang, 2020). Students like blended learning because it provides unlimited learning opportunities (Kandakatla et al., 2020).

Blended learning can be applied if the teacher has competency in technological pedagogic. The teacher needs to have mastery of teaching material and pedagogical knowledge on technological pedagogic, called TPACK, simultaneously (Rahmadi, 2019). Hence, in implementing blended learning, teachers must be supported by technological efforts and new types of knowledge, namely TPACK (Technological Pedagogic and Content Knowledge). The demands of 21st-century learning are integrating technology as a learning medium to develop a learning skill, so teachers must have technical skills to improve learning outcomes.

At this time, teachers are expected to be able to integrate the knowledge of content, pedagogy, and technology known as TPACK (Harris & Hofer, 2011; Rosenberg & Koehler, 2015; Schmid et al., 2020). Teachers are expected to be skilled teachers who teach effectively, master content, and utilize technology in learning. TPACK can be used as a framework for designing teacher education curricula that align with the era and demands of 21st-century learning (Rahmadi, 2019). TPACK is a development of the framework introduced by Shulman, namely PCK (Pedagogical Content Knowledge) (Shulman, 1987). This knowledge must be mastered by present and future teachers who will teach in a learning environment with various technological instruments.

Students who are the current younger generation, also known as Generation Z or Net Generation, have different characteristics from the previous generation. If the world of education does not try to map the distinctive profile of these learners and design appropriate learning patterns, a gap will form between the two. Generation Z has been very pampered with the various facilities offered. This has a rationale for undergoing a pattern so that learning follows the times (Rezky et al., 2019). As regards the rationale, it follows the flow of progressivism. Progressivism argues that knowledge that is correct in the present may not be correct in the future. Education must prioritize children instead of focusing on teachers or content areas (Mutmainnah, 2020; Nasution, 2012).

Progressivism directs students to continue to advance and develop in order to develop their potential of students. Progressivism demands always moving forward (progress) to act constructively, reformative, actively, innovatively, and dynamically. The flow of progressivism recognizes and tries to develop the principle of progressivism in the reality of life so that humans can survive life's challenges (Dewey, 1916). This flow is also referred to as instrumentalism and experimentalism. It is instrumentalism because it assumes that humans have the ability of intelligence as a tool to live and develop their personalities. At the same time, it is called experimentalism because it practices the principle of experimentation to test the truth of a theory. They then called environmentalism because the environment influences individual personality development.

Based on this explanation, the author wants to explain how TPACK-based blended learning is studied from the perspective of progressivism. The study begins by explaining the critical role of TPACK-based blended ;earning in the learning process and the relationship between TPACK-based blended learning and progressivism. Based on the researchers' knowledge while reviewing the literature, TPACK-based blended learning results from progressivism rationale to obtain the concept of TPACK-based blended learning as an implementation of progressivism education. Regarding this, the research formula can be seen as follows: (1) How is the concept of TPACK-based blended learning if reviewed based on the progressivism concept?; (2) How is the role of TPACK-based

blended learning in the teaching and learning processes?; and (3) What is the relationship between TPACK, blended learning, and the progressivism concept?

