ELTR
JOURNAL

EXPLORING EFL STUDENTS' LEARNING STRATEGIES AND THEIR ONLINE LEARNING ENGAGEMENTS AMID COVID-19 PANDEMIC

Dimas Rizki Mulia[1] and Ive Emaliana[2]
Brawijaya University, Indonesia
dimasrizki_@student.ub.ac.id; ive@ub.ac.id
correspondence: imasrizki_@student.ub.ac.id

Abstract
Amid Covid-19 pandemic, emergency remote teaching has been done through online learning. Recent research has found some challenges and opportunities, including the debate analyzing the effectiveness of EFL online teaching and learning processes. However, little is known about the types of learning strategies that suit students' engagement with online learning. The investigation between them illustrates an emerging paradigm for English learning in an online setting, where learning takes place in authentic environments with immersive experiences in order to achieve meaningful learning. This early examination reveals assessments on their natures and applications in connection to English success with the goal of distributing such a revolutionary arena. The findings are revealed in the conclusions in the form of model hypothesis of causal relationship may accordingly help other researchers to conduct further research in exploring the prediction of learning strategies provided in this paper when dealing with enhancing EFL teaching method during this emergency remote teaching and learning

Keywords: learning strategies, learning engagement, team-based, self-regulated, gamification

Introduction
The Coronavirus Disease 2019 (COVID-19) pandemic gives a significant impact on higher education, with a marked shift in online instruction as a means of limiting future virus spread. Online teaching and learning has been identified as a substitute alternative to traditional education. Many teachers and students were concerned about the impact of the rapid shift to online education on the teaching and learning process. Students of all ages have been affected by this fast change on such a vast scale. Continued illness spread, travel ban, and the termination of higher education and educational institutions as general across the country are predicted to give a substantial impact on EFL students' learning strategies and engagement.

In general, the Covid-19 epidemic has had a more detrimental impact on pupils from lower socioeconomic backgrounds (Aucejo et al., 2020). This is also true with EFL students' academic growths and activities that have been disturbed by a decline

in family finances, restricted connection to digital materials, and the huge amount of internet access. Moreover, 1.5 billion pupils are currently disadvantaged of essential education throughout the world (Lee, 2020), which has a negative psychological influence on their well-being. Adjustments in regular routine, such as an absence of outside activity, altered sleeping habits, and group isolation, have also had an impact on students' mental health. These conditions may affect to EFL students' engagement in learning.

Despite this difficult position, most EFL academic institutions throughout the world have attempted to maintain the learning courses' continuity. They have switched to a wired teaching and learning environment, where pupils and instructors communicate with one another utilizing a variety of technology tools and strategies. E-learning is another name for this type of learning. Despite the fact that certain higher education had been examining with online teaching and learning before the pandemic, its full potential has only recently been understood. It offers EFL students several advantages and benefits, including appliance (Poole, 2000), resilience (Chizmar & Walbert, 1999), time preserving, teamwork, and possibilities in engaging with people beyond physical boundaries (Hung et al., 2010). It also gives EFL students greater authority to their learning process and gives them the ability to determine some findings regarding their regular class meeting in terms of capacity, step, intensity, and time preserving (Stansfield et al., 2004). The majority of institutions have designed and implemented effective online learning systems. EFL instructors have uploaded their instructions, activities, group projects, and reading materials to online teaching and learning administration arrangements, and online classrooms have been arranged using Zoom Meeting, Google Meet, Microsoft Teams, Webex, and other video conferencing apps. Online learning was, without a doubt, the finest response to this unexpected circumstances.

It does, however, have certain limitations, research pointed out, in that it cannot replace direct person to person interaction and the amount of group interaction that occurs in an EFL classroom (Chung et al., 2020). These difficulties may make students feel as though something is missing, resulting in lower student involvement and involvement, and a substandard learning experience as a result. Furthermore, attaining understanding and agreement in online collaboration might stifle progress or limit learners' interactive behaviors, and conflict can occur if all members of a group disagree on the agenda and operating procedures. EFL students' issues during open and remote learning, according to (Musingafi et al., 2015), included a lack of time for study, difficulty in accessing and utilizing Information and Communication Technology (ICT), inadequate feedback, and a shortage of study resources, all of which resulted in lower involvement with the learning processes.

