TPM Vol. 32, No. S7, 2025
ISSN: 1972-6325
https://www.tpmap.org/

GENERAL EDUCATION CURRICULUM LARGE CLASSES: STUDENTS' EXPERIENCES, PREPARATION AND ENGAGEMENT

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Abstract:
Academic institutions must engage in innovation to maintain relevance. This study explored the experiences of Bicol University (BU) students in large, blended learning General Education Courses (GEC), with an emphasis on face-to-face component. A qualitative approach was utilized, employing survey data collected from GEC students. The investigation encompasses all Bicol University Colleges located in the Daraga, East, and Main Campuses. The study involved 585 students, determined using Cochran's Sampling Method with a 20% attrition rate. The findings revealed that note-taking and active listening were prevalent practices in face-to-face sessions, reflecting active engagement. The emphasis on notetaking and listening highlights the instructor's role in engaging lectures. The study advocates for institutional investment in faculty development that emphasizes effective communication, active learning, and classroom management. Implementation of strategies to minimize disruptions, including the establishment of clear expectations and the utilization of technology, is essential. These findings hold significant implications for policymakers, educators, curriculum planners, decision-makers and other stakeholders in state universities and colleges including Bicol University and comparable institutions.

Keywords: General Education Courses, General Education Curriculum Large Classes, Face-to-face Modality, Synchronous and Asynchronous Modality, State Universities and Colleges (SUCs)

INTRODUCTION:

Higher education is continuously evolving, requiring that institutions adapt to emerging demands and challenges. Investment in education and attainment of a degree or higher education enhance the likelihood of obtaining a high-paying career and regular income [1]. Given the increasing student population and the necessity to maintain high educational standards, universities are consistently exploring innovative pedagogical approaches. This calls for a constant review and improvement of curricular strategies. The primary aim of educational missions is the cultivation of well-rounded individuals. This is highlighted in the New General Education Curriculum [2]. Institutions seek to develop practical skills, foster responsible citizenship, and enhance intellectual capacity. Facilitating healthy development, financial stability and implementing effective management practices to safeguard the interests of the institution and its clientele [3]. This objective is evident in global curricula, which typically emphasize the development of ethically informed and knowledgeable individuals. Educators have explored various innovative strategies to mitigate the challenges associated with large class sizes. This involves the adoption of various pedagogical approaches, the integration of technology, and the implementation of blended learning models.

Several studies have looked at student performance and engagement to evaluate the effectiveness of these approaches. Traditional face-to-face modality in large classes led to inadequate student engagement and performance, as well as limited opportunities for the development of critical thinking skills [4]. However, COVID-19 necessitated the transition of classes to an online platform. The "new normal" has exacerbated these challenges, compelling institutions to address issues such as unequal internet access and technological disparities. Flexible and adaptable learning environments are becoming more important. Global regulations and modern needs require organizations to innovate [5]. The implementation of large, blended learning classes at Bicol University presents both opportunities and challenges. The school has undertaken an investigation into student experiences in modified learning environments and has sought to address teacher concerns. It is the responsibility of educators to develop strategies that maintain student engagement and foster a sense of community in large courses.

Enhancing student engagement and addressing perceptions of anonymity are critical. This needs to be investigated to establish educational environments that promote student achievement and contribute to the development of responsible, engaged citizens. This study aims to analyze the experiences, preparation and engagement of students participating in large general education courses utilizing blended learning methodologies.

2) RESARCH METHODOLOGY:

Research Design
The study utilized a descriptive qualitative methodology. An inclusive examination of the learning experiences the students participating in the implementation of General Education Curriculum courses in large classes, emphasizing the blended learning modality.

Selection and Study Site
The study site encompasses all Bicol University Colleges located in the Daraga, East, and Main Campuses. Employing Cochran's Sampling Method with a 20% attrition rate, the study involved 585 student participants. The selection of students was based on three criteria: (1) current enrollment at Bicol University, (2) enrollment in GEC large classes during the implementation of limited face-to-face learning modality, and (3) willingness to participate in the study.

Data Metrics
The study employed a data gathering instrument. The survey instrument is used to collect responses regarding students' experiences, preparation and engagement for large classes in face-to-face, online synchronous and asynchronous modality.

