Investigating Students’ Perceptions to Blended Learning: A Mixed-Method Study in A Rural Area of Indonesia

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Abstract
Blended learning environments have become increasingly popular in higher education institutions worldwide, including in Indonesia. However, little is known about the perceptions of university students towards blended learning in rural areas of Indonesia. This study aims to explore the perceptions of university students towards blended learning environments in a rural area of Indonesia. A mixed-methods approach was used to collect data from 23 university students through surveys and interviews in three categories: learning materials, assessments, and interactive activities. The results revealed that the majority of students had a positive perception of blended learning, with the convenience of learning at their own pace being the most cited benefit. The most preferred multimedia learning material is the combination of verbal materials with visual materials (69.6%). In response to assessment type, the most preferred assessment for the students in blended learning is Asynchronous tests (65.2%). In response to the most preferred interaction and collaboration activities, a regular and external digital tool like WhatsApp (73.9%). Future research should explore the effectiveness of blended learning in improving learning outcomes in rural areas of Indonesia.

Keywords: blended learning, perception, university students, rural areas.

INTRODUCTION
Blended learning environments, which combine traditional face-to-face instruction with online learning activities, have become increasingly popular in higher education institutions worldwide. In Indonesia, blended learning has been implemented in many universities, especially in urban areas. However, little is known about the perceptions of university students towards blended learning in rural areas of Indonesia, where internet access and infrastructure may be limited. Therefore, this study aims to explore the perceptions of university students towards blended learning environments in a rural area of Indonesia.

Blended learning environments have been defined as the integration of face-to-face instruction with online learning activities (Bonk and Graham, 2006; Garrison & Vaughan, 2008; Graham, Woodfield, Harrison, 2012). Hartman, Dziuban, and Moskal (2007) mention that blended learning refers to the combination of face-to-face classroom instruction with online learning. Further, Chan & Koh (2008) also reiterates that blended learning requires customizing learning by combining components of classroom instruction, providing live and self-paced e-learning, and utilizing enhanced supportive learning services.
Blended learning provides synchronous and asynchronous learning experiences that mix the benefits of online courses with in-person interaction. Blended learning meets the needs of students who are unable to attend classes in their entirety but still require opportunities for personal engagement (Prasetya et al., 2020).

There are several studies that show that blended learning has been found to have numerous benefits, including increased flexibility, convenience, and improved learning outcomes (Graham, Woodfield, & Harrison, 2013). The benefits of blended learning are well-rehearsed, and include increased critical thinking and knowledge transformation; accelerated learning; the creation of an effective learning environment; flexibility for teachers and students; personalization; increased student motivation; and the development of autonomy and self-directed learning. (Jou, Lin, Wu, 2013; George-Walker and Keefe, 2010; Wang, Chen, Tai, 2019).

Surjono, et al (2017) state that face-to-face instruction has some flaws, such as limited teacher-student connection, delayed feedback, and limited visualization of teaching materials. While the benefits include hands-on experience and character education to foster positive behaviors such as respect, honesty, kindness, and hard work, which are modeled by lecturers. Challenges such as the lack of reliable internet access, technical difficulties, and difficulty in time management have also been identified in a blended learning situation (Picciano, 2009).

The constraints are more apparent in rural areas, especially in Indonesia. The geographical and topographical constraints of Indonesia, which consists of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the internet for online learning (Afrianti and Aditia, 2020; Prahmana et al., 2021). The general state of Indonesia's rural areas poses several problems with the implementation of online learning. Many Indonesian rural communities need better internet access, stronger infrastructure, and access to technology resources. These factors may make it difficult for students to participate fully in online learning activities, such as obtaining course materials, connecting with instructors and classmates, and submitting assignments.

Furthermore, there may be a scarcity of trained teachers and technical assistance for online learning in Indonesia's rural areas. Therefore, in response to that, blended learning provides a better alternative as it combines both online and offline meetings, especially during the transition out of the COVID-19 Pandemic situation. Online learning can overcome time, geography, and cultural constraints. As a result, blended learning offers a novel method that incorporates the benefits of each style of learning.

Methodology:
The study was carried out in the English Language Education Department at the Catholic University of Saint Augustine of Hippo, Indonesia. The university is located in Ngabang, West Kalimantan. Geographically, Ngabang is a rural area because it is 178 KM away from the capital of Kalimantan Barat, Pontianak.
The research participants were second-year students taking public speaking courses. This course is a compulsory subject followed by English education students for 16 meetings. This course is a collaborative program between the Catholic University of St. Augustine Hippo and the University of Santo Thomas, where the lecturers come from both campuses. During the lecture, seven meetings were held offline, and seven meetings were held online. The remaining two meetings were used for midterm and final semester exams.

