

## One Platform, Two Experiences: A Duoautoethnographic Reflection on How Moodle Facilitates Student Learning

Lorena Jean D. Saludadez<sup>1</sup> and Isabel Christianni N. Estillore<sup>2</sup>

<sup>1</sup> Faculty of Management and Development Studies, UP Open University, Los Baños, Philippines

<sup>2</sup> Faculty of Education, UP Open University, Los Baños, Philippines.

\*Corresponding author: [lorenajean.saludadez@upou.edu.ph](mailto:lorenajean.saludadez@upou.edu.ph)

### Paper Info:

Received: 29 May 2025 | Revised: 30 Jul 2025

| Accepted: 25 Aug 2025 | Available Online: 25 Aug 2025

DOI: <https://doi.org/10.64233/VJBC3685>

### Citation:

Saludadez, L. J. D., & Estillore, I. C. N. (2025). One platform, two experiences: A duoautoethnographic reflection on how Moodle facilitates student learning. *ASEAN Journal of Open and Distance Learning*, 17(1), 83-100, <https://doi.org/10.64233/VJBC3685>

### Abstract

*Moodle is familiar to the students of the University of the Philippines Open University. Since 2007, it has served as the primary learning management system used in the delivery of the university's courses. Given the pivotal role Moodle plays in the learning process, it has been continuously examined and evaluated, not only by faculty and administrators seeking to enhance its effectiveness, but also by students who engage with the platform on a daily basis. This paper presents a duoautoethnographic account of the experiences of two graduate-level students in their use of Moodle, centring on the question: "How did Moodle facilitate my learning?" Through this study, it was revealed that Moodle facilitated the learning experiences of these students by creating a space for content, connection, and, lastly, co-creation. An emergent distinction between "engaged" and "autonomous" learning dispositions also surfaced through the students' narratives, highlighting varying needs and expectations regarding Moodle's functionality. By documenting these perspectives, the study provides unique insights into student learning demands and dispositions, which can assist teachers, administrators, and developers in advancing inclusive Moodle innovations. Understanding how learners interact with Moodle in both engaged and autonomous ways can inform improvements in teaching approaches and platform design, ensuring that it remains an effective and responsive learning space for a diverse range of learners.*

**Keywords:** educational technology, Learning Management System, learning styles, Moodle, open and distance e-learning, teaching approach

## 1. Introduction

The University of the Philippines Open University (UPOU) holds a unique position as a consistent leader in the delivery of Open and Distance e-Learning (ODeL) in the Philippines. As the only virtual constituent unit of the University of the Philippines (UP) System, UPOU was mandated by Republic Act 10650, Section 12, with the role of “providing leadership in the development of Open and Distance Learning (ODL) in the country and communications technologies in support of quality tertiary education.”

In its earlier years, UPOU offered courses through a print-based mode of course development and delivery (Arinto, 2016). However, as the student population increased and became more geographically dispersed, this system became difficult to maintain. Due to rapid advancements in technology and the ushering in of a new era of the digital age, new opportunities for course delivery emerged. In 2007, the university made an official move to Moodle as its Learning Management System. Since then, the university has continuously expanded, innovated, and explored the potential of Moodle in the delivery of its services. At present, UPOU uses Moodle for multiple platforms, not just for its formal programmes but also for its micro credential offerings, massive open online courses, non-formal courses, continuing education programmes, and even as a conference platform. As a leading institution in the Philippines in the delivery of courses through Moodle, UPOU’s use of this platform could be considered among the most developed and most experienced among educational institutions in the country.

With the maturity of Moodle in UPOU, its use in the university serves as a relevant case study, rich in insights for examining Moodle as a learning management system. This duoautoethnographic account began as a casual discussion between two graduate students on their learning experiences in UPOU through the Moodle platform. However, upon realising how these perspectives could contribute to the academic community, particularly those involved in ODeL and ODL delivery, the researchers decided to document their experiences and reflections in order to generate perspectives on how to potentially accommodate varying learning experiences through the learning management system. In this study, the researchers answered the question: “How did Moodle facilitate my learning?”