Data Gathering Procedure
The data gathering procedure began with the appointment issued by the Office of the President of Bicol University. This was followed by writing letters to the Deans of the different colleges from Daraga, Main, and East Campuses requesting the administration of a survey targeting students enrolled in GEC courses specifically regarding experiences with blended learning that emphasizes limited face-to-face learning modality. Subsequently, students were evaluated based on their survey responses.

Ethical Considerations
In consideration of ethical standards, students who received the survey questionnaires and expressed any reservations regarding participation were not compelled to engage in the study. Other students who met the selection criteria were subsequently selected and consented to participate in the survey. Students were required to complete the provided consent form with assurance regarding the confidentiality of their responses.

3] RESULTS AND DISCUSSION:

As Bicol University (BU) transitioned toward normalcy in the 2022-2023 academic year, instruction shifted from a blended online (both synchronous and asynchronous) format to a limited face-to-face modality. Leading up to this shift, BU restructured its General Education Courses (GEC), consolidating two classes into single, larger sections designated as "GEC large classes."

PREPARATION ALONG THE CONTENTS OF THE COURSES FOR MASTERY AND EFFICIENCY
The study examined the strategies employed by Bicol University students to prepare for large classes and achieve content mastery. The results identify four primary strategies, ranked by their frequency of application. The strategies and their respective frequencies are presented in Table 1. The findings indicate a preference for digital resources and structured notes as essential tools for achieving content mastery in large-class environments.
Table 1 Preparation Strategies for Content Mastery Among Bicol University Students

Rank	Preparation Strategy	Frequency
1.	Utilize online resources	427
2.	Utilize lecture notes	405
3.	Engage in group study sessions	251
4.	Create study guides	189

The study on preparation strategies employed by Bicol University students offers valuable insights into their methods for achieving content mastery in large classroom settings. These findings hold considerable implications for education practices and curriculum development, particularly regarding the facilitation of resource utilization and collaborative learning opportunities for students.
The findings indicate that Bicol University students predominantly utilize online resources, lecture notes, group study sessions, and study guides to master content in large classes reflecting broader educational trends in recent years.
Utilizing Online Resources: The prevalence of online resources (427 instances) as a primary strategy reflects an increasing dependence on digital media for educational purposes. Recent studies indicate that online resources are essential for offering flexibility and accessibility to students, particularly in large class settings. The integration of digital tools enhances students' engagement and motivation, while also improving comprehension of complex

materials when used alongside traditional resources [6]. Furthermore, a study demonstrating that multimedia learning resources enhance comprehension by enabling students to engage with content at their own pace, thus fostering a more personalized learning experience [7].

Utilizing Lecture Notes: The frequent use of lecture notes by students (405 instances) underscores the significance of organized instructor-generated resources. Students utilizing comprehensive lecture notes generally achieved higher assessment scores, as these notes enhance focus on key concepts and aid information retention [8]. On the other hand, exclusive reliance on notes may restrict students' critical thinking and analytical skills, suggesting that supplemental materials or activities could be essential for a more profound understanding [9].

Engaging in Group Study Sessions: Participation in group study sessions (251 instances) highlights the importance of collaborative learning, acknowledged as advantageous in large-group settings. [10] found that group study sessions enhance critical thinking, communication, and problem-solving skills in university students by facilitating peer and perspective sharing. This aligns with findings by [11], which demonstrates that group discussions promote higher-order thinking, particularly when organized with explicit objectives and facilitation protocols.

Creating Study Guides: The utilization of study guides evidenced by 189 instances, indicates a demand among students for structured and organized self-study resources. Recent studies confirm the importance of self-regulated learning aids, including study guides, in assisting students with content prioritization and organization. Students who developed their own study guides exhibited enhanced retention and comprehension levels [12]. In addition, guided templates and strategies for developing study aids may enhance students' ability to synthesize complex course content effectively [13].

These findings indicate targeted areas for intervention by educators and curriculum planners to enhance students' learning strategies:

Enhancing Digital Integration in Curriculum: Given the significant reliance of students on online resources, curriculum planners should incorporate recommended digital tools and resources into course materials. Interactive simulations, videos, and supplementary readings that align with course objectives may enhance learning flexibility [6] [7].