RESEARCH METHOD

In this article, the research used library research. Library research aims to explore data and information from various sources from books and journals. This research can be classified as a literature review with a comprehensive search. The study was conducted according to Dybå and Dingsøyr (2008), which consisted of five stages: (1) Review protocol; (2) Identification of inclusion and exclusion criteria; (3) Search for relevant studies; (4) Critical assessment; (5) Data extraction; and (6) Synthesis. The assessment does not include quality assessment, the synthesis is narrative, and the analysis is thematic (Grant & Booth, 2009). Figure 1 shows the PRISMA flow diagram for the literature review that gives an overview of the process going from the initial search of the literature (156 articles and books), screening, critical appraisal, and the resulting articles in the qualitative and quantitative analysis.
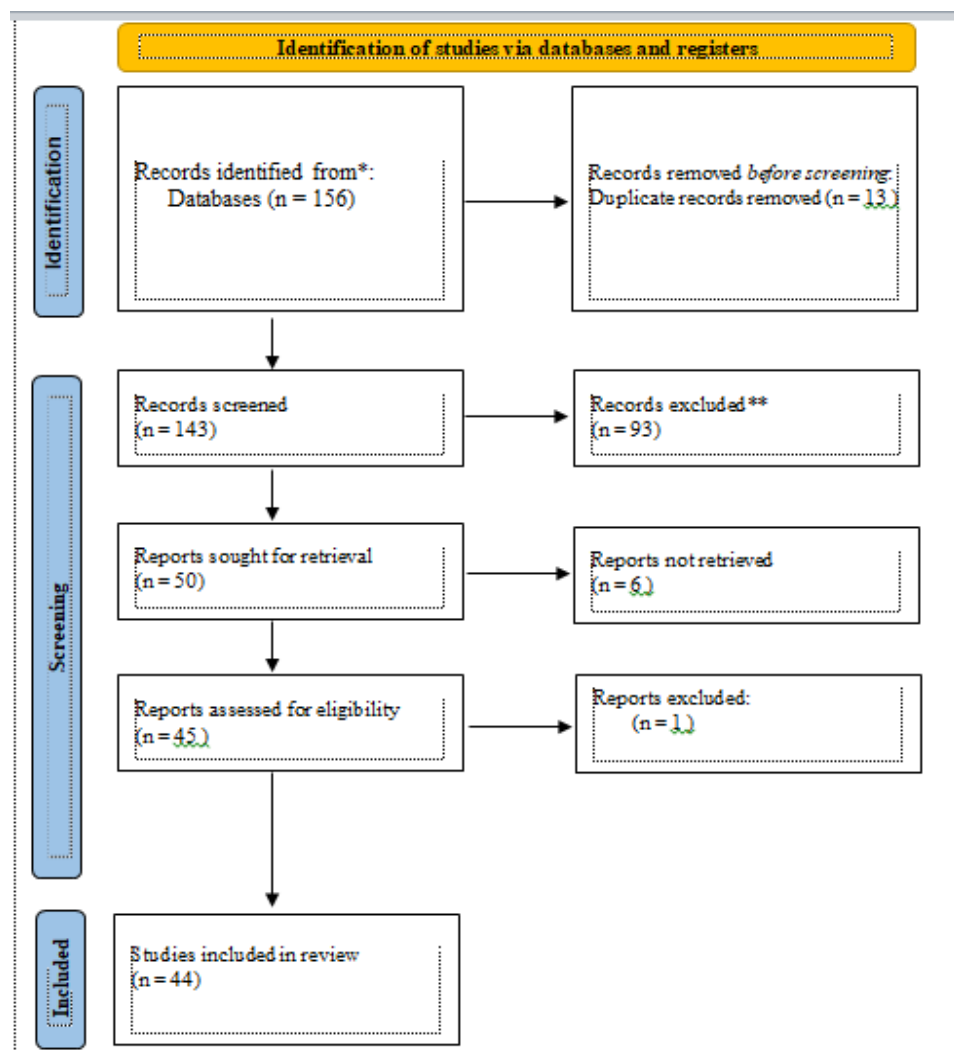

Figure 1. PRISMA Flowchart for this Research

Protocol Review

The review protocol was implemented to achieve the following objectives: (1) to maximize literature coverage, (2) to identify and include related work that could be classified as a study

(experimental, survey, case study, or similar), and (3) to collect and synthesize meaningful data from sources related to the specified research question. This protocol establishes research questions, search strategies, inclusion, exclusion, quality criteria, data extraction, and synthesis methods.

Identification of Inclusion and Exclusion Criteria

The identification of inclusion and exclusion criteria was optimized to identify as many relevant articles as possible. Inclusion and exclusion criteria are template criteria used by several researchers. However, one criterion refers specifically to blended learning. More complicated inclusions and exclusions should be made at the critical assessment step. The inclusion criteria for searching for relevant studies are articles n books, not reports, letters, or abstracts. The exclusion criteria are articles and books that cannot be accessed through university or membership services.

Search for Relevant Study

The search for relevant studies was carried out in two steps: (1) digital research databases were searched for relevant studies, and (2) references within the found studies were checked for additional studies. The keyword in this article search was "blended learning," "TPACK," and "progressivism." The following research databases were searched sequentially: Google Scholar and Scopus. Searches were conducted for articles written in English and Indonesian language (Bahasa Indonesia) and published in proceedings or journals. Scopus was chosen because of its ranking as an academic research database, good study coverage relevant to our review, and based on previous experience. Google Scholar was chosen because of its high coverage. At this stage, the title and abstract of the article are checked. If the article meets the inclusion and exclusion criteria, the pdf and site data are downloaded, and the citation and keyword data are added to the spreadsheet. A total of 44 quality articles were accepted at this stage. Most articles rejected at this stage are not accessible through university or membership services and are project descriptions or abstracts.