## 2. Literature Review

The Learning Management System (LMS) has undeniably become part of the core infrastructure and educational technology of several academic institutions. In recent years, the LMS has transformed teaching and learning in several ways, such as influencing methods of delivery of instruction, assessment, and student engagement. Although there are several learning management systems available globally, the Modular Object-Oriented Dynamic Learning Environment, or Moodle, remains one of the most popular and widely used LMS platforms due to its flexibility, usability, and accessibility as open-source software.

Given the intention of this study to contribute to the further development of educational technologies and pedagogies that aid the delivery of ODeL, this review of related literature provides an examination of existing studies on the learning management system and the way it facilitates the learning environment. This review is specifically structured into three key sections:

- i. The Learning Management System
- ii. Moodle as a Learning Management System
- iii. Learner Dispositions in Online Learning Environments

These related studies present the exploration of Moodle, particularly from the learner's perspective.

## **2.1. The Learning Management System**

The technological landscape is rapidly evolving, and one of the key sectors that continually benefits from these advancements is the field of education. As technologies and tools are being developed constantly, these are slowly making their way into the day-to-day processes in the delivery of education. One of the prevalent examples of an educational technology that has become increasingly relevant is the Learning Management System or LMS.

In a study conducted by Zanjani et al. (2016), they examined how the LMS could serve as a valuable tool to improve teaching and learning experiences through the purposeful use of its integrated features. As mentioned, "the e-Learning tools within LMS [when maximised by lecturers effectively] provide knowledge sharing and community building opportunities that can support both critical thinking and higher order learning skills through conversation and collaboration" (Zanjani et al., 2016, p. 519). These educational technologies can enhance experiences with learning activities through a comprehensive set of integrated services and tools that students [and teachers] may utilise. Beer et al. (2010, p. 75) describe how the uptake of learning management systems in universities has brought about fundamental changes in the dynamics and delivery of online learning. This evolving reality illustrates a growing field of exploration, expanding the possibilities of education beyond the traditional face-to-face setup. These are among the myriad of studies that highlight the importance and benefits of the LMS. Other studies further explore these benefits by examining the functionalities that the LMS is capable of fulfilling in the area of course facilitation, course administration, and evaluation and assessment.

According to Reigeluth et al. (2008, pp. 32–37), the LMS is expected to take on the roles of record-keeping, planning, instruction, and assessment. Oliveira et al. (2016, p. 160) further emphasise that LMS needs to be able to integrate multiple media, languages, and resources, enable alternative technologies, and present information in an organised manner. Similarly, Lonn and Teasley (2009) describe the LMS as a platform for sharing materials, submitting and returning assignments, and facilitating online communication. Beer et al. (2010) also highlight in their study how tracking student activity through the LMS could serve as an indicator of engagement and academic success.

Across literature, there is wide acceptance of the LMS and recognition of its ability to improve teaching efficiency and student performance (Altinpulluk & Kesim, 2021). But despite the clear advantages and potential of the LMS in enhancing educational outcomes, there are also some studies that contribute and add some nuance to the discussion. Critical perspectives regarding digital technologies, including the LMS, are also explored in literature.

In a study conducted by Chauhan et al. (2025), they expounded on the obstacles in the use of the LMS, particularly among rural communities. Among the common issues that emerged from their study included inadequate digital infrastructure (such as lack of reliable internet access, low internet penetration rates, and limited affordability of digital devices), lack of technical and pedagogical skills to maximise the LMS (due to lack of digital literacy skills among both learners and educators), and, lastly, community reluctance to shift towards modern educational technologies due to unfamiliarity and scepticism.

There are also Philippine-specific research endeavours that echo these results. During the height of the pandemic, Baticulon et al. (2021) conducted a survey examining remote learning experiences, particularly among medical students in the Philippines (which was primarily technology-mediated through learning management systems). From the 3,670 students surveyed, 32% expressed difficulties in adjusting to the new learning environment, while 22% cited infrastructure issues, particularly lack of reliable internet access. A similar survey conducted by Rotas and Cahapay (2020) among tertiary-level students cited infrastructure problems (such as unstable internet connectivity, inadequate learning resources, and power interruptions), pedagogical issues (such as vague learning contents, overloaded lesson activities, and limited teacher scaffolds), and other more social, cultural, and even economic challenges (such as poor peer communication outcomes, conflict with home responsibilities, poor physical learning space, financial problems, physical health compromises, and mental health struggles).