Providing Structured Lecture Notes and Supplementary Resources: Educators should consider offering detailed, structured lecture notes, and digital access to recorded lectures, as may students depend on these resources to highlight key concepts. Incorporating activities that foster critical analysis may enhance engagement with the material [8] [9].

Facilitating Collaborative Learning: Curriculum planners should incorporate structured group work in classes to maximize the advantages of collaborative learning. Structured group study sessions and collaborative platforms can be beneficial, as recent studies emphasize the importance of organized collaboration in enhancing critical thinking [10] [11].

Supporting Self-Directed Learning through Study Guides: Given the popularity of self-generated study guides, educators should offer templates and guidance for the effective creation of these resources, thereby improving students' capacity to synthesize content in a meaningful manner. This method may be especially advantageous in cumulative courses, where effective organization is essential for mastering extensive information [12] [13].

RESPONSES DURING THE CONDUCT OF ONLINE SYNCHRONOUS SESSIONS

The investigation focused on the engagement behaviors of Bicol University students in synchronous online sessions. Four essential behaviors were identified, organized by their frequency of occurrence, which illustrate varying levels of active and passive engagement. The results are summarized in Table 2.

Table 2 Student Engagement During Synchronous Online Sessions

Rank	Engagement Behavior	Frequency
1.	Listen and take notes passively	420
2.	Face technical difficulties	318
3.	Actively participate in discussions or activities	208
4.	Active in the chat box	141

This distribution highlights a predominant tendency towards passive engagement and technical issues, with fewer students engaging actively in discussions or chat-based interactions. Recent studies show that passive engagement is prevalent in online learning, especially synchronous. Students often adopt passive roles in virtual classrooms, primarily because of limited interaction options and the absence of physical presence, which can decrease motivation to engage actively[14]. Similarly, passive engagement, such as listening and taking notes, is common in synchronous learning because students may feel disconnected from instructors and peers, reducing their motivation to participate in conversations[15]. On the other hand, active participation improves comprehension, retention, and academic performance hence, passive engagement may impair deeper learning[16]. The study also emphasizes technical issues like unstable internet connections and device limitations reflecting current literature. Technical issues distract students and disconnect them from synchronous sessions [17] technical difficulties

disproportionately affect low-income students, expanding the digital divide and limiting learning opportunities [18]. These barriers underscore the importance of reliable digital resources and technology towards equitable online learning. Online discussions and chat boxes were rarely used, with only 208 and 141 instances reported. Research suggests that students are often hesitant to participate in real-time online discussions due to various factors, including lack of confidence, fear of judgment, and limited familiarity with digital tools[19]. Without purposeful support, synchronous environments may not provide psychological safety and open discussions for online involvement [20].

THE FOLLOWING IMPLICATIONS ARE DRAWN BASED ON THE FINDINGS:

Promoting Active Learning Strategies in Synchronous Classes: Given the high levels of passive engagement, curriculum planners and educators could incorporate active learning strategies into synchronous sessions to encourage more participation. For instance, techniques such as polls, breakout rooms, and real-time quizzes can foster engagement and interaction [14].

Addressing Technical Barriers to Enhance Equity in Learning: The frequency of technical difficulties highlights a need for institutions to support students' access to reliable technology and internet connections. Schools and universities may consider providing resources such as loaner laptops, data subsidies, or partnerships with internet providers to reduce these barriers [17] [18]. Curriculum planners can also advocate for asynchronous materials or recorded sessions as backup options, enabling students who face technical issues to access content on their own time.

Encouraging a Supportive Environment for Online Discussions: Low participation in online discussions suggests that students may feel uncomfortable or disconnected during synchronous sessions. Techniques like assigning rotating discussion leaders, using anonymous question options, or implementing regular check-ins could increase students' comfort levels [19].

Integrating Training on Digital Communication Skills: To address students' limited engagement in chat-based and discussion-based participation, curriculum planners could incorporate digital communication skill-building into the curriculum. Skills such as digital etiquette, effective communication, and collaboration tools could be introduced in orientation sessions or integrated as part of coursework. Training on these skills may improve students' confidence and willingness to participate actively in online discussions [20] [21].