Furthermore, the willingness of EFL pupils to attend e-learning method in the situation of COVID-19 was strongly impacted by preparation for the online teaching and learning experience, tolls and connection, self-competence, and preceding familiarity with ICT. They also noted that students' and instructors' preparation for online learning might be judged by their capacity to connect and use computers, as well as their self-efficacy in online teaching and learning. During the COVID-19 quarantine period, for instance, researched done to observe the experience in the online methods experienced by EFL pupils in the Kingdom of Saudi Arabia (Shawaqfeh et al., 2020) discovered that the students were amenable

in getting an information about education in an online teaching and learning setting. They did, however, identify several issues that students face, such as an absence of enthusiasm, fatigue in class, overload workload, and an absence of technology capability, among others. Self-study, training discipline, and incentive were the highest rank elements that substantially influenced students' online learning preparedness, followed by technology usability, connection, and online self-competence. Besides, during the outbreak of COVID-19, researcher conducted a survey of students to determine their preparedness for online learning (Allam et al., 2020). They discovered that, despite having computer or internet literacy, the research participants needed the drive to learn through online teaching and learning process and engage in self-controlled learning. During COVID-19 pandemic, EFL online learning too should be treated as an emergency remote teaching and learning, as detrimental effects brought by learning process can be reduced. Therefore, it is urgent to know EFL students' learning strategies and engagement so that teachers are able to facilitate better online learning environment.

Although most studies on EFL learning strategies and accomplishment results have been conducted in a conventional classroom environment, the comparably new area of online teaching and learning delivery implies that studies on learning strategies should be investigated, and which kind of methods are most beneficial in online learning environment should be explored (Wadsworth et al., 2019) . EFL courses are taught using e-learning should target on developing capability and more knowledge in their curriculum in order to handle e-learning efficiently (ChanLin & Chan, 2010). In an EFL online environment, pupils are given a fresh learning events to achieve learning objectives that are not necessarily traditional. Moreover, amidst COVID-19 outbreak, EFL teaching and learning processes are employing emergency remote instructions so, it is compelling to research EFL students' learning strategies as well as their engagement in order to achieve better instructional methods.

Therefore, the purpose of this study is to establish a causal association between EFL students' learning strategies and online learning engagement. The findings of this study may have a big impact on further research exploring the prediction of learning strategies mentioned above since the previous research has less explored the type of learning strategies that suit students' engagement within online learning context that is situated in COVID-19 pandemic to face immersive experiences to accomplish meaningful learning.

Method
By design, this study is a literature review. As a result, it was carried out by looking through books and scholarly publications for summaries, descriptions, and overviews of the research concerns under consideration. A literature review is designed to offer an overview of sources on a certain issue in order to demonstrate the contribution and linkage of current research to a wider area of study.

Library research, also known as literary research or literature study, is an activity that involves reading, recording, and analyzing research materials in order to collect data (Mestika, 2004). To put it another way, literature research is a study that is undertaken to answer an issue and is based on a critical and in-depth evaluation of relevant literature resources.

Findings and Discussion

Findings

The findings are elaborated as follows.

Team-Based Strategy

Learning online with a group can have a number of advantages, including improved course achievement and increased student commitment, catalyst, and social interaction (Barak et al., 2020; Kulkarni et al., 2015; Zhu et al., 2018). Communication among geographically dispersed students can be decided in richer and contextual educational background (Kulkarni et al., 2016), as well as exposing pupils to the ideas and perspectives of individuals from diverse nations. Students said that working in groups online created a creative learning atmosphere that encouraged them to think critically (Tseng & Yeh, 2013). Despite their immense learning potential, online settings may create impediments to effective cooperation. Physical and interpersonal contact between students, as well as between them and the teaching staff, are limited or non-existent due to the geographical distance (Kulkarni et al., 2015; Usher & Barak, 2018). Another problem is that it may cause online learners to feel socially isolated, resulting in small engagement to the learning program made by teachers (Barak & Usher, 2019).

On the other hand, online learning, sometimes known as e-learning, is not a new notion. The availability of low-cost, high-speed Internet connection, as well as improvements in cloud technology, have aided in promoting the flexibility of the learning process and supplementing it well with traditional learning techniques (Wang et al., 2019). Microsoft Teams can be used since colleges have an enterprise edition of this program, which provides a strong integrated teaching and learning environment and offers additional capabilities, and they discovered that it can be used as a reference instrument in evaluating team based learning owing to its widespread popularity and validity.