However, it is also important to recognise that there could be differences across the several learning management systems available globally. Karadimas (2018) conducted a comparative analysis of ten (10) of the most widely used LMS, including Moodle, Blackboard, Canvas, Schoology, Sakai, Edmodo, Absorb, Grovo, Litmos, and Digital Chalk. These platforms were evaluated across thirty-eight (38) functions, including accessibility compliance, course features, and administrative features, to name a few. Through this evaluation criteria, Karadimas determined Moodle as by far the most popular platform, while also meeting the criteria laid out. Another study conducted by Khatser and Khatser (2022) had similar findings. In the survey they conducted among 104 educators across nine (9) different countries (Belarus, Great Britain, Iraq, Spain, Mexico, Moldova, Poland, Ukraine, and the United States), they inquired about the most available LMS frequently applied by these educators in their professional practice. Among the LMS, educators identified Moodle as the most preferred, garnering 70% of the total answers. According to Aljad (2023), the most popular LMS cited was Moodle, but Blackboard and Google Classroom were also considered important and popular, though with more situational applications.

In general, the studies on the learning management system present both advantages and disadvantages, but most importantly, an opportunity to explore a different approach to teaching and learning. Recognising the differences that may occur between different platforms, the next series of studies explores Moodle, which is recognised as among the most popular and widely used LMS, and the LMS being used by UPOU since 2007.

## **2.2. Moodle as a Learning Management System**

Given Moodle's popularity, several studies have attempted to identify the features that have made Moodle among the top LMSs of choice. In the study by Al-Ajlan and Zedan (2008), it becomes evident why educators and institutions are drawn to Moodle:

In terms of education delivery, Moodle is an educational technology that demonstrates great awareness of the social-constructivist pedagogy often tied to distance learning. Moodle, as a platform, provides space for the interactions required to stimulate effective learner-centred education. Because of the various built-in Moodle features, educators are given the opportunity to explore various strategies in the delivery of content and in assisting students in meeting the intended learning outcomes.

From an institutional perspective (administrative and technical lens), Moodle is among the most user-friendly and flexible of the free, open-source courseware products available. Moodle is developed by a long list of specialists who have contributed to the

development of its many stages. Given that development information is available, including a roadmap and coding guide, Moodle is democratised, therefore highlighting the flexibility, community support, and cost-effectiveness of using Moodle. This has therefore drawn education providers to this LMS.

There are other studies that focus on how Moodle is being explored by educators and providers; however, it is also important to recognise that in Open Distance e-Learning and other iterations of technology-mediated education, the delivery of courses is primarily guided by learner-centred pedagogies. That being said, another important area to explore would be the students' perspective, experience, and outcomes from the use of Moodle.

In the study by Umek et al. (2017), they examined the effectiveness of Moodle by comparing the performance of students of the same courses who were taught the course through Moodle and those who were not, through quantitative analysis (t-test). The results of the study revealed that there was a statistically significant increase in student performance when courses were taught through Moodle (Umek et al., 2017, p. 174). Additional observations show that those who benefit the most from the use of Moodle are students with lower academic performance during high school; whereas the students who benefited least (at least in terms of student performance) were those who already had high grades since high school (Umek et al., 2017, p. 175).

A similar assertion was forwarded by Escobar-Rodríguez and Monge-Lozano (2012), wherein they claimed that those who used the Moodle platform were getting comparatively better course outcomes than those who did not. In their study, they tried to identify the factors that encouraged the use of Moodle through survey questions measured using a seven-point Likert scale (Escobar-Rodríguez & Monge-Lozano, 2012, p. 1089). In their results, they were able to uncover that aside from perceived usefulness and perceived ease of use, factors such as perceived usefulness for professors, perceived compatibility with student tasks, and available training heightened a student's intention to use Moodle (Escobar-Rodríguez & Monge-Lozano, 2012, p. 1091).

This study hints that even with the established benefits that come from Moodle, it is still important to supplement this with effective student support systems. This assertion was backed by the study of Paragina et al. (2011), where they discovered that the lack of abilities, knowledge, and skills in the use of Moodle could completely negate whatever benefits could have been gained from the platform. Taking this study further, Damjanovic et al. (2012) were able to determine additional factors to improve student experience in the use of Moodle. Among the primary factors to be considered in assessing the effectiveness of the e-learning system would be perceived information and system quality, communicativeness and the format of the e-learning system, perceived usefulness, perceived learning performance outcome, perceived satisfaction with the e-learning experience, and perceived intention to use the e-learning tool in the future (Damjanovic et al., 2012, 509).