Response during the conduct of Asynchronous Sessions

The study analyzed student engagement behaviors in asynchronous online learning environments, focusing on the methods students employed to manage and interact with course content independently. Four key engagement behaviors were identified, ranked by frequency of use. Table 3 provides a summary of these behaviors.

Table 3. Engagement Behaviors of Students During Asynchronous Online Learning

Rank	Engagement Behavior	Frequency
1	Complete assigned readings or activities	232
2	Watch pre-recorded lectures or videos	172
3	Create timeliness or to-do lists	94
4	Communicate with professors via internet platforms	39

These results indicate a pattern of engagement that is predominantly centered on independent content completion, characterized by lack of organizational strategies and minimal instructor interaction with instructors. Recent studies indicate that the completion of assigned readings or activities is essential for engagement in asynchronous learning, enabling students to manage their learning pace and revisit materials as necessary. Participation in assigned activities within asynchronous settings can foster a deeper understanding of course content, allowing students to dedicate additional time to complex topics [22]. Similarly, independent reading and activity completion in asynchronous courses improve comprehension and retention, particularly when students utilize diverse resources [23]. This approach aligns with self-regulated learning theories, which emphasize the importance of independent, goal-directed learning strategies in online contexts.

A significant strategy involved watching of pre-recorded lectures or videos, with 172 students utilizing video content to engage with course materials. Studies indicate that video lectures enhance asynchronous learning by allowing students to pause, rewind, or revisit content for better comprehension [24]. Students who regularly review video lectures report greater satisfaction with asynchronous courses, attributing this to flexibility that enables self-paced learning [25]. Nonetheless, the study cautions that exclusive reliance on passive content consumption, such as video watching, may restrict engagement unless students encourage to actively engage with the material through quizzes or reflective exercises. The creation of timelines or to-do lists for coursework management, though infrequent serves as a positive indicator of self-regulation. Studies indicate that students employing organizational strategies, including the formulation of study schedules or checklists, demonstrate enhanced workload management and reduced procrastination [26]. Students who systematically organize their tasks in asynchronous courses exhibit lower stress levels and improved academic performance, as these strategies

bolster their time management and prioritization skills [27]. The low frequency of this behavior among students indicates a potential deficiency in self-regulatory skills, which are crucial for success in independent learning environments. Engagement in communication with professors via internet platforms, indicating it as the least common activity. In asynchronous learning environments, limited communication with instructors may indicate the "distance" experienced by students who engage in independent study, lacking real-time interactions for clarification of doubts or immediate feedback. Asynchronous students who frequently communicated with instructors via online platforms demonstrated greater motivation and confidence, as such interactions reinforce a sense of connection and support [28]. Conversely, limited interaction with instructors can hinder students' sense of belonging, thereby reducing their engagement and motivation [29].

FOR EDUCATION AND CURRICULUM PLANNERS, THE FINDINGS ABOVE LEAD TO THE FOLLOWING IMPLICATIONS:

Enhancing Engagement through Active Learning Components: Given the reliance on passive activities such as completing readings or watching videos, curriculum planners could integrate interactive elements into asynchronous courses. Embedding quizzes, reflective questions, or discussion prompts in videos and readings can encourage students to actively engage with content [22]. Providing guidelines on active reading and note-taking strategies could further enhance comprehension and retention.

Supporting Self-Regulation and Time Management Skills: The low frequency of students creating timelines or to-do lists suggests a potential gap in self-regulatory skills. Educational institutions may consider offering workshops or resources on time management and organization skills, particularly tailored for asynchronous learners [26]. Educators could also incorporate self-management tools within course platforms, such as weekly progress checklists, calendar reminders, and goal-setting templates, to encourage students to plan their workload effectively.

Fostering Instructor-Student Interaction in Asynchronous Courses: Limited communication with instructors highlights the importance of fostering connections in asynchronous environments. Curriculum planners could encourage instructors to establish regular office hours, hold weekly Q&A sessions, or offer asynchronous discussion forums where students can ask questions and receive feedback [28]. These interactions not only support learning but also enhance students' sense of belonging, motivation, and accountability.