Online collaboration and teamwork can be beneficial since it exposes students to a variety of global views and current concept (Barak & Usher, 2019; Watted & Barak, 2018). This can help to influence the development of new ideas and unique learning result; nevertheless, online team-based might stifle the learning courses owing in misunderstanding and improper team member coordination (Barak & Usher, 2019; Tseng & Yeh, 2013). As a result, delivering online EFL English courses that require pupils to work in groups necessitates deeper look at their learning objectives in common and their variation abilities in particular.

In small group learning, participating in asynchronous activities, such as social connection and discussing particular difficulties, can build team cohesiveness and build collective confidence, sensitivity, and more interactions among participants in that group (Hendry et al., 2016; Kwon et al., 2014). Furthermore, through leading, guiding, supporting, and delegating learning, having a head coordinator role in that group has been shown in boosting up impersonal efficacy in the EFL classroom (Chatalalsingh & Reeves, 2014).

According to a study done by (Parker & du Plooy, 2021), team-based learning and performance may be employed as a positive intervention in the workplace, and it is subsequently found to be the most successful in establishing emotional assurance when compared to the other examined components. However, there is a significant positive association between emotional assurance, group work, and team

performance, and emotional assurance may be considered as an important precedent for the growth of group work and the application of greater skills of team achievement. Even if it is done in the workplace, further research should be done to see whether the same strategies can be utilized in online learning education for learners to get the same results.

Concerns over Team Based Learning is the need of influence on continuing information (Emke et al., 2016) and implications that, relying on the targeted study objectives and learning approaches such as Case-based Group Discussion (CBGD) and Problem-based Learning (PBL) that implicates more successful alternatives.

According to (Greetham & Ippolito, 2018), Team Based Learning may be utilized to optimize the learning achievements from following team-based assignment. Through pre-reading and readiness assessments, Team Based Learning may establish a feeling of topic mastery. The fast feedback approach might also help to create better team chemistry. This feedback can also help students deal with the uncertainty that is inherent circumstances. Furthermore, the pupils were enthusiastic in the use of Team Based Learning and were able to apply the newly acquired information and behaviors to the major technical job. According to their views on the program, they were pleased with how they cooperated, interacted, and increased their achievements as a consequence. Those abilities is going to be honed and assisted all the time their undergraduate studies and, hopefully, into the real world when they are pursuing their licensed careers.

Self-Regulated Strategy

Self-directed learning abilities are vital in the twenty-first century, and they've been proven to be somewhat connected with lifelong learning inclinations (Tekkol & Demirel, 2018) and job competences including creativity, communication, and cooperation. Workers now have a higher need to understand how to construct metacognitive learning techniques without relying on others to teach them. Self-directed learning is widely characterized as the process by which individuals assess their learning requirements, create their study objectives, locate perceptible belongings for learning, pick and apply suitable study techniques, and assess their study objectives, with or without the assistance of others (Knowles, 1975).

(Dörrenbächer & Perels, 2016) did a lurking characteristic analysis with 337 higher education pupils from various course fields at a particular German institution. Pupils with (a) low self-regulated learning and moderate motivation, (b) moderate self-regulated learning, (c) conflicting self-regulated learning and high motivation, and (d) high self-regulated learning were identified by the analysis. Higher academic success, lower evaluation, acceptance to new participations, and immense communicative were all found in learners that have strong self-regulated learning strategy and encouraging profile. In fact, pupils with conservative and inclined self-regulated learning strategy benefited much more from an 8-week self-regulated learning instruction than students with small and immense self-regulatory capabilities. As a result of this discovery, interventions aimed at increasing students' self-regulation abilities should be tailored to their learning profiles and requirements.

Only time management and endeavor adjustment technique utilization were anticipated in the accumulative achievements for online pupils (Broadbent, 2017). Teachers should encourage students to utilize journals with an itinerary for regular

planning and to build and prioritize work agenda. Instructors can also prepare short-term, medium-term, and long-term strategies in helping students develop administrational skills, such as regular scheduled online agendas and sessions in that study year. This research was in accordance with a current research conducted by (Broadbent et al., 2021) too that found that one of the most important things for online pupils is to be bold and self-reliant in tackling both developmental and accumulative tasks with the confidence of success. Commitment in pursuing achievement, continuing exercises, and sustained application of methods benefited pupils get the most tremendous accumulative scores after getting feedback. In getting the best results, students who are in online classes should focus on scheduling and managing time so that they can prepare the productive and uninterrupted study. Finally, (Broadbent et al., 2021) found that self-competence, capability to manage the time, and continuous effort are the most important factors in students' ability to engage in online learning.