Critical Assessment

The critical assessment focuses on relevance (only articles classified as experimental, survey case studies, or similar with a focus on blended learning). Appropriate research approaches are described, including research context, number of subjects, scope, design, methods, execution), and credibility (conclusion based on good analysis and reasoning).

Data Extraction

During this stage, data were taken from 44 articles received by reading all articles in detail. The following data were entered into the spreadsheet: Type of article, number of research subjects (N), a brief description of the study, description of results, article theme, and research context.

Synthesis

For the synthesis step, all articles and books in the review were classified according to the type of research and by three variables, as presented in Table 1.

Table 1. Variables Used in Data Synthesis

Variables	Description
Blended learning	The learning involved is to combine instructional modalities or delivery media and combine online and face-to-face instruction (Graham, 2006).
TPACK	As framework for technology integration, as well as a body of knowledge of what teacher need to know to teach with technology (Angeli & Valanides, 2005; Herring et al., 2016).
Progressivism	Progressivism is a modern educational philosophy that requires the change of educational implementation progressively (Fadlillah, 2017).

The three variables represent the three questions on the research objectives. For each article, all variables that match the study are checked, and the related text is added to the results and study descriptions in the spreadsheet. Then all this information is collected and categorized. The results of all accepted studies were summarized according to the three research questions and reported.

FINDINGS AND DISCUSSION

In this section, the general result of the literature review is arranged based on the three research questions. Based on 156 articles searched by using Scopus and Google Scholar, it was obtained that 44 articles were reviewed comprehensively (Table 2, Table 3, and Table 4). 112 articles cannot be reviewed and analyzed because it was inaccessible through the University website for the researcher.

Tabel 2. Summary of Synthesis of Accepted Articles in 2021-2022

No.	Author and Years	Titles	Object	Countries
1	Ayasrah (2022)	Attitudes of teachers and outstanding students towards blended learning in light of the Covid-19 pandemic in Jordan	Blended learning	Jordan
2	Lu and Wang (2022)	The effects of different interventions on self-regulated learning of pre-service teachers in a blended academic course.	TPACK	Chinese
3	Batac et al. (2021)	Qualitative content analysis of teachers' perceptions and experiences in using blended learning during the COVID-19 pandemic	Blended learning	Philippines
4	Abroto et al. (2021)	Pengaruh metode blended learning dalam meningkatkan motivasi dan hasil belajar siswa sekolah dasar (*The effect of blended learning to increase elementary school students' motivation and learning outcomes*)	Blended learning	Indonesia
5	Lachner et al. (2021)	Fostering pre-service teachers' technological pedagogical content knowledge (TPACK): A quasi-experimental field study.	TPACK	Jerman
6	Schmid et al. (2021)	Self-reported technological pedagogical content knowledge (TPACK) of pre-service teachers in relation to digital technology use in lesson plans.	TPACK	Switzerland
7	Wang et al. (2021)	Blended learning for Chinese university EFL learners: learning environment and learner perceptions.	Blended learning	Chinese
8	Peng and Fu (2021)	The effect of Chinese EFL students' learning motivation on learning outcomes within a blended learning environment	Blended learning	Chinese
9	Ouatiq et al. (2022)	The preferences and expectation of moroccan teachers from learning analytics dashboards in a blended learning environment: Empirical study.	Blended learning	Morocco
10	Saragih et al. (2021)	Filsafat pendidikan (*educational philosophy*)	Progresivisme	Indonesia
11	Lapitan et al. (2021)	Education for chemical engineers an effective blended online teaching and learning strategy during the COVID-19 pandemic.	Blended learning	Philippines
12	Taghizadeh and Hajhosseini (2021)	Investigating a blended learning environment: contribution of attitude, interaction, and quality of teaching to satisfaction of graduate students of TEFL	Blended learning	Iran