While several studies support the opportunities, Moodle creates to explore creative strategies in the online learning environment, there are also studies that emphasise the need to supplement these technologies with better consideration of learners, particularly through well-guided pedagogy and established student support systems. In the next section, this paper examines the various learning dispositions in the online learning environment.

### 2.3. Learner Dispositions in Online Learning Environments

In recent years, especially during the pandemic, the forced exposure of many institutions to emergency remote learning led to greater acknowledgement and acceptance of the potential of distance education and its variants. Now, years after the pandemic, many schools have decided not to completely abandon this learning mode, even making their class delivery more blended in nature. In a study by Hewidy et al. (2023), they explained that online forms of education had been around for decades, but the pandemic rapidly accelerated this digitisation process. That being said, it comes as no surprise that there is now greater interest in teaching and learning through an online set-up. One topic in particular that is experiencing growing attention is learning dispositions, particularly in an online environment. According to Pashler et al. (2009), in the discussion of learning styles, people tend to “evaluate what sort of information presentation they prefer or what kind of mental activity they find most engaging.” This has therefore led to the different characterisations of learning styles, such as visual, auditory, read/write, kinaesthetic, or theoretical vs. practical kinds of learners. A particular interest of studies in recent years was to examine whether or not the online platform was able to accommodate these kinds of learner dispositions.

In the remote learning set-up, given the lack of face-to-face and hands-on interaction with teachers, courses are designed to help students learn independently through well-planned, curated, and facilitated guides. In a survey conducted by Ballad et al. (2022), they examined nursing students, particularly their capabilities for self-directed learning through a self-directed learning readiness metric. Students who were more independent, competitive, and imaginative demonstrated relatively high self-directed learning scores. On the other hand, those who were more detail-oriented or had analytical preferences were seen to be less ready for the demands of self-directed learning. The authors therefore recommended the importance of deliberate planning and/or strategies to assist students who were not accustomed to the demands, methods, and learning environment of digital education.

There are other similar studies that question the effectiveness of remote learning environments, particularly when students are not well-adapted to the self-directed mode of learning. In a Philippine study conducted by Fabito et al. (2020), they examined the barriers and challenges faced by students in an online learning environment. Among the key emergent themes was “the difficulty of clarifying topics or discussions with the professors,” which could be an indicator of multiple overlapping issues. In the study, it was highlighted that teachers who facilitated the online learning environment were not adequately prepared for the transition. However, this may also indicate a generally low level of self-directedness among students who were experiencing independent study possibly for the first time. These insights are important to balance, as they particularly show that access to technology alone does not necessarily guarantee better learning outcomes. This is highly dependent on the student's ability and adaptability to the learning mode, and at the same time, the teacher's readiness in pedagogy and course delivery.

In another study, the authors were able to highlight that an important dimension of learner disposition revolved around motivational orientation. Moore and Wang (2021) surveyed over 10,000 participants in a massive open online course (MOOC), and they were able to distinguish different learner motivations for course participation and completion. There were students who were driven by intrinsic motivation, particularly due to their genuine interest in the course topic; on the other hand, there were also students who were motivated extrinsically, particularly by grades and credentials. The study showed that students with a more “organic” interest in the course, particularly

those who actively sought out the knowledge that could be gained from the MOOC, had higher course completion and performance rates. In a study by Cho and Kim (2013), they supported the importance of self-regulation (manifested in goal setting, planning ahead, and monitoring and reflecting on their learning process) in determining students' successful learning experiences in an online learning environment.

There are also some studies that explore learner disposition specific to Moodle as the learning management platform. As part of Moodle's features, it keeps a detailed record of student activity within the course site. Maximising this feature, Zlatkovic et al. (2022) analysed student behavioural patterns through their course activity as a way to determine their learning styles. Using the Felder-Silverman model, they were able to predict learning styles; whether learner preference be active, reflective, sensing, intuitive, visual, verbal, sequential, or global, and make personalised adjustments to the course according to the perceived learner style. This demonstrates the importance of learner style in facilitating learning experience in the digital learning environment. Another study by Sáiz-Manzaneres et al. (2021) also placed emphasis on the importance of aligning teaching style or course delivery according to the learning styles of the student for greater learner satisfaction and performance.