However, (Cheng & Xie, 2021) discovered that maladaptive self-regulatory mechanisms in online learning, such as academic procrastination, are more closely linked to internal factors like personality characteristics and motivational beliefs than external variables. The relationship between environmental factors and educational hesitation is shown in their link with variations of ideas. According to Broadbent, it is critical to focus more on learners who absence of spirit and determination, and those who are not able to schedule their time well, and struggle to persevere in activities before joining in a developmental assessment and assignment.

Gamification Strategy

Gamification is a strategy of creating arrangements, assistance, management, and exercises to provide background, involvement, and incentives similar to things found in video games, with the additional learning process and aim to influence pupils' performance (Huotari & Hamari, 2017). Because of the fun and excitement that games provide, they are recognized to encourage and engage participants (Dichev & Dicheva, 2017; Koivisto & Hamari, 2019). Gamification strives to generate this experience in many circumstances in this regard. This is frequently accomplished in the target area by employing game mechanics or other game-like ideas (Deterding et al., 2011). Gamification research has had an impact on a range of educational fields throughout the previous decade (Koivisto & Hamari, 2019). Even in primary schools, the teaching area is always expanding, embracing the most recent breakthroughs in information technology (Karpouzis et al., 2007). According to (Cechella et al., 2021), the use of gamification was intended to be competitive, requiring extended teaching time in preparing the materials and activities and a considerable periods to figure out the points achieved by each participant and group on the gamified activities. Nonetheless, in order to achieve in-depth information, students must be committed and persistent. As a result, gamification has piqued the curiosity of educators interested in its ability to incentive and increase pupils' learning (Dichev & Dicheva, 2017; Hamari, 2013; Koivisto & Hamari, 2019; Majuri et al., 2018; Seaborn & Fels, 2015).

In this line, a research (Legaki et al., 2020) indicated that groups that engaged in challenge-based gamification performed better than those that just engaged in conventional setting approaches like joining the discourses (Group Control) or

reading the paper (Group Read). Furthermore, combining a gamified software with a lecture may increase learning results at both institutions. Gamification learning methodologies can be used throughout online teaching and learning procedures in this regard. (Cechella et al., 2021) highlighted how gamification was linked to educational theories' principles. Game aspects were employed as an educational aspect in this case, with the emphasis on competitiveness rather than collaboration among the players. Furthermore, this was accomplished by the deployment of an interesting and collective online assessment combination that encourages student participation.

(Aguiar-Castillo et al., 2020), on the other hand, determined that the program's simplicity of use will impact student happiness, both directly and indirectly usefulness, which is valued more highly if the program is simple to use. However, the application's simplicity of use is insufficient to suggest its adoption. It's likely that pupils who already know how to download and use Internet tools will find this option to be insignificant enough to suggest. Similarly, the utility of the program does not appear to be great enough to suggest it.

However, (Aguiar-Castillo et al., 2020) discovered that students are satisfied with the use of gamification since it assists them in focusing the material given and learning methods, and there is an benefactor awareness when discussing their outcomes with their friends (benefactor awareness). Moreover, they suggest the utilization to community in their surroundings to provide them with a benefit (acquired awareness). The outcomes are good habits not just for the pupils who project a positive image to their peers, but also for those who profit from knowledge that would otherwise be impossible to obtain. As a result of this commitment, the class's overall academic performance improves, as do their learning techniques.

Students' Engagement

The term "student engagement" refers to a student's personal dedication to study (Fredricks et al., 2004). It highlights crucial criteria for student study and discuss by capturing the capability of student engagement, dedication, and entanglement (Järvelä & Renninger, 2014). Physiological, psychological, emotion, and social cognition engagement are the four elements of student involvement (Fredricks et al., 2004; Reeve & Tseng, 2011). Learners who have actively involved in their academics are more likely to succeed, appreciate, and feel comfortable with their academics (Fredricks et al., 2004; Salmela-Aro & Read, 2017). Learners' involvements have been found to affect overall and collective study, long period success, and overall student contentment in studies (Fredricks et al., 2004; Pitzer, 2012; Salanova et al., 2009).