Table 3. Summary of Synthesis of Accepted Articles in 2018-2020

No.	Author and Years	Titles	Object	Countries
1	Cahapay and Anoba (2020)	The readiness of teachers on blended learning transition for post COVID-19 period: An assessment using parallel mixed method	Blended learning	Philippines
2	Asarta and Schmidt (2020)	The effects of online and blended experience on outcomes in a blended learning environment.	Blended learning	USA
3	Bykova et al. (2021)	Blended learning in the context of digitalization.	Blended learning	Ukraina
4	Gera (2020)	Analisis pembelajaran e-learning dalam perspektif aliran filsafat pendidikan progresivisme (*analysis of progressivism educational philosophy-based e-learning*)	Progresivisme	Indonesia
5	Kacetl and Semradova (2020)	Reflection on blended learning and e-learning - case study.	Blended learning	Czech Republic
6	Kandakatla et al. (2020)	Student perspectives on the learning resources in an Active, Blended and Collaborative (ABC) pedagogical environment.	Blended learning	USA
7	Faiz and Kurniawaty (2020)	Konsep merdeka belajar pendidikan indonesia dalam perspektif filsafat progresivisme (*the concept of indonesia independent of learning program in progressivism educational philosophy*)	Progresivisme	Indonesia
8	Mustaghfiroh (2020)	Konsep "merdeka belajar" perspektif aliran progresivisme John Dewey (*the concept of John Dewey's genre-based 'Indonesia independent of learning program)*	Progresivisme	Indonesia
9	Schmid et al. (2020)	Developing a short assessment instrument for Technological Pedagogical Content Knowledge (TPACK.xs) and comparing the factor structure of an integrative and a transformative model	TPACK	Switzerland
10	Thai et al. (2020)	Face-to-face, blended, flipped, or online learning environment? Impact on learning performance and student cognitions	Blended learning	Vietnam
11	Widiani (2020)	Progresivisme peningkatan mutu pendidikan terhadap siswa (analisis sejarah periode pendidikan di indonesia) (*progressivism of education quality development for students (analysis of education in Indonesia history))*	Progresivisme	Indonesia
12	Youde (2020)	I don't need peer support: Effective tutoring in blended learning environments for part-time, adult learners	Blended learning	UK
13	Zhang (2020)	Exploring blended learning experiences through the community of inquiry framework.	Blended learning	Chinese
14	Mishra (2019)	Considering contextual knowledge: The TPACK diagram gets an upgrade	TPACK	USA
15	Rahmadi (2019)	Technological Pedagogical Content Knowledge (TPACK): kerangka pengetahuan guru abad 21 (*Technological Pedagogical Content Knowledge (TPACK): A framework of the 21st teachers' knowledge*)	TPACK	Indonesia
16	Shu and Gu (2018)	Determining the differences between online and face-to-face student–group interactions in a blended learning course	Blended learning	Chinese
17	W. Wang et al. (2018)	Preservice teachers' TPACK Development: A review of literature	TPACK	USA

Table 4. Summary of Synthesis of Accepted Articles in 2005-2017

No.	Author and Years	Titles	Object	Countries
1	Derbel (2017)	Blended learning: Concept, emerging practices and future prospects.	Blended learning	Tunisia
2	Fadlillah (2017)	Aliran progresivisme dalam pendidikan di Indonesia (*progressivism for education in Indonesia*)	Progresivisme	Indonesia
3	Swallow and Olofson (2017)	Contextual understandings in the TPACK framework.	TPACK	USA
4	Herring et al. (2016)	Handbook of Technological Pedagogical Content Knowledge (TPACK) for educators: Second edition	TPACK	USA
5	Warami (2016)	Bahasa dalam gerbang filsafat pendidikan: Perspektif ontologi bahasa dan budaya (*Language in Philosophy of Education: Ontology Perspective of Language and Culture*)	Progresivisme	Indonesia
6	Yunus (2016)	Telaah aliran pendidikan progresivisme dan esensialisme dalam perspektif filsafat pendidikan. (*Study of the educational flow of progressivism and essentialism in the perspective of educational philosophy*)	Progresivisme	Indonesia
7	Hung and Chou (2015)	Students' perceptions of instructors' roles in blended and online learning environments : A comparative study	Blended learning	Taiwan
8	Rosenberg and Koehler (2015)	Context and technological pedagogical content knowledge (TPACK): A systematic review	TPACK	USA
9	Bernard et al. (2014)	A meta-analysis of blended learning and technology use in higher education: From the general to the applied	Blended learning	USA
10	Nanuru (2013)	Progresivisme pendidikan dan relevansinya di Indonesia (*Education Progressivism and Its Relevance*)	Progresivisme	Indonesia
11	Nasution (2012)	Pendidikan dalam persfektif progresivisme dan perrenialisme (*Education in Progressivism and Perennialism Perspective*)	Progresivisme	Indonesia
12	Harris and Hofer (2011)	Technological pedagogical content knowledge (TPACK) in action: A descriptive study of secondary teachers' curriculum-based, technology-related lnstructional planning	TPACK	USA
13	Koehler et al. (2013)	What is Technological Pedagogical Content Knowledge (TPACK)?	TPACK	USA
14	Graham (2006)	Blended learning systems	Blended learning	USA
15	Angeli and Valanides (2005)	Preservice elementary teachers as information and communication technology designers: An instructional systems design model based on an expanded view of pedagogical content knowledge	TPACK	Cyprus