In the Philippine context, there are also research endeavours that examine learner disposition in the online learning environment. While there were students who were able to adapt to the shift in the learning modality, there were those who struggled, particularly those who were not familiar with self-regulated learning. In a study by Aperochó et al. (2023), it was determined that students with strong time-management and help-seeking dispositions adapted more readily to online learning. The other students, particularly those who struggled with the lack of face-to-face interactions, grappled with procrastination, disengagement, and heightened anxiety.

In the literature examined, a consistent theme is brought to light. Although there is an acknowledgement of the benefits that come from educational technologies such as Moodle, it is important to recognise the human factors, particularly learner disposition, that heavily influence or define the learning experience. Beyond exploring and enhancing the technology for teaching and learning, it is important to understand and engage with the learner's disposition to ensure that students with varying needs are able to adapt in the virtual environment.

With the studies cited above, it is clear that ensuring the alignment of teaching strategies or approaches should still be informed by a proper understanding of learner disposition. While there are studies that attempt to examine learner disposition, these are mostly conducted through surveys and examinations by educators themselves. This study, therefore, contributes to the pool of literature on learning styles in the Open and Distance e-Learning environment, particularly through the experience of students themselves via the Moodle platform. In this duoautoethnographic account of the learner experience on the use of Moodle—through the lens of UPOU graduate students, the reflections of students on their learning experience through the Moodle platform provide insights that can potentially inform at a technical (platform design) and even pedagogical level (teaching approaches), to ensure that the delivery of education in the online space remains effective and responsive for the diverse range of learners.

### **3. Research Method**

The research adopted a duoethnographic design, a form of collaboratively performed autoethnography that involves two researchers engaging in dialogue to explore, reflect on, and interrogate a shared experience or phenomenon. In duoethnography, the

researchers took on the position of both participants in the study and investigators; therefore, they utilised and maximised their perspectives and experiences as the data source to be analysed in order to surface a deeper understanding of the phenomenon being interrogated; in this case, their experiences learning through Moodle. Duoethnography was purposefully chosen as it allows for a co-constructed, critically reflexive exploration of Moodle use from within the learner perspective. This insider positionality, instead of being a bias that ought to be eliminated, is recognised as a stance central to this inquiry. This method allows students, through their own experience and from their own analysis and articulation, to examine and explore the use of Moodle.

This study emerged organically from an informal conversation between the researchers; two graduate students of UPOU, who were engaged in open-ended dialogue via a messaging application through text-based exchanges. The conversation unfolded organically, wherein each participant drew from their perspectives and lived experiences. As the discussion progressed, there was a clear emergence of differing viewpoints, particularly in their learning experiences and preferences in Moodle as a learning management platform. Their discussions revolved around how they believed they learned most effectively through Moodle, their experiences of how Moodle supported their academics, and their perceived challenges, issues, or inconveniences with Moodle. Various factors also emerged in the conversation, giving insights into what potentially shaped their respective perspectives on Moodle's role in their learning, such as their personal strategies in using the platform, individual study habits, contextual conditions under which learning took place (e.g., availability of time or competing responsibilities), and intrinsic motivations. The researchers recognised how these insights might potentially inform Moodle development. Beyond that, the insights may have broader pedagogical implications for the delivery of education through ODeL. That said, the researchers documented their conversations, experiences, and reflections. The recorded messages and exchanges were later reviewed, and relevant excerpts were lifted as narrative data for analysis.

The resulting narratives were subjected to a six-phase thematic analysis as operationalised by Braun and Clarke (2006). First, the researchers familiarised themselves with the narrative texts; second, they independently generated initial codes; third, they collaboratively searched for patterns across their accounts; fourth, themes were reviewed and refined; fifth, themes were defined and named; and finally, a coherent narrative was produced that illuminated contrasting learning dispositions. This process enabled a systematic yet reflexive interpretation of the data. It revealed two distinct perspectives on learning experiences, specifically on learning dispositions.