Physiological, psychological, and social cognition components of learners' participation have also been addressed (Barak & Usher, 2020; Fredricks et al., 2004). In respect to academic expectations, these aspects represent observable behaviors, emotive reactions, psychological engagement, and deliberate effort. Behavioral engagement refers to students' visible actions, such as learners' activity and engagement in educational exercise that are thought to be important for obtaining favorable academic success and avoiding dropouts. This involves intellectual effort, perseverance, attentiveness, focus, and a lack of conduct issues, such as adhering to institutional regulations and not engaging in disruptive behavior (Fredricks et al., 2004). Students' emotive response to assignments, courses,

professors, academics, and university in general are referred to as emotional involvement (Fredricks et al., 2004). The emotional participations of learners' engagement explains the existence of interest, excitement, lack of anger, worry, and boredom, as well as sentiments of things in online settings and assessing class-related outcomes (Fredricks et al., 2004). Learners' psychological contribution in online learning setting is referred to as cognitive engagement, and it refers to the thinking and desire to put up the work required to comprehend complicated concepts and manage challenging abilities, like the application of advanced study techniques and effective learning self-regulation (Fredricks et al., 2004). Social cognition participations, according to (Reeve & Tseng, 2011), is the fourth dimension of learners' participations. It emphasizes student's active and purposeful involvement in personalizing learning settings and enriching outside learning objective relying from their own aspirations (Reeve & Tseng, 2011). Even if the idea of participations entails learners' active behavior, involvement and actions (Järvelä & Renninger, 2014), this finishing component emphasizes learners' social cognitive participations efforts as an organizer for their education, voluntarily pursuing individual concern, enthusiasm and objectives (Reeve & Tseng, 2011). Past research has shown that behavioral, cognitive, and emotional components each influence academic success in pupils, but that when combined, they constitute a larger construct (Alrashidi et al., 2016). The aspects of learners' involvement have an interaction impact (Fredricks et al., 2004), meaning that they interact and operate in people's behavior at the same time. In improving students' engagement amid COVID-19 pandemic, it is therefore the model hypothesis of causal relationship among learning strategies mentioned above and students' engagement is created as follow:
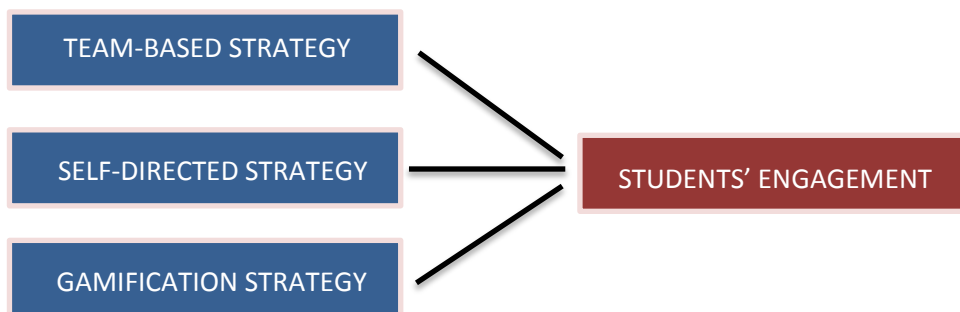

Figure 1. Model hypothesis of causal relationship among Team-Based, Self-Directed, Gamification strategies and Students' Engagement

After explaining all of the Team-Based, Self-Directed, and Gamification techniques, the proposed model hypothesis of a causal link between the elements is given as follows. The three tactics mentioned above have a major impact on student involvement. This is accomplished by employing any tactics that are appropriate for their needs and personalities. Learners will reap several benefits in learning when techniques are used to their full potential. As a result, kids will obtain good results in language learning, as evidenced by their capacity to grasp and utilize the language in all types of communication.

Discussion

The discussion is as follows:

As a result, the findings of current study contribute to the analysis of how students' learning strategies influence their learning engagement. More generally, the findings of recent research have implications for university English instruction. The future possible research which relates to the findings to the present research is aimed at revealing prediction whether there is any relationship between students; learning strategies and online learning engagement.

In searching the tentative answers for the prediction above, the hypotheses are constructed as follows: based on current indications and various theories derived from findings in studies on the analysis of possible relationships between EFL learning strategies and online learning engagement hypotheses on the relationships between them are developed.