The presentation of articles can be shown in Figure 2, which is reviewed to answer three-question research. The percentage of blended learning is 48%, the dominant percentage, the percentage of TPACK is 29%, and the percentage of progressivism is 23%. There is an increasing percentage of blended learning, progressivism, and TPACK for the research published from 2005 to 2022 in Figure 3. It is seen that the literature review articles in 2020 achieved a high percentage. A few articles published in 2020 are indicated by Covid-19. Thus, these three literature reviews have an increased percentage of implementation.
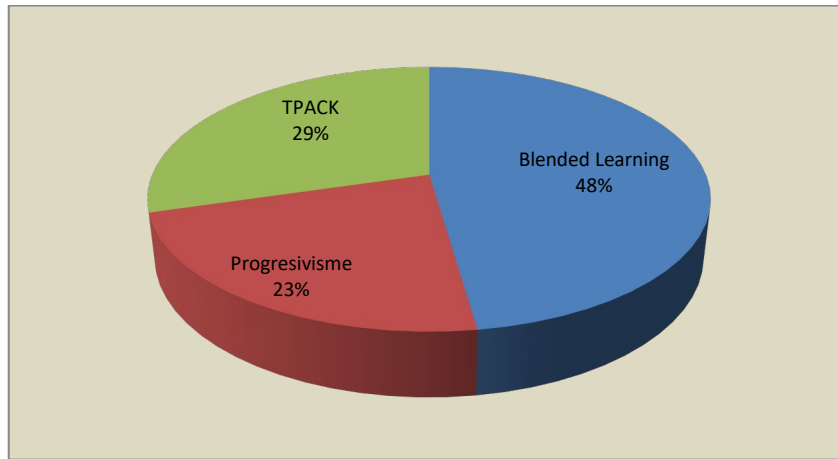
Figure 2. Percentage of Article Description between TPACK, Blended Learning, and Progressivism
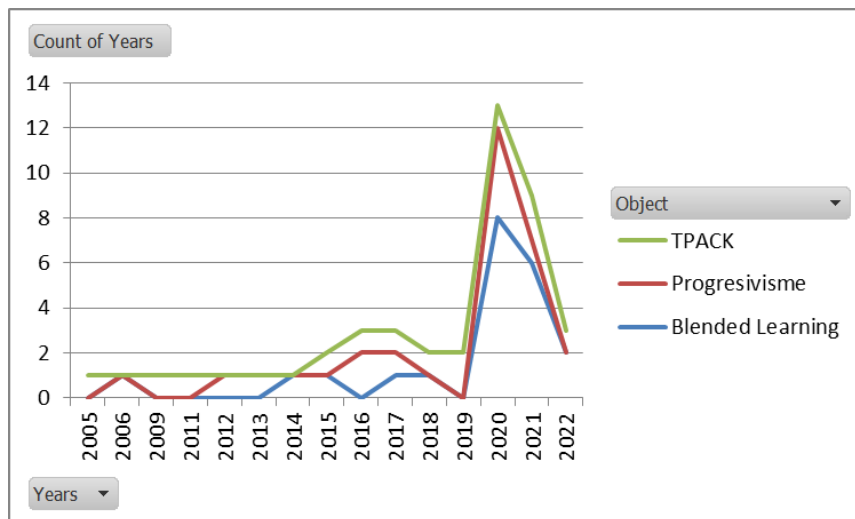

Figure 3. Number of Articles Using TPACK, Blended Learning, and Progressivism

Indonesian Education Concept

The concept of education expressed by Ki Hadjar Dewantara has similarities to the concepts of constructivism and progressivism in education. Both have a common thread: learning focuses on students' ability to build their thinking. An educator is only a facilitator who helps students build the constructivism concept. In other words, the learning approach is student-centered (student-centered learning). There is no single theory, but most constructivism has the same two main ideas: Learners are active in constructing their knowledge, and social interaction is essential for constructing knowledge.

