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Using Photovoice to Explore the Stress of Pre-Service Teachers in Online Learning

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Abstract

The technique of photovoice can be defined as a process whereby people can identify, represent, and enhance their social rules and social practices using photographs accompanied by verbal commentary. The current study uses photovoice to identify and analyze the academic stress experienced by pre-service teachers in an academic reading classroom. This phenomenological case study aims to unravel the stress experienced by undergraduate students while they were engaged in mandatory online learning under pandemic conditions through the use of photovoice. Out of thirty-one students who participated in an online academic reading course, two female students were selected to discuss the photographs they had chosen, reflecting on their lived experiences of mandatory online learning at a private university in West Java, Indonesia. The collection of all the participants' data took place from March to June 2020. The data were derived from their photovoice records supplemented by focus group discussion and a follow-up semi-structured interview. The visual illustrations and verbal commentary they produced constitute evidence of pre-service teachers' academic stress and provide insights into this phenomenon.

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The two participants revealed that the possible reasons for academic stress stemmed from the task burden, lack of connection, feelings of loneliness, and exhaustion related to online learning. These results suggest that teacher education programs need to minimize the burden of tasks, give students opportunities to speak about their experiences with online learning and design interactive materials for online learning.

Keywords: Academic stress, critical incidents, online learning, photovoice.

1. INTRODUCTION

In teacher education, academic stress is increasingly recognized as a significant factor influencing pre-service teachers' (PSTs) academic achievements, emotional well-being, and future professional success (Holzberger et al., 2021; Hue & Lau, 2015). As aspiring educators, PSTs bear the responsibility for their academic progress and that of their future students (Brown et al., 2021). Understanding the factors contributing to their stress is crucial for fostering effective teaching and improving teacher well-being (Kun & Gadanez, 2019).

Photovoice, a participatory research tool, has been used in educational contexts to gain deeper insights into academic stress. Tsang and Lian (2020) employed photovoice to identify causes of academic stress, such as exam pressures, school management, and parental expectations. Their study highlights systemic issues within education, where exam outcomes often overshadow holistic learning. They recommend that governments reevaluate the structures that promote such stress and use photovoice to better understand students' perspectives on academic challenges.

Photovoice has also been applied in teacher education to explore PSTs' experiences. Bazemore-Bertrand (2021) used photovoice in urban schools to capture PSTs' reflections on the complexities of teaching in diverse environments. By visually documenting their experiences, PSTs could express their thoughts and emotions, providing unique insights into their learning process. Similarly, Stanton and Hancock (2021) investigated PSTs' practicum placements, demonstrating that photovoice could effectively capture the challenges and growth they experience in educational settings. This method allows for a deeper understanding of PSTs' reflections on their professional development.

Another example is the study by Nurhadi et al. (2022), reporting that photovoice can be used to examine student teachers' experiences during online thesis examinations. Their study emphasized the importance of well-planned mentorship programs and comprehensive reviews of the mentoring process to ensure student satisfaction. The findings highlight the potential for photovoice to inform the development of more effective educational support systems for PSTs. Photovoice has also been employed in the context of online learning, particularly during the COVID-19 pandemic. Subasi et al. (2023) explored students' perceptions of online education in Turkey. These studies emphasize the value of considering students' firsthand experiences and the importance of avoiding assumptions by policymakers about students' actual struggles in online learning.

Despite the success of photovoice in various educational contexts, it remains underutilized in exploring PSTs' experiences of academic stress, particularly in online academic reading classrooms. As online learning becomes more prevalent, it is crucial to understand how PSTs navigate academic stress in virtual settings. Photovoice could provide valuable insights into the specific challenges they face, such as isolation, increased workload, and technological barriers. To contribute to this growing body of research, this study examines the academic stress experienced by EFL pre-service teachers in an online learning environment. The research adopts photovoice combined with phenomenological analysis to gain a comprehensive understanding of how these teachers respond to stress. This study is distinctive in two ways: first, it applies photovoice to investigate academic stress among PSTs, a relatively unexplored area; second, it uses phenomenology alongside photovoice, offering a novel methodological approach. The study aims to provide insights that can improve the design of online learning and support systems for

PSTs, ultimately enhancing their well-being and academic success. More specifically, this study explores and analyzes PSTs' experiences of academic stress during online learning in an academic reading course. To guide this study, this research question is formulated: How do pre-service teachers perceive and articulate their experiences of academic stress during online learning in an academic reading course?

Our research provides valuable empirical and contextual insights that can inform policy development. These findings are especially useful for supporting PSTs in developing effective methods to reduce academic stress. Furthermore, the study's insights can contribute to improving the design of online learning environments in EFL teacher education, aiming to alleviate student stress and enhance learning experiences.

2. LITERATURE REVIEW

Photovoice is a method that empowers individuals to express their experiences through photography and storytelling. C. C. Wang and Burris (1997) define photovoice as a technique that encourages participants to use photographic techniques to identify, represent, discuss, and improve their social lives and communities. This method enhances participants' awareness of personal and communal issues and provides critical insights for policymakers. Unlike conventional student voice techniques, photovoice involves participants actively and reflectively capturing images aligned with predetermined themes. Participants then discuss the photographs most significant to them in group settings. From this standpoint, photovoice functions as a tool to explore narrative voices, fostering critical dialogue through visual and verbal documentation of lived experiences. Photovoice has been widely utilized in qualitative research across various fields, including marginalized communities, youth involvement, sexual agency, health issues, and education (e.g., Lynch & Bengtsson, 2018; Malka, 2020; Villacañas de Castro, 2017). In education, photovoice has gained significant traction as a research method over the past decade (Hayik, 2016; Mulder & Dull, 2014; Rubrico & Hashim, 2014; Treadwell & Taylor, 2017).