#### **4. Findings and Discussion**

In ODeL and the philosophy it espouses, there is an expectation for students to become self-directed learners. Moodle, as the primary learning management system of UPOU, therefore, serves a pivotal role as a platform to facilitate student learning.

In the conversations that occurred between two graduate students of UPOU on their learning experiences in Moodle—particularly in their exploration of the question, “How did Moodle facilitate my learning?”—it became apparent that, from the perspective of these students, learning experiences occurred when Moodle created a space for (1) Content, (2) Connection, and (3) Co-creation. These were identified as the three primary functions that Moodle ought to fulfil to ensure effective facilitation of self-directed learning.



#### 4.1. Moodle as a Space for Content

One of Moodle's primary functions, from the students' perspective, is to serve as an effective space for content. A student's learning largely hinges on their ability to interact with the learning materials meaningfully and understand and reflect upon them. Provided this dynamic, the student narratives emphasise the importance of flexibility and accessibility of course content through Moodle as among the identified key features that have improved or supported a self-directed learner.

Flexibility in this case refers to the ability of the course site to adjust to different contexts. Course sites can be modified and customised by the Faculty-in-Charge to accommodate the kind of content that needs to be posted, and how to be presented. The appreciation for course flexibility is evident in the narratives posed by the students.

In the narrative provided by Student 1, they mention that "the lessons and course content are very easy to view and follow, especially when they are organised well in the course site." The narrative of Student 2 supplements this, highlighting the importance of how the platform "allows for the lessons and course content to be organised according to the course guide." In these narratives provided, we see the importance of flexibility in the organisation of content in the functionality of the Moodle course site. Content alignment, particularly through proper course organisation, assists students as it makes the course "easy to navigate and understand."

Not only that, the course site is also flexible in accommodating a diverse range of learning resources, given the variety of learning materials that need to be maximised in order to assist the students in their learning process. Student 1 explains how Moodle has been helpful in "[accommodating] various resource options, including text, videos, PDFs, and links." Student 2 mentions how the availability of a variety of learning resources, "ranging from text-based, multimedia, and even interactive content," helps in maintaining engagement with the course. Additionally, Student 2 also acknowledges how "different learning styles or [those who] have different resource preferences can be accommodated" by the diversity of course content that could be posted in Moodle.

Another important feature of Moodle that assists in the learning process of students is its accessibility. In this context, accessibility refers to the accommodation that the course site gives to the unique and even shared circumstances that students experience. As highlighted in the narratives, students have different contexts that shape their ability to engage with the course site. In the narrative of Student 1, internet connectivity or the lack thereof is one of the realities that affects their learning experience. As mentioned, "For some who don't have a constant and reliable internet connection, the option to download the content and view it at our own time is helpful." Similar sentiments were expressed by Student 2, who mentions how downloading the course content has helped students "who may have limitations in accessing the platform." Citing a specific example, Student 2 recounts, "Being able to download the course content is much appreciated, as it allows me to study even in instances when I'm 'on the go.' I've tried downloading course materials to study while travelling time that would have otherwise been spent unproductively."

These findings echo established literature that described the importance of learner-content interaction. According to Moore (1989), interactions with content result in changes in the learner's understanding, the learner's perspective, or the cognitive structures of the learner's mind. He even went so far as to claim that "without it [content], there could not be education." Holmberg (1986, as cited in Moore, 1989) refers to the process of learner-content interaction as an "internal didactic

conversation,” where learners “talk to themselves” regarding the information they encountered, thereby stimulating or creating new or enhanced understandings of topics. A study conducted by Arham et al. (2023) examining the acceptance of Open and Distance Learning (ODL) among undergraduate students in Malaysia presented similar findings. As an outcome of this research, it was determined that the content and design of the course had an impact on the effectiveness of the students’ learning experience. In the context of the study, content referred to the variety of materials, while design referred to the presentation of content; hence, closely resembling current themes on flexibility and availability.

Through the theme of content, these findings are echoed and reaffirmed, demonstrating how students themselves recognise the importance of their interaction with content. And Moodle, as a learning space, therefore plays an important role in content delivery.