The progressive flow recognizes and tries to develop the principle of progressivism in the reality of life so that humans can face life's challenges according to the times' conditions and challenges. Thus, teachers must be able to become facilitators according to the times, one of which is by implementing TPACK-based mixed learning.

TPACK-Based Blended Learning in the Learning Process

Blended learning is a term for mixing conventional learning models, usually face-to-face, with internet-based learning models commonly known as e-learning. Generally, there are three different definitions for blended learning: (1) the combination of media and tools employed in an e-learning environment; (2) a combination of several pedagogical approaches; and (3) a combination

of traditional face-to-face learning with a web-based online approach. Blended learning is a process of unifying various learning methods that combine virtual and physical resources. The use of online learning resources, especially those based on web/blogs, without leaving face-to-face activities (Graham, 2006). Driscoll and Carliner (2005) define blended learning as integrating or combining learning programs in different formats to achieve common goals. Blended learning is a combination and various strategies for learning. So blended learning is a learning method that combines two or more methods and strategies to achieve the learning objectives. Before the advent of blended learning, the learning component had limits.

Nevertheless, when blended learning already exists, the learning component has no more limitations so that learning objectives can be achieved with the freedom of ways adapted to learning conditions (Graham, 2006; Hung & Chou, 2015; Thai et al., 2020; Youde, 2020). Online learning and face-to-face learning are components of blended learning. So, blended learning must use the Internet, intranet, and web-based technologies to access learning materials and enable learning interactions. Using technology in teaching and learning activities can provide benefits for increasing student learning motivation, illustrating material, and assisting the investigation process. Integrating technology meaningfully into learning takes work.

In order to be able to choose the right technology, the teacher must master the material to be taught so that he can analyze the character of the material. Teachers must also consider teaching strategies that follow the technology, including pedagogic knowledge. So, it can be concluded that to integrate technology well, teachers must master the knowledge of material content, pedagogics, and technology (Harris & Hofer, 2011; Rosenberg & Koehler, 2015). The three bits of knowledge interact and intersect to form a TPACK (Figure 4).
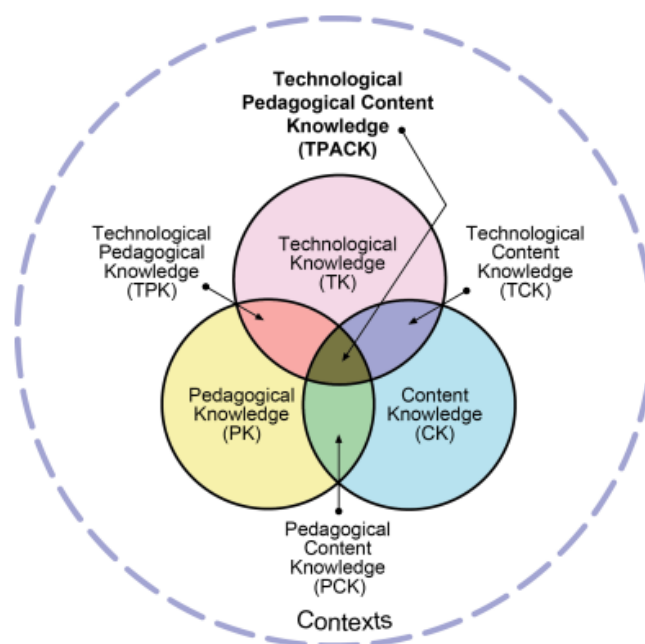

Figure 4. Technological Pedagogical Content Knowledge (TPACK) Framework (Koehler et al., 2013)

In teaching and learning activities, teachers must also be able to convey material well because learning is a process of developing new knowledge, skills, and behaviors in a person due to his interaction with various information and the environment. Therefore, the teacher must be able to convey the information he knows correctly and on target, namely the correct material content, through practical pedagogical activities. Based on Shulman's idea of PCK, Koehler et al., (2013) have added technology to PCK and described TPACK as the relationship between technology, pedagogy, and content.

Therefore, teachers should be able to integrate technology into their teaching. Educators can be said to be professionals who not only master the material and concepts but must master how to teach so that learning materials can be conveyed to students properly. The material (content) and teaching methods (pedagogical) are interconnected and cannot be separated. The importance of continuity between material and pedagogical then emerges a new understanding that combines a knowledge of material and technology to students, namely Technological Pedagogical and Content Knowledge (TPACK).