Over the past few decades, photovoice has expanded into higher education (Bazemore-Bertrand, 2021; Ciolan & Manasia, 2017; Ferdiansyah et al., 2020; Lorusso et al., 2020; Stupans et al., 2019; Wass et al., 2020), educational policy (Tsang & Lian, 2020), language and education (Grant, 2019), and social work (Mulder & Dull, 2014). However, despite the considerable body of evidence on photovoice applications, no research has yet explored its use specifically in the context of English as a Foreign Language (EFL) learning within pre-service teacher education. For instance, Bazemore-Bertrand (2021) demonstrates how images help preservice English teachers (PSETs) to reflect on their teaching experiences, catalyzing critical dialogue, empowerment, and proactive actions. Photovoice-mediated reflection thus offers an innovative method for examining pre-service teachers' experiences through the lens of the participants themselves rather than relying solely on researcher interpretations.

2.1 Photovoice as a Space to Share

Photovoice is a participatory research method that empowers participants to document and reflect on community issues through photography (C. C. Wang & Burris, 1997). Its strengths include creating safe spaces for communication, fostering community solidarity, and promoting collective action (Musoke et al., 2022). Photovoice can uncover hidden community challenges and strengths (Dakin et al., 2015) and inform health systems about marginalized populations (Musoke et al., 2022). From a critical research perspective, photovoice aligns with critical pedagogy, enabling educators to enhance students' learning experiences and assess their engagement. Lynch and Bengtsson (2018) provided empirical evidence that photovoice helps students develop dialogic conversations in learning and facilitates critical reflection. Similarly, Safodien (2018) argued that photovoice allows students to create new learning experiences while exploring the academic environment during learning and assessment. Thus, photovoice can capture students' academic stress in mandatory online learning contexts by (1) examining

interactions with peers and lecturers and (2) deconstructing communication and argumentation challenges.

However, critics argue that researchers often focus more on narratives than the photos themselves (Q. Wang & Hannes, 2020) and may inadequately integrate feminist and empowerment frameworks (Coemans et al., 2019). Concerns about power imbalances, research rigor, and the meaningful dissemination of findings have also been raised (Liebenberg, 2018). To address these issues, researchers should account for contextual factors, develop capacity-strengthening plans, and establish partnership structures that facilitate power-sharing and joint decision-making (Musoke et al., 2022). Despite these challenges, photovoice remains a valuable tool for participatory needs assessment and community action (C. C. Wang et al., 2000). The utilization of photovoice can also serve as a means of enhancing researchers' understanding of the perspectives and experiences of pre-service teachers, specifically about their voices.

2.2 Academic Stress of Pre-Service Teachers during Online Learning

The rise of online learning has been increasingly prevalent, offering flexibility and accessibility to learners worldwide. However, it also presents unique challenges that contribute to academic stress. Spending long hours in front of a screen, often without proper seating or while dealing with glare—can be physically exhausting. Additional stress factors include managing time effectively, dealing with technological issues, limited social interaction, and the pressure to succeed. Research indicates that online classes were more stressful than in-person or hybrid formats, especially for pre-service teachers during the onset of the COVID-19 pandemic. Those who engage in online learning reported poorer mental health, lower satisfaction with studies, and decreased academic performance (Rafique et al., 2021; Xiong et al., 2024).

The sudden transition to online learning during the COVID-19 pandemic in 2020 revealed practical limitations. Educational authorities and policymakers acknowledge that replacing face-to-face classes entirely with online learning was impractical. Instead, the strengths of both online and in-person classes need to complement each other to achieve the best learning outcomes for pre-service teachers. Previous studies indicate that the pandemic's unique context has been more disruptive to the teaching process than typical learning activities (Alhosani et al., 2023). While pre-service teachers adapted to the shift, many hesitate to fully embrace online learning. Their increasing workload and stress revealed the limitations of this large-scale experiment, emphasizing that successful online learning requires addressing the social and emotional needs of teachers and educational technologists, beyond technical and pedagogical aspects.

Online learning became widespread during the COVID-19 pandemic, leading to increased academic stress among students (Chen & Lim, 2024; Wong & Yuen, 2023). Photovoice, a participatory research method, has been used to explore academic stress and online learning experiences (Tanhan et al., 2023; Tsang & Yi Lian, 2020). Studies have shown that online learning can negatively impact students' psychological well-being, with factors such as time management and teacher-related stress contributing to academic pressure (J. Wang et al., 2021). However, photovoice has also been adapted for online use, demonstrating its potential as a tool for understanding and addressing these challenges (CohenMiller & Izenkova, 2022). Research also suggests that student resilience, cognitive flexibility, and readiness for online learning play crucial roles in mitigating academic stress (Alsaif et al., 2024; Jackson & Serenko, 2023). These findings highlight photovoice's potential to explore students' academic stress during mandatory online learning in the pandemic.

3. METHODS

3.1 Research Design

This study employs a case study approach with a phenomenological perspective to explore the lived experiences of pre-service teachers during mandatory online learning from 2020 to 2021.

A phenomenological lens emphasizes the subjective meanings individuals attach to their encounters, making it ideal for investigating how participants perceive and interact with the phenomenon in question (Creswell & Poth, 2016). This study, conducted within a teacher education program at an Indonesian university, uses photovoice and in-depth interviews to capture the 'student voice' (Robinson & Tayler, 2012) and explore real-life learning experiences. These methods allow students to express their concerns about school-related issues, with an emphasis on acknowledging and acting on their perspectives (Cook-Sather, 2006).