Google Classroom and Zoom were used as the e-Learning platforms, while other digital tools and resources like WhatsApp, and web resources were integrated. At the end of the semester, the researcher conducted a survey to evaluate their perceptions towards the learning environment in the course.

Research Design

This study employed a mixed-methods approach to collect data from 23 university students in a rural area of Indonesia. The students attended a public speaking course taught by two lecturers. The course was addressed using both online and offline meetings. The study used both quantitative and qualitative measures to investigate the perceptions of Indonesian students who attended the course.

Data were collected through an online survey and follow-up interviews with selected participants. The online survey was adapted from Anas (2020) who also investigated the perceptions of Saudi students regarding blended learning environments at a university. The survey consisted of closed-ended questions in which the students were asked to describe their learning experiences in three categories of the blended learning environment, namely multimedia learning materials, assessment, and interactive activities at Zoom. There are 13 statements to which students had to respond using a Likert scale survey with 3-scale points: 'Agree,' 'Neither Agree nor Disagree,' and 'Disagree.' The quantitative data was then presented in a chart to help further analysing the results.

The qualitative data was collected using interviews. The follow-up interviews aimed to explore students' perceptions in more depth and to gather additional information about their experiences with blended learning from selected participants. The qualitative data from the interview was analyzed using the following steps: 1) Data preparation which included transcribing interviews accurately and organizing data by creating separate files for each interviewee, 2) data coding which included getting familiar with the transcripts and assigning relevant codes to transcript sections, 3) Data analysis which included identifying recurring themes and patterns and selecting quotes to illustrate each theme, 4) interpreting which explained what themes reveal about perceptions and discuss alignment with research questions, 5) Data validation which sought feedback from experts and colleagues for credibility, and 6) Conclusion which involved creating conclusion based on the analysis.

Results:
The majority of students respond “neutral” toward the statement of familiarity with blended learning (65.2%). The rest of the students answer that they are familiar with blended learning (34.8%).

Students also had a positive perception of blended learning. Most of students believe that blended learning is beneficial for them (60.9%) and the rest of the students are neutral (39.1%). Benefits included the ability to access course materials anytime and anywhere, increased interaction with instructors and peers, and the use of multimedia resources.

**Data Description**

Table 1. *Category 1 - Types of learning materials*

<table>
<thead>
<tr>
<th>No</th>
<th>Types of learning material</th>
<th>Responses</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Agree</td>
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</table>
The first category is multimedia learning materials used in blended learning. The text-based materials used in the course consists of document in Microsoft Word, PDF, and PowerPoint format. The video materials refer to any learning materials accessed from youtube and facebook. Audio materials refer to MP3 files recorded by the teacher or taken from web resources. Illustrated materials are dual coded items that mix verbal and visual components to make them understandable. The researcher employed these four types of learning resources to present course information via Zoom and Google Classroom in the blended course. In category one, there are four statements aimed to elicit students’ responses:

1. During the blended learning, I prefer to access learning content in the form of MS Word, PowerPoint, and PDF.
2. During the blended learning, I prefer watching videos posted in the lecture section.
3. During the blended learning, I love listening to lectures in an audio file.
4. During the blended learning, I like when educational concepts are illustrated with texts and images.

Table 2. Category 2- Assessment

<table>
<thead>
<tr>
<th>No</th>
<th>Types of Assessment</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td>1</td>
<td>Synchronous tests</td>
<td>34.8%</td>
</tr>
<tr>
<td>2</td>
<td>Asynchronous tests</td>
<td>65.2%</td>
</tr>
<tr>
<td>3</td>
<td>Task based tests (Asynchronous)</td>
<td>26.1%</td>
</tr>
</tbody>
</table>

The second category deals with assessment for students learning in blended learning context. Synchronous tests are assessments that are conducted in real-time, where the test-taker and the test administrator are connected at the same time through a communication technology such as video conferencing or chat. This allows for immediate feedback and interaction between the test-taker and the test administrator. In the course we use live oral
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exams and live chat-based assessments. The course used synchronous tests in online learning environments to evaluate students' understanding of course materials or in employment settings to assess their understanding of the materials.

In category two, there are three statements aimed to elicit students’ responses:

1. During the blended learning, I prefer to complete the assignment in the e-Learning web (google classroom, youtube, etc.) without looking into learning materials or web resources.
2. During the blended learning, I prefer to complete the assignment in which I get the freedom to take the test out of campus without any restriction of time using digital platform.
3. During the blended learning, I prefer to complete a project or a task given directly by the teacher face-to-face.