Leveraging Multimedia Resources for Flexible Learning: Since watching pre-recorded lectures is a widely used engagement strategy, curriculum planners should ensure that multimedia resources are optimized for diverse learning needs. Offering transcripts, captions, and varying formats (e.g., podcasts, short video summaries) can make content more accessible and engaging [26]. Additionally, resources that integrate real-world examples and practical applications may help maintain student interest and motivation in asynchronous settings.

RESPONSE DURING THE CONDUCT OF FACE-TO-FACE SESSIONS

This study examined students' engagement behaviors during face-to-face class sessions, highlighting the predominant ways students participate in an in-person learning environment. The analysis identified four key engagement activities, ranked by frequency, which reflect a combination of passive and active learning behaviors. Table 4 provides a summary of these engagement activities. These engagement patterns reflect a blend of passive and active learning behaviors, highlighting how students interact within a traditional classroom setting.

Table 4. Engagement Behaviors of Students in Face-to-Face Learning Environments

Rank	Engagement Behavior	Frequency
1	Taking notes during lectures or presentations	167
2	Observing and listening without actively participating	132
3	Actively engaging in discussions	130
4	Collaborating with classmates on group activities	117

Note-taking emerged as the most frequent engagement activity, suggesting that students perceive it as a primary strategy for retaining information and understanding content in face-to-face lectures. Notetaking helps students' structure and organize information, which is especially critical in lecture heavy environments [29]. Moreover, recent studies highlight that structured notetaking can enhance recall and comprehension, as it requires students to actively process and record information [30]. However, heavy reliance on notetaking may also indicate a more passive approach to learning if students focus on transcription rather than engagement or understanding. The preference for observing and listening without actively participating reflects a relatively passive engagement strategy. Study shows significant portion of students prefer to absorb information quietly, either due to personality traits, lack of confidence, or perceived intimidation in group settings [31]. However, passive engagement can sometimes hinder deep learning, as students may not benefit fully from interaction and may struggle with comprehension when they are not actively involved [32]. Conversely, active engagement in discussions and collaboration in group activities were reported with frequencies of 130 and 117, respectively. These behaviors suggest that a substantial number of students engage interactively within the classroom setting, which is beneficial

for critical thinking and social learning. Research has shown that students who actively participate in discussions tend to have better understanding, retention, and application of knowledge, as they are challenged to articulate their ideas and reflect on diverse perspectives [33]. Furthermore, collaborative activities foster a sense of community and improve social and cognitive skills, group work in face-to-face settings promotes problem-solving skills and enhances engagement [34].

FROM THE DISCUSSION OF THE FINDINGS THE FOLLOWING ARE THE IMPLICATIONS:

Encouraging Active Learning Through Structured Participation: Given the reliance on passive strategies such as note-taking and observing, educators and curriculum planners should consider strategies to encourage more active engagement. For example, integrating think-pair share activities or quick formative assessments during lectures could shift students from passive notetaking to a more active learning process. Structuring participation in discussions, perhaps by assigning roles or discussion prompts, may help more reserved students feel comfortable contributing [32].

Building Confidence for Classroom Participation: The frequency of students who prefer to listen passively suggests that some may feel hesitant to engage. Offering communication and participation workshops at the beginning of the term may help build students' confidence and equip them with tools to engage more actively. Additionally, curriculum planners might consider embedding opportunities for low-stakes participation, such as brief partner discussions or anonymous response platforms like clickers, to reduce the pressure associated with speaking up in front of peers [33].

Enhancing Collaborative Learning Opportunities: Since collaborative activities were less common than individual ones, curriculum planners should consider incorporating more structured group work within the curriculum. Studies suggest that guided group activities, such as problem-based learning (PBL) and peer teaching, can improve students' social and cognitive engagement [34]. Including dedicated time for collaboration within class schedules could normalize group interactions, making students more comfortable and effective in collaborative tasks.

Integrating Reflection into Note-taking Practices: While notetaking is a valuable skill, it is most effective when combined with reflective practices. Curriculum designers and instructors could guide students on effective notetaking strategies that incorporate summarization and reflection, helping students to engage actively even during lectures [30]. Techniques such as the Cornell note-taking method or guided notes can help students capture critical information while reflecting on its relevance and application, bridging the gap between passive and active learning.