The sudden shift to online learning introduced a complex range of factors, including technological challenges, isolation, altered pedagogy, and increased workloads. By combining a case study with a phenomenological framework, the research captures the multifaceted nature of these experiences and how they contributed to academic stress. This approach provides a deep, contextual understanding of pre-service teachers' lived experiences, empowering participants through photovoice and offering culturally and contextually relevant insights for educational improvement.

3.2 Research Context and Participants

This research was conducted at a private university in West Java, Indonesia. Ethical procedures, including informed consent, were addressed prior to commencement. The participants were recruited using convenience sampling, selecting undergraduate students enrolled in an academic reading course who transitioned from face-to-face instruction to mandatory online learning due to the COVID-19 pandemic. Of the thirty students in the course, two female students (pseudonyms MY and LS, aged 19 and 20) voluntarily participated in the study. The selection of female participants was coincidental and not based on gender-specific criteria. These students were chosen due to their active engagement in online learning and willingness to share their experiences of academic stress during the 2019-2020 pandemic.

3.3 Data Collection

Data for this phenomenological research were obtained through photovoice, focus group discussion, and a semi-structured interview. The data were collected from March to June 2020 across fourteen meetings. The study involved two pre-service teachers engaged in online learning. This study adopted the method proposed by Kingery et al. (2016) for developing photovoice projects, where participants documented their experiences using written narratives and photographs that captured their emotions. This process occurred after the participants completed their online learning. The two participants selected three photographs representing their experiences and provided voice recordings explaining their significance. They were encouraged to describe what each photo portrayed, what they observed, what was happening in the images, how these elements related to their lives, why these specific issues or strengths existed, and what actions could be taken in response (Kingery et al., 2016).

During photo-discussion sessions, participants were encouraged to share meanings and stories associated with their photographs using the SHOWeD framework: (1) what do you See here? (2) what is really Happening here? (3) how does this relate to Our lives? (4) Why does this situation, concern, or strength exist? (5) what can we Do about it? (Kingery et al., 2016; C. C. Wang & Burris, 1997). Participants also categorized emergent issues and themes during group discussions. Prior to data collection, they received two weeks of training in March 2020 on creating photovoice projects. The dataset included photographs, written narratives, and follow-up semi-structured interviews to further explore their experiences.

3.4 Instruments

As mentioned earlier, photovoice, interviews, and focus group discussions were employed to collect data in this study. Participants received detailed instructions for the photovoice activity. First, they were asked to take photographs capturing their feeling during mandatory online

learning. These photos could be ‘realistic’ (depicting actual situations) or ‘metaphorical’ (symbolic representations, such as abstract concepts or animals). Participants were advised to respect privacy and obtain consent for any individuals featured in their photos.

After taking photos, participants selected four that best represent their experiences. These photos served as key points for discussion guided by Kingery et al. (2016). These discussions about the photos were audio-recorded and later transcribed to form the basis for the data analysis. For the metaphorical photos, participants took additional photos. An online meeting was conducted via Zoom, during which participants were asked to upload their images to Google Drive. The two participants uploaded twenty photos to Google Drive. They were then guided to select their best photos and choose three to describe using the SHOWeD method (C. C. Wang & Pies, 2004). Following this process, another online interview was held via Zoom to clarify the participants’ written explanations in the photovoice. These interviews were conducted in their native language to ensure they felt comfortable sharing their emotional experiences, serving as another layer of data collection.

3.5 Trustworthiness

Trustworthiness in this study was ensured through strategies aligned with Maxwell’s (2012) framework for qualitative validity, including triangulation and member checking. Triangulation involved cross-verifying findings across multiple data sources: photovoice, semi-structured interviews, and focus group discussion. Member checking was employed to allow participants to confirm the accuracy of the transcriptions and the interpretation. Member checking was also used to maintain a consistent and transparent research process.

This study diligently adhered to procedures designed to establish trustworthiness within the framework of phenomenological research. The researchers engaged in continuous observation and triangulation of various data sources when delving into the participants’ interactions with the data and the ongoing process of the pre-service teachers’ lived experiences (Creswell & Poth, 2016). The two participants’ encounters with online learning were captured by selecting pivotal. Through the phases of data collection, interviews, and subsequent analysis, we guided the participants in reflecting upon their experiences using photovoice.

3.6 Data Analysis Procedures

The participants’ narratives gathered through photovoice, interviews, and focus-group discussions were transcribed and analyzed using a three-step categorization process: open coding, focused coding, and critical incident analysis. This study followed Esterberg’s (2002) approach to identify key themes by examining data related to critical incidents for significant themes such as stress from workload, lack of connection, loneliness, and exhaustion. The data interpretation was done carefully, analyzing each incident individually. Focused coding was then applied to refine and develop prominent themes by reorganizing thematic segments identified during open coding (Saldaña, 2009). To ensure credibility, the researcher continuously compared incidents with identified themes and cross-referenced themes throughout the coding process (Glaser & Strauss, 2017). The analysis concluded when no new themes surfaced. The researchers employed an inductive approach to generate coding categories using photovoice materials and follow-up semi-structured interviews

4. RESULTS

This research explores and analyzes pre-service teachers’ (PSTs) experiences of academic stress during online in an academic reading course. Results are organized thematically based on data from photovoice, interviews, and focus group discussions. Participants were asked to pick a photograph that best captured their academic stress during online learning. Participants were then asked to decide which set of photos they wanted to ‘voice’ or ‘to discuss verbally’. An online

meeting with all participants was held to review and discuss their photographs, and the fourteen meetings were recorded. Researchers then interviewed the two participants to explore the context, rationale, and emotions associated with each photo.

Participants used both original and metaphorical images to convey their emotional experiences, composing photovoice narratives based on their selections. From twenty photos, the two participants described and narrated four photos. Analyzing the participants' photo selection and reflection, the researchers identified two key themes: (1) stress from workload and (2) feelings of loneliness and exhaustion. The themes were derived from critical incidents identified in the photovoice data, following Esterberg's (2002) approach. Researchers and participants collectively addressed these themes as they discussed the critical incidents or moments related to the participants' emotional experiences during the online learning.