1. Hypothesis 1. In learning English, the more students' employ team-based strategy in learning, the higher their learning engagement.
2. Hypothesis 2. In learning English, the more students' employ self-directed strategy in learning, the higher their learning engagement.
3. Hypothesis 3. In learning English, the more students' employ gamification strategy in learning, the higher their learning engagement.

Conclusion

Learning strategies have a significant influence on students' ability to learn. Learners require techniques in order to excel in their studies and attain significant success. Teachers can introduce and encourage learning strategies through teaching techniques used during the teaching and learning process, especially during Covid-19 pandemics. The usage of learning techniques has a significant impact on students' online engagement. Based on the needs, their involvement determines which tactics to utilize and which to discard. Learning methods, in turn, may help learners attain success in learning by assisting them in coping with obstacles they may face. It becomes clear that self-regulated, team-based, and gamification learning styles, as well as student involvement during online learning, are intertwined and impact one another.

References

Aguiar-Castillo, L., Clavijo-Rodriguez, A., Hernández-López, L., De Saa-Pérez, P., & Pérez-Jiménez, R. (2020). Gamification and deep learning approaches in higher education. *Journal of Hospitality, Leisure, Sport and Tourism Education*, *xxxx*. https://doi.org/10.1016/j.jhlste.2020.100290

Allam, S. N. S., Hassan, M. S., Mohideen, R. S., Ramlan, A. F., & Kamal, R. M. (2020). Online distance learning readiness during covid-19 outbreak among undergraduate students. *International Journal of Academic Research in Business and Social Sciences*, *10*(5). https://doi.org/10.6007/ijarbss/v10-i5/7236

Alrashidi, O., Phan, H. P., & Ngu, B. H. (2016). Academic engagement: An overview of its definitions, dimensions, and major conceptualisations. *International Education Studies*, *9*(12), 41. https://doi.org/10.5539/ies.v9n12p41

Aucejo, E. M., French, J., Ugalde Araya, M. P., & Zafar, B. (2020). The impact of COVID-19 on student experiences and expectations: Evidence from a survey. *Journal of Public Economics*, *191*, 104271. https://doi.org/10.1016/j.jpubeco.2020.104271

Barak, Miri. Usher, M. (2020). Innovation in a MOOC: Project-based learning in the international context. *Active Learning in College Students*, *2*(1), 1–13. https://doi.org/10.1007/978-3-030-33600-4_39

Barak, M., & Usher, M. (2019). The innovation profile of nanotechnology team projects of face-to-face and online learners. *Computers and Education*, *137*(September 2018), 1–11. https://doi.org/10.1016/j.compedu.2019.03.012

Barak, M., Watted, A., & Haick, H. (2020). Establishing the validity and reliability of a modified tool for assessing innovative thinking of engineering students. *Assessment and Evaluation in Higher Education*, *45*(2), 212–223. https://doi.org/10.1080/02602938.2019.1620680

Broadbent, J. (2016). Academic success is about self-efficacy rather than frequency of use of the learning management system. *Australasian Journal of Educational Technology*, *32*(4), 38–49. https://doi.org/10.14742/ajet.2634

Broadbent, J., Sharman, S., Panadero, E., & Fuller-Tyszkiewicz, M. (2021). How does self-regulated learning influence formative assessment and summative grade? Comparing online and blended learners. *Internet and Higher Education*, *50*(March), 100805. https://doi.org/10.1016/j.iheduc.2021.100805

Cechella, F., Abbad, G., & Wagner, R. (2021). Leveraging learning with gamification: An experimental case study with bank managers. *Computers in Human Behavior Reports*, *3*(December 2020), 100044. https://doi.org/10.1016/j.chbr.2020.100044

ChanLin, L. J., & Chan, K. C. (2010). Group learning strategies for online course. *Procedia - Social and Behavioral Sciences*, *2*(2), 397–401. https://doi.org/10.1016/j.sbspro.2010.03.033

Chatalalsingh, C., & Reeves, S. (2014). Leading team learning: What makes interprofessional teams learn to work well. *Journal of Interprofessional Care*, *28*(6), 513–518. https://doi.org/10.3109/13561820.2014.900001

Cheng, S. L., & Xie, K. (2021). Why college students procrastinate in online courses: A self-regulated learning perspective. *Internet and Higher Education*, *50*(April), 100807. https://doi.org/10.1016/j.iheduc.2021.100807

Chizmar, J. F., & Walbert, M. S. (1999). Web-based learning environments guided by principles of good teaching practice. *Journal of Economic Education*, *30*(3), 248–259. https://doi.org/10.1080/00220489909595985