**Table 1**  
*Summary of Direct Quotations on Moodle as a Space for Content*

Theme	Sub-Themes	Quotations
Content	Flexibility	<p><b>Student 1:</b> Lessons and course content are very easy to view and follow, especially when they are organised well in the course site. [...] It is very helpful in how it accommodates various resource options, including texts, videos, PDFs, and links.</p> <p><b>Student 2:</b> Given that the platform allows for the lessons and course content to be organised according to the course guide as intended by the Faculty-in-Charge of the course makes it easy to navigate. and understand. [...] I appreciate how the platform allows for a variety of resources ranging from text-based, multimedia, and even interactive content. The diversity of resources helps keep me engaged with my lessons. [...] This wide variety and selection of resources ensures that students with different learning styles or have different resource preferences can be accommodated.</p>
	Accessibility	<p><b>Student 1:</b> For some who don’t have constant and reliable internet connection, the option to download the content and view it at our own time is helpful as well.</p> <p><b>Student 2:</b> Being able to download the course content is much appreciated, as it gives me an opportunity to study even in instances when I’m ‘on the go.’ I’ve tried downloading course materials to study while travelling—time that would have otherwise been spent unproductively. It’s really helpful for students who may have limitations in accessing the platform.</p>

**4.2. Moodle as a Space for Connection**

In a learning environment where students are remotely situated from the Faculty-in-Charge and peers, it is important to ensure that the "physical distance" does not translate into feelings of disconnection. In the narratives presented by students, feeling connected both to their coursework and their peers helps facilitate a conducive learning space.

Two interrelated sub-themes emerged—communication, which refers to mechanisms and affordances that help students stay informed and coordinated, and support, which

refers to deeper, more sustained interpersonal connections that contribute to learner motivation and accountability.

Moodle as a learning space creates effective communication channels, which contribute to students being well-oriented in terms of their academic progress and responsibilities. In the course site, Student 1 mentioned the importance of the dashboard in presenting and summarising crucial information: “I find the Moodle dashboard quite helpful in my learning process. It functions like a one-stop shop, where I can view all pending requirements and deadlines and be updated on ongoing course activities.” But even in instances when students are unable to access the dashboard, Moodle still provides other layers of information dissemination: “the convenience of receiving push notifications through email regarding upcoming course requirements and their corresponding due dates... helps me stay connected with my classes, without having to check the course site.” These available streams of information contribute to helping students manage their time effectively and take better control of their learning responsibilities.

Student 2 echoed the same sentiments by emphasising the necessity of staying connected: “Staying connected, especially when your learning is your responsibility, is essential in self-directed learning.” Additionally, Student 2 also pointed out how Moodle made coordination with classmates doable, given the accessibility of contact information through the class list in the course site: “In instances wherein I need to connect with peers when assigned some collaborative activities, I find it convenient to locate their contact information through the class list.” These accounts suggest that Moodle’s communication functionalities serve an important purpose in helping students sustain their momentum in their studies.

The explanations of students on the importance of Moodle in terms of communication are reminiscent of how the LMS is understood and intended to function as per previous studies. In an article by Teichroew (2003, p. 865), he mentioned that “an information system is a collection of people, procedures, and equipment designed, constructed, operated, and maintained to collect, record, process, store, retrieve, and display information.” Anchoring on this idea, Otto et al. (2024, p. 2) explained that the LMS could be understood as an information system (IS), provided that among its key functions was facilitating information among its users. In a similar way, a study conducted by Naveh et al. (2012, p. 344) revealed that students expected that, through the LMS, they could reach information easily and efficiently. Interviews conducted even revealed that students compared the course sites in the LMS to other web services (e.g., Google), and therefore expected these course websites to meet the same ease of navigation (Naveh et al. 2012, p. 344). This reveals how LMSs play a critical role in setting the environment for student learning by ensuring effective information circulation.

While Moodle is recognised by students to be effective in relaying updates relating to the course, there have been criticisms about how it is unable to foster genuine interpersonal support—a need that both students expressed. For Student 1, the challenge lies in the absence of spaces for genuine and informal connection: “I could still really benefit from having a group of peers to help keep me accountable and motivated. These kinds of connections are not really effectively built through the platform.” Student 2 also provides a similar reflection, noting that while they value self-direction, learning would be significantly enhanced “if the learning space were more accommodating to my need for support and community building.” The difficulty, in both cases, stems not from a lack of awareness about the need for support, but from the absence or limited availability of avenues for more authentic connections to be built through Moodle.