4.1 Theme 1: Stress from High Workload and Lack of Connection

This theme emerged from participants' photovoice submissions, interviews, and focus group discussions, highlighting the emotional and cognitive overload experienced during online learning. One of the participants, MY, captured her experience through a screenshot taken during an online class, which symbolized her overwhelming academic responsibilities. She explained that the image represented her feelings of stress and pressure due to the volume and complexity of assignments, especially multimedia tasks like video recordings, which demanded significant time and effort, as shown in the Figure 1.

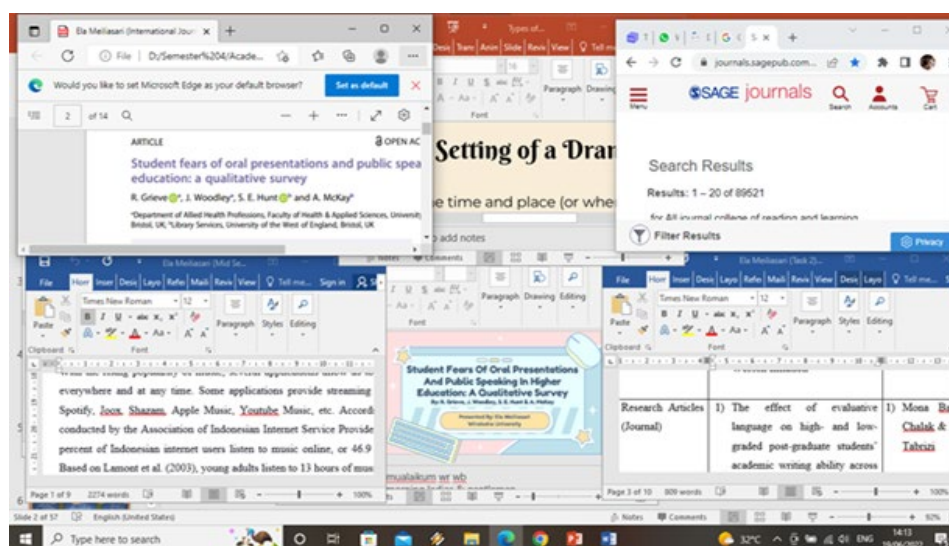


Figure 1. Feeling stressed and overwhelmed by excessive tasks.

- (1) 'The first thing I remember about online learning is the number of assignments each lecturer gives in each course. I took this photo because it describes what I went through when carrying out online learning. At that time, I felt stressed and pressured by the many tasks assigned. Especially when the lecturer gave video assignments, I would not say I liked that task. Since it requires a considerable effort to complete, such as preparing a script about what I will convey in front of the camera and having to take videos repeatedly because the results are not satisfactory or forgetting the part of what I have to say in the middle of the video recording.' (MY, PV)

Her narrative highlights the intensity of academic tasks, especially multimedia assignments, which required additional planning, technical skills, and emotional energy. The stress was compounded by the lack of immediate support or feedback from lecturers or peers. MY also shared another screenshot to emphasize how unstable internet connectivity aggravated her stress levels., as in Figure 2.

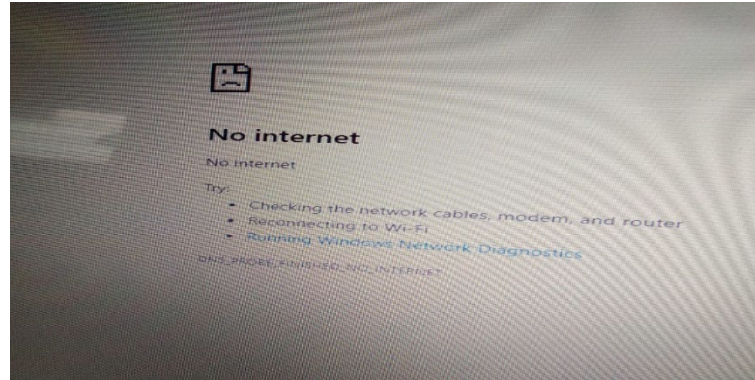


Figure 2. Internet connection problem.

- (2) 'A smooth internet connection is one of the most important things in online learning. But in reality, there are some problems with the internet connection that I experience when carrying out online learning. I took this photo because this image often appears when there is no internet connection. The biggest obstacle I encountered when doing online classes was a power outage, which could cause my house's WI-FI to turn off, so the internet couldn't be accessed. The quota also cannot be used because there is no signal due to the power outage'. (MY, PV)

In her interview, MY elaborated further on the physical effects of prolonged screen time during online learning. She described how spending long hours in front of a laptop, often required to complete various assignments, led to physical discomfort such as dizziness and eye strain. These physical symptoms added to her overall academic stress, revealing how online learning not only taxed her mentally but also had tangible impacts on her well-being. MY expressed her feelings in Excerpt (3).

- (3) 'I think the high workload can trigger academic stress during online learning because I have to face and stare at the laptop screen for hours to complete the assignment, which can make my eyes and head dizzy if I stare at the screen too long'. (MY, interview)

During the focus group discussion, MY reinforced the significant role that internet connectivity played in shaping her academic experience. She emphasized that unstable connections frequently disrupted her ability to access learning materials, complete assignments, or participate in online classes conducted through platforms like Zoom or Google Classroom. These repeated interruptions not only caused stress but also made her feel frustrated and anxious about falling behind academically. In the focus group discussion (FGD), MY said:

- (4) 'I feel that the lack of internet connection also triggers my academic stress during online learning because if the connection is disrupted, I will face difficulty in finding sources and references in doing assignments or in following the learning process which is usually carried out through Zoom/GC'. (MY, FGD)

Overall, MY's experiences reflect the broader challenges faced by students in navigating online learning during the pandemic. The interplay of technological limitations, workload, and physical effects of prolonged screen time highlights the need for improved infrastructure, support systems, and academic policies that address these stressors. Ensuring reliable internet access and adopting flexible workload management strategies can mitigate academic stress and improve the overall online learning experience for students.