Chung, E., Subramaniam, G., & Dass, L. C. (2020). ERIC - EJ1267359 - Online learning readiness among university students in Malaysia amidst COVID-19, Asian Journal of University Education, 2020-Jul. *Asian Journal of University Education (AJUE)*, *19*, 46–58. https://eric.ed.gov/?id=EJ1267359

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification." *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011*, *September*, 9–15. https://doi.org/10.1145/2181037.2181040

Dichev, C., & Dicheva, D. (2017). Gamifying education: What is known, what is believed and what remains uncertain: a critical review. In *International Journal*

of Educational Technology in Higher Education (Vol. 14, Issue 1). International Journal of Educational Technology in Higher Education. https://doi.org/10.1186/s41239-017-0042-5

Dörrenbächer, L., & Perels, F. (2016). Self-regulated learning profiles in college students: Their relationship to achievement, personality, and the effectiveness of an intervention to foster self-regulated learning. *Learning and Individual Differences*, *51*, 229–241. https://doi.org/10.1016/j.lindif.2016.09.015

Emke, A. R., Butler, A. C., & Larsen, D. P. (2016). Effects of team-based learning on short-term and long-term retention of factual knowledge. *Medical Teacher*, *38*(3), 306–311. https://doi.org/10.3109/0142159X.2015.1034663

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement potential of the concept. *Review of Educational Research*, *74*(1), 59–109.

Greetham, M., & Ippolito, K. (2018). Instilling collaborative and reflective practice in engineers: Using a team-based learning strategy to prepare students for working in project teams. *Higher Education Pedagogies*, *3*(1), 510–521. https://doi.org/10.1080/23752696.2018.1468224

Hamari, J. (2013). Transforming homo economicus into homo ludens: A field experiment on gamification in a utilitarian peer-to-peer trading service. *Electronic Commerce Research and Applications*, *12*(4), 236–245. https://doi.org/10.1016/j.elerap.2013.01.004

Hendry, G., Wiggins, S., & Anderson, T. (2016). The discursive construction of group cohesion in problem-based learning tutorials. *Psychology Learning and Teaching*, *15*(2), 180–194. https://doi.org/10.1177/1475725716643267

Hung, M. L., Chou, C., Chen, C. H., & Own, Z. Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers and Education*, *55*(3), 1080–1090. https://doi.org/10.1016/j.compedu.2010.05.004

Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets*, *27*(1), 21–31. https://doi.org/10.1007/s12525-015-0212-z

Järvelä, S., & Renninger, K. A. (2014). Designing for learning: Interest, motivation, and engagement. *The Cambridge Handbook of the Learning Sciences, Second Edition*, 668–685. https://doi.org/10.1017/CBO9781139519526.040

Karpouzis, K., Caridakis, G., Fotinea, S. E., & Efthimiou, E. (2007). Educational resources and implementation of a Greek sign language synthesis architecture. *Computers and Education*, *49*(1), 54–74. https://doi.org/10.1016/j.compedu.2005.06.004

Knowles, M. (1975). *Individual Schools , Stating Learning Objectives Is the Clearest ,*. 256–257.

Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, *45*(July 2018), 191–210. https://doi.org/10.1016/j.ijinfomgt.2018.10.013

Kulkarni, C., Cambre, J., Kotturi, Y., Bernstein, M. S., & Klemmer, S. (2015). Talkabout: Making distance matter with small groups in massive classes. *CSCW 2015 - Proceedings of the 2015 ACM International Conference on Computer-Supported Cooperative Work and Social Computing*, 1116–1128. https://doi.org/10.1145/2675133.2675166

Kwon, K., Liu, Y. H., & Johnson, L. P. (2014). Group regulation and social-

emotional interactions observed in computer supported collaborative learning: Comparison between good vs. poor collaborators. *Computers and Education*, *78*, 185–200. https://doi.org/10.1016/j.compedu.2014.06.004

Lee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet Child and Adolescent Health*, *4*(6), 421. https://doi.org/10.1016/S2352-4642(20)30109-7

Legaki, N. Z., Xi, N., Hamari, J., Karpouzis, K., & Assimakopoulos, V. (2020). The effect of challenge-based gamification on learning: An experiment in the context of statistics education. *International Journal of Human Computer Studies*, *144*(November 2019). https://doi.org/10.1016/j.ijhcs.2020.102496

Majuri, J., Koivisto, J., & Hamari, J. (2018). Gamification of education and learning: A review of empirical literature. *CEUR Workshop Proceedings*, *2186*(May), 11–19.