4] CONCLUSION:

This study explored the multifaceted experiences of Bicol University (BU) students navigating General Education Courses (GEC) within the complexities of large, blended learning environments, with a particular emphasis on the face-to-face component. The findings reveal a nuanced picture of student engagement, highlighting a mix of active and passive learning strategies. While students demonstrated some proactive approaches, such as note-taking and resource utilization, a clear tendency toward passive learning and persistent technical hurdles in the online realm, coupled with a relative lack of interactive engagement in face-to-face settings, demands careful consideration. These results underscore the critical importance of not only instructional quality, supportive learning environments, and access to engaging materials, but also a deeper understanding of how these factors intertwine within the blended learning landscape. Crucially, the study illuminates the inherent tension between students' reliance on familiar learning behaviors and the evolving demands of a technology-driven educational experience. Successfully navigating this tension requires deliberate design and implementation of pedagogical approaches that actively promote student engagement, address disparities in technical access and skills, and cultivate a sense of community and belonging within the context of large classes.

Based on these conclusions, the following recommendations are made to educational policy and curriculum planners: 1) Curriculum planners should incorporate active learning strategies into both online and face-to-face components of GEC courses. This could include designing activities that encourage student discussion, collaboration, and critical thinking. For online learning, this might involve structured discussion forums, group projects, or interactive simulations. For face-to-face classes, strategies could include think-pair-share activities, small group discussions, and debates. Furthermore, professional development should address the effective use of technology and digital resources to support learning. 2) Curriculum planners should review GEC course designs to ensure manageable workloads, engaging materials, and clear learning objectives. Technical support for online learning platforms and resources should be readily available to students. In face-to-face settings, creating a supportive classroom environment that encourages participation and collaboration is essential. This could include strategies for building student confidence in classroom discussions and providing opportunities for peer learning. 3) Further research is needed to evaluate the effectiveness of interventions designed to promote active learning and address technical barriers in blended learning environments. Studies should also explore the optimal balance of passive and active learning strategies across different modalities and investigate the long-term impact of these interventions on student learning outcomes and engagement.

5] Acknowledgement: The researcher expresses gratitude to Bicol University for the opportunity and support in conducting the study, Dr. Ruby Ann L. Ayo's for mentorship and generosity in sharing her ideas and finally, the author would like to acknowledge WCMRI 2025 for the conference presentation and publication opportunity.

6] Funding: This research received no external funding.
7] Data Availability: Data will be made available by the corresponding author on request.
8] Competing Interest: The author declares no conflicts of interest.

9] REFERENCES:

[1] Belardo, S. B., & Candelaria, A. P. Aspirations of fisherfolk communities on their children's education in Albay, Asid, and Ragay gulfs of Bicol, Philippines. Journal of Geoscience and Environment Protection. 2023; 11: 136-155. https://doi.org/10.4236/gep.2023.117009
[2] CHED Memo No. 20, series of 2013. General Education Curriculum: Holistic Understandings, Intellectual and Civic Competencies. Retrieved 08 June 2025 from https://ched.gov.ph/2013-ched-memorandum-orders/
[3] Lawenko, J. Credit Risk and Bank Performance: An empirical evidence in the Philippine context. The International Journal of Business, Management and Technology. 2024; 8 (5):180-187.
[4] Hornsby, D. J., & Osman, R. Massification in higher education: Large classes and student learning. Higher education. 2014; 67: 711-719.
[5] Ng, M.F. Strategies for Achieving Audit Quality: The Big 4 Model. Recoletos Multidisciplinary Research Journal. 2024; 12 (20): https://doi.org/10.32871/rmrj2412.02.03
[6] Zhang, W., & Zhu, Y. Online learning resources and their role in modern education: A comprehensive review. Computers & Education. 2021; 161: 104–135.
[7] Tao, X., Zhu, W., & Wu, L. Multimedia learning resources and their effect on student engagement and learning outcomes in large courses. Journal of Educational Technology. 2020; 41(3): 402–420.
[8] Olney, R., Wang, X., & Hooper, L. The role of lecture notes in higher education: Implications for teaching and learning. Educational Sciences. 2019; 9(4): 203.
[9] Wang, X., & Li, Z. Balancing lecture notes and critical thinking: Enhancing learning outcomes through blended approaches. Higher Education Studies. 2022; 12(2): 214–222.
[10] Chen, J., & Liang, C. Enhancing critical thinking through collaborative group work among university students. International Journal of Educational Research. 2020; 98: 101–112.
[11] Cabrera, J., & Webb, A. Facilitating critical thinking through collaborative learning in large classrooms. Journal of Educational Psychology. 2021; 113(4): 781–795.
[12] Li, X., & Zheng, Y. Effects of self-regulated study aids on student learning and retention. Studies in Higher Education. 2021; 46(7): 1354–1369.
[13] Kim, H., & Park, Y. The impact of self-generated study guides on student learning outcomes in higher education. Educational Research Review. 2020; 29: 100–128.
[14] Yang, M., Chen, L., & Li, X. Passive versus active engagement in online synchronous learning. Journal of Educational Technology Research. 2022; 54(1): 93–108.
[15] Lau, L., Chan, A., & Lam, Y. (2021). Passive learning in online classes: Impact and remedies. Higher Education Research & Development. 2021: 40(5): 950–964.
[16] Shin, S., & Hickey, M. Promoting active learning in online courses through interactive tools. Internet and Higher Education. 2020; 44: 100707.
[17] Hsiao, C., Lin, C., & Wang, J. Bridging the digital divide in online education: Insights from Taiwan. Computers & Education. 2020;149:103–118.
[18] Li, Q., & Hu, S. Digital equity in online learning: Addressing disparities in technology access. Educational Technology Research & Development. 2023; 71(3): 487–501.
[19] Ahmad, F., & Sajjad, M. Encouraging participation in online discussions: A survey of university students. Journal of Educational Technology. 2021; 48(2): 150–169.
[20] Smith, T., Johnson, R., & Baker, A. Barriers to student participation in synchronous online discussions. Journal of Online Learning Research. 2022; 8(4): 325–339.
[21] Jones, R., & Wylie, S. Building psychological safety in virtual classrooms: Implications for student engagement. Educational Psychology Review. 2023; 35(1): 77–91.
[22] Kim, H., & Bae, S. Exploring active engagement in asynchronous learning environments:
Implications for design. Educational Media International. 2020; 57(4): 307–322.
[23] Sun, Y., Chen, L., & Zhang, H. (2021). Benefits of independent reading activities in asynchronous learning. Educational Psychology Review. 2021: 33(3): 777–789.
[24] Xu, D., & Jaggars, S. S. Examining the effectiveness of video-based lectures in online courses. Community College Review. 2020; 48(3): 291–310.
[25] McLean, M., Zang, Z., & Hurd, J. The role of pre-recorded lectures in asynchronous learning environments: Student perspectives. Journal of Online Learning and Teaching. 2022; 18(2): 135–148.
[26] Lee, M., & Song, Y. Enhancing time management skills in online learning: Evidence from asynchronous courses. Distance Education. 2021; 42(2): 215–231.

[27] Johnson, R., Allen, K., & Smith, J. The role of self-regulation in student success in asynchronousonline learning. Journal of Educational Technology. 2021; 50(3): 239–257.
[28] Zhan, T., & Mei, L. The importance of instructor presence and interaction in asynchronous online learning. Internet and Higher Education. 2023; 65: 100840.
[29] Hamed, A., & Al-Adwan, A. (2020). Role of note-taking in student engagement and academic success. Studies in Higher Education. 2020; 45(6): 1131–1145.
[30] Bauer, A., & Koedinger, K. R. Effective note-taking strategies for improved comprehension and retention in higher education. Journal of Learning Sciences. 2021; 30(4): 415–437.
[31] Chen, J., & Liang, C. Enhancing critical thinking through collaborative group work among university students. International Journal of Educational Research. 2020; 98: 101–112.
[32] Ford, S., Smith, T., & Johnson, K. (2022). Understanding classroom participation barriers: Social dynamics in higher education. Teaching and Learning Inquiry. 2022: 10(2): 12–24.
[33] Chiu, M. M. Fostering critical thinking through classroom discussions: Implications for pedagogy. Education Sciences. 2020; 10(3): 101.
[34] Johnson, D. W., Johnson, R. T., & Smith, K. A. Cooperative learning in face-to-face settings: Impact on academic achievement. Educational Psychology Review. 2022; 34(1): 77–95.