Participant LS echoed similar concerns, particularly emphasizing how technological limitations, especially related to her devices, contributed significantly to her emotional distress during online learning. She expressed ongoing anxiety about the reliability of both her internet connection and the functionality of her devices, which created a constant sense of uncertainty during classes. This worry not only affected her academic engagement but also led to emotional strain, as she feared being perceived as absent or unprepared when technical problems occurred beyond her control.

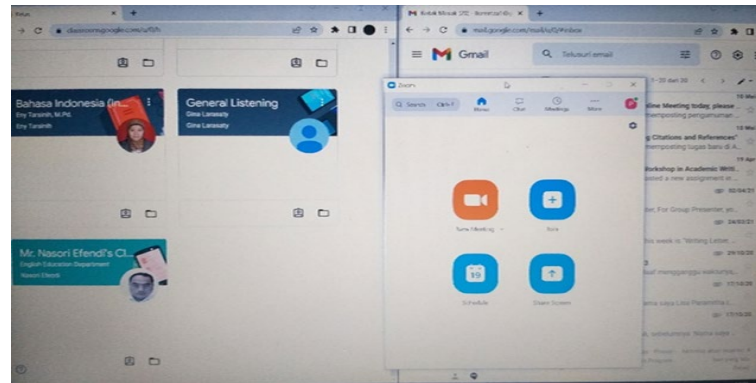


Figure 3. Devices problem.

- (5) ‘After a few months of experiencing online learning, I felt that things were changing and getting complicated. First, I always felt anxious about my internet connection and devices during online learning. Even though I have a free internet quota, I can’t connect and join online classes if my signal is gone. Then, I worried that my device would experience errors during online learning, and it led the lecturer to think I was absent from the class. This used to make me anxious during online classes, especially when the weather was raining, and many classmates asked for permission [to miss a class?] due to internet or device problems. I was worried it would happen to me too. Therefore, every time there is an online class, I prepare several different internet providers. However, it doesn’t save money. Instead, it makes me spend more money than when I have an offline class.’ (LS, PV)

LS further visualized her academic stress through a symbolic photograph showing a sky crisscrossed with numerous wires. This image carried deeper meaning in the context of her experience with online learning. She explained that the wires represented the widespread reliance on internet connectivity during the pandemic, as nearly every household installed Wi-Fi. However, instead of offering relief, the wires served as a constant reminder of the ongoing struggles with unstable internet access. Despite the appearance of digital readiness, LS highlighted that technical problems persisted, leaving her feeling frustrated and helpless. The visual metaphor of a sky crowded with wires encapsulated both the physical presence of technological infrastructure and the emotional weight it carried for students trying to stay connected in uncertain times.

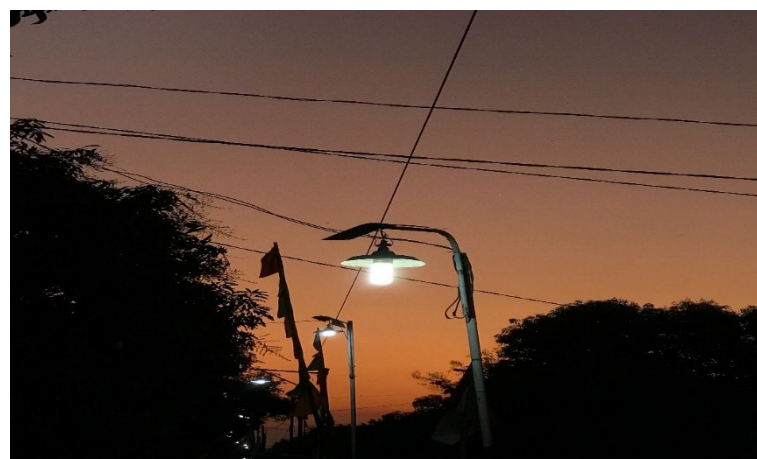


Figure 4. A lot of wires in the sky.

- (6) ‘When I finished studying, I used to look at the sky with lots of clouds. But during the pandemic and online learning, I saw a lot of wires in the sky. Almost all houses have Wi-fi for their internet access because we don’t know when online learning will end and when the pandemic will end. Although many students already have wi-fi facilities at home, it does not necessarily mean that we as students do not have internet access problems. Because even using wi-fi often has internet problems. I also feel hopeless. I study well, but I don’t know what I would become in the future if the pandemic was still ongoing and education must be carried out online. Learning in lectures like this is not the picture I dreamed of when I was a child’. (LS, PV)

LS also captured her emotional exhaustion through a photo that represented how online learning consumed more of her time compared to in-person classes. She described feeling increasingly frustrated when technical issues or other complications caused delays in starting class meetings. These delays disrupted her daily schedule and reduced her time for other responsibilities, including her sleep time. Moreover, the constant stream of assignments further cut into her recovery time, affecting her physical health and mental focus. LS emphasized that this ongoing disruption to her routine made her feel overwhelmed, emotionally drained, and less productive. Her reflection reveals how the blurred boundaries between academic and personal time during online learning contributed to a deeper sense of burnout.