The essential components of TPACK are Content Knowledge (CK), Pedagogical Knowledge (PK), Technological Knowledge (TK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), Technological Pedagogical and Content Knowledge (TPACK) (Rosenberg & Koehler, 2015; Swallow & Olofson, 2017). Teachers are important in utilizing technology and integrating technology into the teaching and learning process (Schmid et al., 2021; W. Wang et al., 2018). Regarding implementation, positive relations between self-reported TPACK and self-reported frequency, type, or quality of classroom technology use are acquired based on several studies implemented by Chuang et al. (2015), Habibi et al. (2020), and Li et al. (2019). In addition, TPACK development is essential to apply for pre-service teachers in order to prepare students for a digitalized future (Lachner et al., 2021).

Technology also helps increase student engagement and activity inside and outside the classroom. Face-to-face learning is one of the components of blended learning. With face-to-face learning, students can further deepen what has been learned through online learning, or vice versa, to deepen further the material taught through face-to-face. Independent learning is one of the components of blended learning because there is an independent learning process in which students can learn independently through online learning (Shu & Gu, 2018; Thai et al., 2020).

The Relationship of TPACK-Based Blended Learning with Progressivism Philosophy

Progressivism is linguistically derived from the word progressive, which means to move forward. The simple meaning of progressivism is the movement of change towards improvement. Regarding educational philosophy, progressivism is a philosophical school that requires progress to bring about change (Faiz & Kurniawaty, 2020; Mustaghfiroh, 2020; Nanuru, 2013; Nasution, 2012). In line with this opinion, Warami (2016) added that the philosophy of progressivism education is a philosophy that refers to respecting individuals and science and accepting change following the times, both technology and the environment.

Progressivism requires educational goals that are reconstructive or provide a continuous experience so that students can do something following the demands of the environment. Progressivism can be an educational movement that prioritizes implementing education in child-centered schools as a reaction to teacher-centered education. In connection with the various understandings described above, it can be concluded that progressivism is a philosophical school that always wants students to progress in changing times and the environment, which is getting faster so that students can adapt and even master these changes (Gera, 2020; Widiani, 2020).

Progressivism-based development is required to appear the professional values and skills prepared for 21st-century learning. In the increasingly complex global era, teachers must prepare themselves to become a professional teachers. As an educator, teachers must adapt to the situation to qualify their competencies for students (Faiz & Kurniawaty, 2020).

The concept of blended learning based on TPACK implements the progressive philosophy of progress. Progressivism considers TPACK-based blended learning as one of the products of this philosophy. This is related to the philosophy of progressivism, which considers education advanced according to developments and changing times. At the same time, TPACK-based blended learning responds to the world of education in the changing times. TPACK-based blended learning is more about developing learning methods to keep up with technological advances and the environment. Progressivism includes the development and changes in all fields of education, material, curriculum, and goals to keep up with changing times and the environment.

The history of the emergence of TPACK-based blended learning and progressivism philosophy. Blended learning generally appears as a renewal or a variation of conventional learning methods deemed too limited to face-to-face meetings and limited by time (Bykova et al., 2021; Derbel, 2017; Kacetl & Semradova, 2020). The concept of blended learning is a form of implementing the flow of progressivism philosophy. In addition, the TPACK-based blended learning concept combines learning strategies between material (content) and teaching methods (pedagogical) which are interconnected and inseparable.

The importance of continuity between material and pedagogical emerges in a new understanding of combining material knowledge and technology for students. Students (Koehler et al., 2013; Mishra, 2019; Rahmadi, 2019; Swallow & Olofson, 2017). Along with the development of the era, teaching methods with conventional models were deemed unable to answer the challenges of changing times, so innovations and educational changes were carried out to keep pace with the current rapid advances in technology, information, and communication so that the blended concept in TPACK-based learning was born.

Likewise, the flow of progressivism appears against dissatisfaction with the implementation of education, which is very traditional, tends to be authoritarian, and students are only used as objects of learning. Usually, this flow of progressivism is associated with a liberal & cultural worldview which means flexible (not rigid, not resistant to change, not bound by a particular doctrine), curios (wanting to know, wanting to investigate), tolerant, and open-minded or open. Progressivism was born as a reaction to its competitors, namely the philosophy of essentialism, which believes in rejecting renewal and is more inclined to conventional classical education, which emphasizes culture as a basic element of education, including the teacher as the center (Barnadib, 1990; Saragih et al., 2021). So blended learning and progressivism are both born to make changes that follow the times in the field of education, which was initially considered classic, did not develop, and tended not to suit the needs of the times.