Table 3. Category 3- Interactive Activities

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<th>No</th>
<th>Interactive Activities</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td>1</td>
<td>Collaborative activities (zoom and Google docs)</td>
<td>34.8%</td>
</tr>
<tr>
<td>2</td>
<td>Discussion forum</td>
<td>30.4%</td>
</tr>
<tr>
<td>3</td>
<td>WhatsApp communication</td>
<td>73.9%</td>
</tr>
</tbody>
</table>

Category three concerns with students and teachers as a learning community and examines students’ answers in collaborative and interactive activities. Some of these interactive possibilities, such as discussion forums, assessment, project and other work are built into zoom and google classroom. Some of these interactive tools, such as Google Docs and WhatsApp, have been integrated into the course. There are four items in this area to which the students were asked to respond:

1. I enjoy writing activities in the group as you did in Google docs and zooms.
2. In the discussion forum at zoom I like to read threads, contribute my comments, and respond to others’ threads. I find that my participation helps me in understanding course content and performing well in the exam.
3. On Zoom, I like addressing questions, and I find that it helps in my study and exams.
4. The use of WhatsApp in the course kept me informed about the updates in the course. It helped me to communicate with other class fellows and share learning materials.

Table three shows that almost all students responded well to interactive exercises. WhatsApp conversation is the most popular engaging activity among students, accounting for 73.9% of all interactions. Although most students reacted neutrally, according to the interview, they feel comfortable using digital tools for engagement. They share their learning resources, work together to solve learning obstacles, and update each other on course developments. According to the researcher's observations, students actively used WhatsApp in the course to connect with other students and teachers, exchange learning materials, and discuss ideas and difficulties relating to exams and assignments.

Discussion:

In response to the learning materials used in blended learning, the most preferred multimedia learning materials, the result shows that dual coded learning materials (illustration and combination of verbal materials with visual materials) are the most preferred kind of digital learning materials among the learners. The use of visual aids such as pictures, diagrams, charts, films, and animations to augment textual information in learning materials is referred to as illustrated media (Redmond, 2015; Tyler, et. al., 2009). The advantages of illustrated media in learning include improved understanding, increased engagement, support for diverse learning styles, and increased creativity. Overall, the use of illustrated media in learning can improve students' knowledge, engagement, and material retention, making it a valuable tool for educators and students.

In response to assessment type, the most preferred assessment for the students in blended learning is Asynchronous tests. Asynchronous tests refer to the type of evaluations that are not given in real-time, but instead allow test takers to complete them at their own pace and schedule. Online quizzes, written assignments, and self-paced projects are examples of asynchronous tests.

Based on Anderson and Titov (2014), Asynchronous tests have the following advantages: 1) Asynchronous examinations allow students to complete the evaluation at a time and location that is most convenient for them. 2) Asynchronous assessments can minimize test anxiety because students can take their time completing the assessment and revisit questions as needed. 3) Asynchronous assessments are more accessible to students with certain needs, such as the internet and other logistical issues, who require accommodations since they allow them to complete the assessment on their own time. 4) Asynchronous assessments enable tailored feedback that is more detailed and specific to each student's individual requirements and learning goals.

In response to the most preferred interaction and collaboration activities, a regular and external digital tool like WhatsApp is more preferred than a formal tool of interaction in the virtual learning platform. WhatsApp group communication can provide several benefits for learning...
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(Ahmed, 2019; Susilawati & Supriyatno, 2020; ). WhatsApp group communication enables learners to collaborate and share knowledge with peers, facilitating group projects and peer-to-peer learning. WhatsApp group communication also provides a quick and easy way for learners to communicate with each other and with instructors, facilitating instant feedback and support (Handayani & Aminatun, 2020). Lastly, WhatsApp group communication is accessible on mobile devices, making it easy for learners to access course materials and participate in group discussions from anywhere, at any time.

The results of the follow-up interview indicate that university students in rural areas of Indonesia have a positive perception of blended learning environments. However, challenges such as the lack of reliable internet access and difficulties in time management need to be addressed to ensure the success of blended learning in rural areas. The findings of this study have implications for practice, including the need to improve internet infrastructure and provide adequate support for students to manage their time effectively. Future research should explore the effectiveness of blended learning in improving learning outcomes in rural areas of Indonesia.

**Conclusion:**

Blended learning environments have become increasingly popular in higher education institutions worldwide, including in Indonesia. This study explored the perceptions of university students towards blended learning environments in a rural area of Indonesia. The majority of students had a positive perception of blended learning, with the convenience of learning at their own pace being the most cited benefit. However, challenges such as the lack of reliable internet access and difficulties in time management were also identified. The findings of this study have implications for practice and future research.

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