- (7) 'The high workload makes me have very little time to rest, these conditions also often make me feel sick such as easy fever, cough, and flu. Meanwhile, in the COVID-19 pandemic, we are expected to have a strong immune system. Therefore, it is very difficult for me to maintain my physical health with a lot of workload'. (LS, interview)

Another photo shared by LS captured the emotional impact during online learning. LS also expressed how ongoing technological difficulties significantly compounded her academic stress during online learning. She described how unstable internet connections frequently disrupted her ability to attend live classes, submit assignments on time, or maintain her attendance records. These repeated disruptions created a cycle of frustration and anxiety, as missing crucial parts of lessons made it harder to keep up with coursework. Combined with an already heavy workload, these technical barriers intensified her feelings of stress and led to episodes of depression, as she explained in Excerpt (8).

- (8) 'In addition, the lack of connection also makes me feel quite stressed because losing an internet connection can make me miss classes, submit assignments late, or even miss attendance. When I have a high workload with the problem of disconnection, I become more stressed and depressed. It is difficult to be a disciplined student in this condition. Meanwhile, not all lecturers understand tardiness caused by lack of connection.' (LS, FGD)

In conclusion, LS's account underscores the need for a more holistic approach to supporting students during online learning. This approach should address not only technical issues like internet connectivity but also the physical and mental health impacts of increased workloads and isolation. Educational institutions should consider revising workload expectations, providing greater flexibility for students facing technical difficulties, and offering more robust health and wellness support to ensure that students can thrive in this challenging environment.

4.2 Theme 2: Feeling Loneliness and Exhaustion

In this part, MY vividly described her feelings of loneliness and confinement during online learning. She took an original photo that captured her daily view, symbolizing the repetitive and isolating nature of her experience. MY explained that this image reflected the overwhelming fatigue she felt from spending long hours in front of her laptop screen, constantly working on assignments and following online lectures. This further intensified her sense of isolation, as she was unable to leave her room or engage in usual social activities. She described her daily routine as monotonous and exhausting, consisting only of sitting in front of the screen, sleeping, and eating, which made her feel trapped and emotionally drained, as she expressed in Excerpt (9).

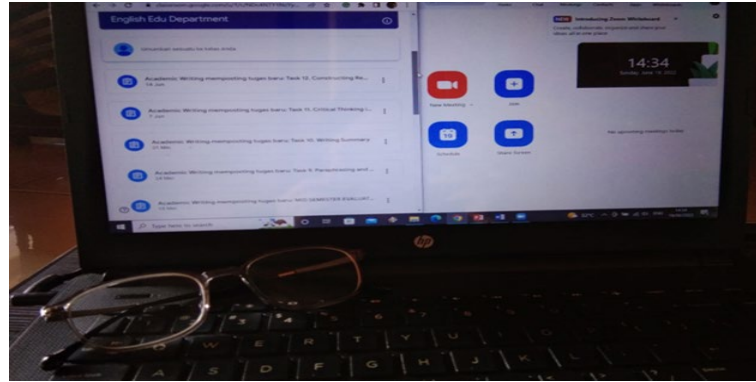


Figure 5. The daily view while online.

- (9) 'I took this photo because this is my daily view during online learning. I felt dizzy to keep staring at the laptop screens to do assignments and check the news about online lectures. Moreover, I can't go anywhere because I'm on lockdown. Every day, all I do is in my room. I sit in front of the laptop screen, sleep, and eat. It was very exhausting for me because I felt like I was imprisoned in my room'. (MY, PV)

To further illustrate her emotional state, MY shared another screenshot (Figure 6) taken from a Zoom meeting, which visually represented her constant engagement with digital screens during online learning. This image reinforced the repetitive and draining nature of her daily routine, highlighting how much time she spent staring at her laptop as part of her academic responsibilities. MY added another screenshot from the Zoom meeting to express her feelings.

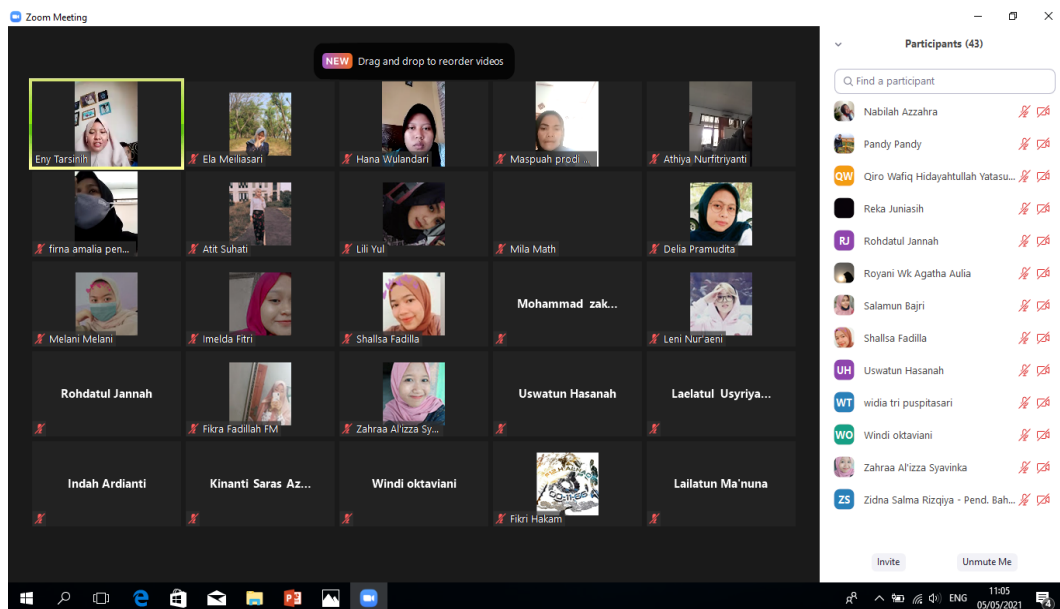


Figure 6. Staring at the laptop screens.