The concept of blended learning is based on TPACK and progressivism philosophy from a curriculum point of view. Learning that uses blended learning combines media in learning or combines a pedagogical approach and traditional face-to-face learning with a web-based online approach (Graham, 2006). Based on the explanation of the principle of blended learning, blended learning is flexible and can be included in all curricula. A curriculum based on the philosophy of progressivism emphasizes a flexible and open curriculum that can be changed, shaped, and developed according to the times and science and technology. Curriculum development in progressivism must be based on student's needs, interests, and initiatives, not frozen, and can be revised so that what is suitable is an experience-centered curriculum (practice) (Barnadib, 1990; Yunus, 2016).

Blended learning based on TPACK and the philosophy of progressivism is based on the point of view of educators. Blended learning is student-centered, so teachers must create creative and fun learning that spurs students' focus on learning. In TPACK-based blended learning, educators are required to have several competencies so that learning goes well, namely the ability to make learning designs, mastery of technology, and mastery of learning materials following the field of material to be taught (Ayasrah, 2022; Lu & Wang, 2022; Ouatiq et al., 2022). In addition, teachers are required to develop learning skills so that they have skills in the field of technology to improve learning outcomes and facilitate the process and the availability of learning tools such as lesson plans (Yusuf, 2015).

According to the philosophical view of progressivism, the teacher is an advisor, which means that the teacher can become an advisor when students experience a dead end in solving the problems they face because the teacher is a person who understands the character of the student. Teachers, as mentors, have a lot of knowledge and experience in the field of education. As a director, the teacher must know the student's potential and be able to direct the student's potential. The progressivist teacher is not an authoritarian person who can do anything but an authority holder who can do anything (authoritarian) to his students. Progressivism argues that teachers must know the direction of children's development because the environment in which children live is always a process of interaction and is always in a changing situation (Fadlillah, 2017; Nanuru, 2013).

Based on the student's point of view, blended learning is based on TPACK and progressivism philosophy. Blended learning TPACK focuses on students who are required to be independent of

time and responsible for implementing predetermined learning in person or online. Students feel happy to learn because the teacher conveys the material with the help of technology so that it looks more attractive and easy to understand. TPACK-based blended learning gives students the freedom to choose and utilize learning materials. The philosophy of progressivism education places students in a central position in learning, as previously explained, and progressivism adheres to the principle of child-centered education. Progressivism tries to direct students to be active, not passive, so that classroom activities focus on problem-solving practices and the school atmosphere is directed at cooperative and democratic situations (Mudyaharjo, 2001; Saragih et al., 2021).

More specifically, the learning process is more emphasized on creativity, activity, naturalistic learning, and experience so that progressivism in its context places more emphasis on students and their interests than on the subject itself. Progressivism lays the foundations of independence and freedom for students. Students are given the freedom, both physically and in their way of thinking, to develop hidden talents and abilities (Latif, 2020). In this regard, progressivism is always associated with the liberal road to culture. Namely, liberals are flexible (flexible and not rigid), tolerant, and open, often wanting to know and investigate for the sake of developing experience (Mustaghfiroh, 2020).

Based on the explanation described above, progressivism and blended learning views toward educators and students have similarities. This aligns with the philosophy of progressivism, which states that education changes according to the times. TPACK-based blended learning provides flexibility for teachers and students in face-to-face or online learning, a combination of media or pedagogical approaches.

According to John Dewey's philosophy of progressivism, from the explanation above, there is a relationship between the concept of "blended learning based on TPACK" and the concept of education. TPACK-based blended learning is an implementation of the philosophy of progressivism emphasizing the existence of maximum exploration of the learning process that continues to develop according to the times. Education is also responsible for fostering students to be brave, independent, and self-employed through blended learning, where teachers must master TPACK as the basis of learning.

CONCLUSION

The concept of blended learning based on TPACK is a form of implementing the philosophy of progressivism that leads to development and progress in education. Progressivism includes the development and change of all fields of education, material, curriculum, and goals following the changing times and the environment. The philosophy of progressivism, which considers education to be advanced according to the developments and changes of the times and blended learning based on TPACK, is a form of response to the world of education in responding to the changing times. TPACK-based blended learning is more about developing learning methods to keep up with technological advances and the environment. The research in this article still needs to review the literature on how far successful TPACK and blended learning are as the basis of the progressivism concept. The research in this article is required to make the other researchers open-minded to examine various concepts that are based on progressivism as the basic concept to find out new concepts following the current development.

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