Musingafi, M. C. C., Mapuranga, B., Chiwanza, K., & Zebron, S. (2015). Challenges for open and distance learning (ODL) students: Experiences from students of the Zimbabwe Open University. *Journal of Education and Practice*, *6*(18), 59–66.

Parker, H., & du Plooy, E. (2021). Team-based games: Catalysts for developing psychological safety, learning and performance. *Journal of Business Research*, *125*(December 2020), 45–51. https://doi.org/10.1016/j.jbusres.2020.12.010

Pitzer, E. A. S. and J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. *Handbook of Research on Student Engagement*, 1–840. https://doi.org/10.1007/978-1-4614-2018-7

Poole, D. M. (2000). Student participation in a discussion-oriented online course: A case study. *Journal of Research on Computing in Education*, *33*(2), 162–177. https://doi.org/10.1080/08886504.2000.10782307

Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*, *36*(4), 257–267. https://doi.org/10.1016/j.cedpsych.2011.05.002

Salanova, M., Schaufeli, W., Martínez, I., & Bresó, E. (2009). How obstacles and facilitators predict academic performance: The mediating role of study burnout and engagement. *Anxiety, Stress and Coping*, *23*(1), 53–70. https://doi.org/10.1080/10615800802609965

Salmela-Aro, K., & Read, S. (2017). Study engagement and burnout profiles among Finnish higher education students. *Burnout Research*, *7*, 21–28. https://doi.org/10.1016/j.burn.2017.11.001

Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. *International Journal of Human Computer Studies*, *74*, 14–31. https://doi.org/10.1016/j.ijhcs.2014.09.006

Shawaqfeh, M. S., Al Bekairy, A. M., Al-Azayzih, A., Alkatheri, A. A., Qandil, A. M., Obaidat, A. A., Al Harbi, S., & Muflih, S. M. (2020). Pharmacy students perceptions of their distance online learning experience during the covid-19 pandemic: A cross-sectional survey study. *Journal of Medical Education and Curricular Development*, *7*, 238212052096303. https://doi.org/10.1177/2382120520963039

Stansfield, M., Mclellan, E., & Connolly, T. (2004). Enhancing student performance in online learning and traditional face-to-face class delivery. *Journal of Information Technology Education: Research*, *3*, 173–188.

https://doi.org/10.28945/296

Tekkol, I. A., & Demirel, M. (2018). An investigation of self-directed learning skills of undergraduate students. *Frontiers in Psychology*, *9*(NOV), 1–14. https://doi.org/10.3389/fpsyg.2018.02324

Tseng, H. W., & Yeh, H. Te. (2013). Team members' perceptions of online teamwork learning experiences and building teamwork trust: A qualitative study. *Computers and Education*, *63*, 1–9. https://doi.org/10.1016/j.compedu.2012.11.013

Usher, M., & Barak, M. (2018). Peer assessment in a project-based engineering course: comparing between on-campus and online learning environments. *Assessment and Evaluation in Higher Education*, *43*(5), 745–759. https://doi.org/10.1080/02602938.2017.1405238

Wadsworth, L. (2019). Reading Intervention: Correlation Between Emotional Intelligence and Reading Competence in High School Students. *Revista de Psicodidáctica (English Ed.)*, *24*(1), 24–30. https://doi.org/10.1016/j.psicoe.2018.10.001

Wang, L. Y. K., Lew, S. L., Lau, S. H., & Leow, M. C. (2019). Usability factors predicting continuance of intention to use cloud e-learning application. *Heliyon*, *5*(6), e01788. https://doi.org/10.1016/j.heliyon.2019.e01788

Watted, A., & Barak, M. (2018). Motivating factors of MOOC completers: Comparing between university-affiliated students and general participants. *Internet and Higher Education*, *37*(June 2017), 11–20. https://doi.org/10.1016/j.iheduc.2017.12.001

Zhu, M., Sari, A., & Lee, M. M. (2018). A systematic review of research methods and topics of the empirical MOOC literature (2014–2016). *Internet and Higher Education*, *37*(September 2017), 31–39. https://doi.org/10.1016/j.iheduc.2018.01.002