- (10) 'I took this photo because this is my daily view during online learning. I felt dizzy to keep staring at the laptop screens to do assignments and check the news about online lectures. Moreover, I can't go anywhere because I'm on lockdown. Every day, all I do is in my room. I sit in front of the laptop screen, sleep, and eat. It was very exhausting for me because I felt like I was imprisoned in my room'. (MY, PV)

When discussing her emotional experiences related to loneliness and exhaustion, MY openly shared how the shift to online learning deeply affected her sense of social connection and well-being. She explained that not being able to meet her friends in person made her feel isolated and lonely. Instead, all interactions happened through screens, which could not replace the warmth and comfort of in person meetings. This virtual barrier heightened her sense of solitude, as she spent most of her time alone in her room, staring at her laptop.

- (11) 'I felt lonely during online learning because I couldn't meet up with my friends. I only meet them through the screen, which cannot replace meeting in person. That's why I feel lonely because all I see is my laptop again and again when, in reality I'm just alone in my room while doing online learning'. (MY, interview)

During our discussion, MY further reflected on how online learning created a barrier between her and her friends. She expressed a sense of emotional distance that arose because their interactions were limited to video calls, where cameras were often turned off, reducing the feeling of real connection. Communication was mostly restricted to brief, task-oriented chats focused on coursework, lacking the casual, spontaneous conversations that typically occur in face-to-face classroom settings. This absence of informal social interaction contributed to her feelings of isolation and dissatisfaction with the online learning experience, as reflected in Excerpt (12).

- (12) 'To be honest, with this online learning, I feel a distance from my friends. Because we only meet through the camera, which is often turned off as in the picture above. As for chatting, we only talk through chat, and that too only asks about learning materials. There is no casual chatting that we usually do in class. This kind of thing cannot be replaced with online learning'. (MY, FGD)

MY's experience of loneliness and emotional exhaustion reflects the broader social and emotional challenges that students face in the context of online learning. Her longing for in-person interaction and the feelings of disconnection from her peers suggest that online learning, while effective in providing academic instruction, falls short in meeting students' social and emotional needs. The lack of casual, spontaneous social interactions in the online environment underscores the importance of face-to-face connections in fostering a sense of community and emotional well-being.

Furthermore, the second participant, LS, also expressed feelings of loneliness and exhaustion during online learning. She explained that the shift to online education had introduced significant challenges, disrupting both her academic and personal life. Frequent class postponements, overwhelming workloads, and the blurred line between study and rest time contributed to her stress and fatigue. She captured these emotions in Figure 7 that she shared.



Figure 7. Online learning took up more time.

- (13) 'Online learning that I experienced took more time than offline learning. This could be due to a technical problem or some other issue causing us to postpone classes. I was very disappointed when the classes were postponed for the evening or for an indefinite time. It messed up my daily schedule, especially my rest time. Whenever the class was postponed until the evening or unspecific time, I would get less time off, and it repeatedly happened several times. In addition, the huge number of tasks during online learning also affects my rest time. So, I felt sleep deprived, which influenced my productivity, emotions, and learning performance during online learning. What I thought during the online class was the time. When will the class end? When can I get time for rest?' (LS, PV)

LS also shared additional photos (e.g., Figure 8) to express her feelings about the social impact of online learning. LS described herself as an extrovert who thrives on in-person interactions and feels energized by engaging with multiple people. Being confined mostly to conversations with her sister and family at home left her craving more meaningful social connection. Moreover, she found it challenging to communicate effectively in the online

environment, where the lack of physical presence often led to misunderstandings. She noted that the tone in online chats could easily be misinterpreted, making it difficult to discern whether her friends or lecturers were discontented, happy, or disagreeing. This lack of nuanced communication made online discussions far less enjoyable and fulfilling compared to face-to-face interactions. She described her feeling and experience in Excerpt (14).



Figure 8. Social distancing rules.

- (14) ‘I like to chat and discuss with my friends. Even during my studies in senior high school, I can get many friends who were fun to talk to about lessons, interesting topics, and so on. However, the shift from offline to online learning in college and social distancing rules made me not have many friends. I get easily bored when I just communicate or interact with certain people. I claim myself as an extrovert person. I feel energized when I interact with many people in person. I didn’t want to just communicate with my sister and family in the house. I was craving more interaction with others. Furthermore, I found it difficult to have discussions with others in an online setting. I can’t see my classmates in person, and miscommunication frequently happens. Because, in online chats, sometimes the tone that is directed to the other person can be interpreted differently. I can’t understand whether my friend or my lecturers are angry, happy, disagreeing, and so on. The experience of discussing online was no more enjoyable than discussing in person’. (LS, PV)

During the interview, LS openly shared her feelings of loneliness and exhaustion that stemmed from the mandatory shift to online learning. She explained that the lack of direct interaction with classmates and lecturers led to weaker social bonds and a sense of isolation that contrasted with her experiences during in person learning in high school. LS emphasized how the absence of face-to-face contact limited the closeness of her friendships, making it difficult to maintain meaningful connections. This is reflected in Excerpt (15).

- (15) ‘I felt lonely and exhausted during the mandatory online learning. Because I did not interact directly with my classmates and lecturers, my interactions with friends were also not very close, which was very different from when I experienced offline learning at the high school level’. (LS, interview)

In further discussions, LS elaborated on how this isolation impacted her day-to-day life and academic work. She described in Excerpt (16) a deep sense of loneliness from not having friends to share stories with in person and found it challenging to collaborate effectively with peers on assignments. This ongoing emotional strain made her feel mentally and physically drained. LS expressed a strong desire for the online learning period to shift back to in-person classes, highlighting the emotional toll it took on her well-being.

- (16) ‘I felt lonely not having friends to share stories with directly. I was also lonely because it was difficult to discuss with friends to do assignments. This condition made me exhausted at that time. I really wanted this condition to end soon’. (LS, FGD)

LS’s reflections underscore the significant emotional and social challenges that the sudden transition to online learning imposed, particularly for extroverted students who depend on in-person interactions for motivation and emotional support. Her experiences of loneliness, frequent miscommunication, and exhaustion point to the urgent need for more comprehensive approaches

in online education. These approaches should not only address academic demands but also prioritize students' social and emotional well-being to help them thrive in virtual learning environments.

5. DISCUSSION

This study utilized photovoice as an innovative approach to explore the academic stress experienced by students during online learning, particularly during the COVID-19 pandemic. By allowing students to visually capture and reflect on their experiences, photovoice provided unique insights into challenges, including increased workload, isolation, and technological barriers. Findings revealed that limited face-to-face interactions, technological challenges, and prolonged screen time exacerbated academic stress. Photovoice enriched the data by foregrounding students' perspectives, offering a deeper understanding of their emotional and psychological well-being in an online learning environment.

Data from photovoice, interviews, and focus group discussions (FGDs) provided valuable insights into participants' emotional experiences. Two main themes emerged: (1) high workload and lack of connection, and (2) loneliness and exhaustion. These themes align with previous research on the demands of online education (Wong & Yuen, 2023). For example, MY used photovoice to capture the stress and pressure she felt from overwhelming assignments. The participant emphasized the mental toll of completing video tasks and the importance of receiving constructive feedback to improve the learning experiences (Blumenfeld et al., 1991).

The second participant, LS, highlighted a struggle with technological issues, such as poor broadband coverage and low data packages, which intensified academic stress. Her concerns about connectivity-related disruptions reflect the significant impact of technological barriers on students' well-being and learning experiences. The 'connection' theme in LS's narrative echoes research on the psychological effects of the digital divide during the pandemic (Cheshmehzangi et al., 2022), showing how unreliable internet access heightens stress, anxiety, and academic challenges.

Both MY and LS's photovoice accounts highlight the emotional and academic difficulties of online learning. The feeling of being overburdened by tasks, coupled with poor internet connectivity, underscores the importance of supportive measures in virtual education. By recognizing these obstacles and implementing strategies to foster a more inclusive and supportive online learning environment, educators can improve students' well-being and academic achievements. The participants' photo captures and narratives provided a glimpse into their lives during lockdown. One participant's image, likely showing her room and a laptop, symbolized the "loneliness" and "exhaustion" caused by extended periods of online learning. The prolonged screen time, isolation, and workload led to physical and mental fatigue, feelings that are consistent with burnout symptoms such as exhaustion and reduced efficacy (Tarchi et al., 2022; Yusoff et al., 2021). These findings align with previous studies that have shown online learning during the pandemic triggered significant academic stress among students in higher education (Bohman et al., 2023; Gandara et al., 2024; Wong & Yuen, 2023). Consistent with the methodological and empirical literature, participants observed that using photos and engaging in group discussions gave them a chance to reflect and engage in deeper, more critical conversations with their peers about various issues (Dedrick, 2018; C. C. Wang, 1999; C. C. Wang & Burris, 1997). In addition, photovoice enables to capture the learner's stress during mandatory online learning during the COVID-19 pandemic (Ferguson et al., 2024).

In LS's account, the feeling of being 'imprisoned' in her room reflected the confinement and loss of freedom caused by lockdowns. The emotional impact of prolonged isolation, exacerbated by reliance on technology, was evident in the participant's use of words like 'exhausting,' indicating the strain on her mental health (Cheshmehzangi et al., 2022). Both the visual and narrative elements of photovoice effectively conveyed the struggles faced by students during extended periods of online learning. The photovoice narrative, interviews, and FGD vividly describe the participant's experience with online learning, highlighting the time-

consuming and disruptive aspects of the virtual environment. LS expressed frustration with frequent technical issues and class postponements, which disrupted her routine and created a sense of chaos. These findings suggest that addressing internet connectivity issues and the psychological stress of online learning is essential for improving learning outcomes (Gustems-Carnicer et al., 2019; Owusu et al., 2024). This research confirmed prior studies showing that online learning during the pandemic caused significant academic stress for students (Lazarevic & Bentz, 2021; Yousif et al., 2022).

6. CONCLUSION

This study highlights the potential of photovoice as a qualitative research method for exploring the academic stress faced by pre-service teachers during online learning. By analyzing photovoice from two participants, along with interviews and focus group discussions (FGDs), the study identifies key sources of academic stress, including heavy workloads, poor internet connectivity, loneliness, and exhaustion. These factors hinder students' motivation to learn, emphasizing the need for more compassionate approaches to teacher education in virtual environments. This study implied that faculty members should address and reduce academic stress to prevent learning loss and boost motivation by allowing students to share their experiences and express their emotions during online learning. This opportunity for open expression created what participants described as therapeutic moments during a period of heightened stress and difficulty. For policymakers, this study provides valuable insights for designing flexible online learning environments to minimize students' academic stress. Another implication is photovoice's potential to improve online learning in higher education.

While the study offers valuable insights into the use of photovoice for understanding pre-service teachers' experiences, it is important to note the limitations due to the small sample size and specific research context. Future research should expand on these findings with longitudinal studies that explore students' experiences during and after the pandemic, using photovoice with larger and more diverse groups. Additionally, as Tsang and Lian (2020) noted, researchers often overlook the visual data generated by photovoice, limiting its potential. This study faced similar challenges, suggesting a need for more effective analysis of photographs in future photovoice research to gain deeper insights into participants' experiences.

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