Given the structure of the platform, it creates what Student 2 referred to as an "overly asynchronous" environment, where spontaneous and continuous interactions do not frequently occur. As a result, students often find themselves taking conversations outside Moodle, relying on external apps to build the support systems that are vital for persistence and motivation in an online learning setup. Similarly, in a survey conducted by Vania et al. (2022, p. 72) among 118 undergraduate students, it was discovered that peer relationships influenced academic motivation. Therefore, this highlights the need for Moodle to facilitate an environment where students can create strong peer relationships, as this supports students' motivation and, ultimately, student learning outcomes.

While Moodle performs reasonably well in helping students stay connected with course content, it falls short in cultivating a stronger sense of community and mutual support. In ODeL, where isolation is a common challenge, this is a gap that warrants attention. As one student puts it, "being a self-directed learner means I need to be able to keep my motivation"—a reminder that effective learning platforms must go beyond efficiency and also consider the relational dimensions of the learning experience.

**Table 2**  
*Summary of Direct Quotations on Moodle as a Space for Connection*

Theme	Sub-Themes	Quotations
Connection	Communication	<p><b>Student 1:</b> I find the Moodle dashboard quite helpful in my learning process. It functions like a one-stop shop, where I can view all pending requirements and deadlines and be updated on ongoing course activities. I really appreciate the convenience of receiving push notifications through email regarding upcoming course requirements and their corresponding due dates. It helps me stay connected with my classes without having to check the course site. It helps when these details are communicated to me across multiple channels, as it allows me to manage my studies better.</p> <p><b>Student 2:</b> Staying connected, especially when your learning is your responsibility, is essential in self-directed learning. That said, I really benefit from the functionalities of the course site, particularly the different notifications I receive to stay connected with my classes. Additionally, in instances wherein I need to connect with peers when assigned some collaborative activities, I find it convenient to locate their contact information through the class list.</p>
	Support	<p><b>Student 1:</b> While I understand and have been oriented on how self-directed learning relies on my discipline in my studies, I could still really benefit from having a group of peers to help keep me accountable and motivated. These kinds of connections are not really effectively built through the platform.</p> <p><b>Student 2:</b> If there's anything that could better facilitate my learning, it would be if the learning space were more accommodating to my need for support and community building. Being a self-directed learner means I need to be able to keep my motivation in my studies. However, this becomes difficult when I don't feel like we're "building" a community. The environment that the course site facilitates seems "too asynchronous" in a sense that it can discourage more active participants.</p>

#### 4.3. Moodle as a Space for Co-Creation

Another key function that was identified in the student narratives is the role of Moodle as a space for co-creation. If, in the traditional learning environment, knowledge is mostly delivered in a top-down manner through teachers and the lecture provided within the context of ODeL, students take on a different role, not as merely recipients of information, but as participants in meaning-making as well. The narratives, as described below, reflect how the learning experience of a student is shaped not just by the content, but also by the opportunities for students to participate in interpretation and exchange.

For both students, having the opportunity to interpret information on their own terms; emerging without direction from a teacher or lecturer, is a factor that contributes to learning. As recounted by Student 1, “With the independence given to us students, we are put in a position where we have to think for ourselves what we make of the information being presented to us.” This independence, rather than being considered as something disorienting, appears to encourage the learner to engage with the learning materials more critically, so that they may generate their own insights and interpretations. Student 1 was also able to reflect that they were able to “[learn] better by being challenged to form [their] own ideas.” Similarly, Student 2 describes the process as “empowering,” as it “encouraged [students] to formulate insights and interpretations,” which can, in turn, “add value to the lesson and to the discussion.” This focus, on active interpretation, shows the importance of learner agency, which is foundational to self-directed learning.

These findings also reaffirm existing studies that argue the importance of a student’s individual agency in enhancing the learning experience. As succinctly put by Toshalis and Nakkula (2012, p. 27), “students create knowledge more than just absorb it, which helps us understand why students want to do things that enhance that feeling of creation.” In addition, agency also plays an important role in improving student outcomes, as the facilitation of an empowering environment increases motivation and engagement among students (Toshalis & Nakkula, 2012, p. 27). In a similar sense, Lazonder and Harmsen (2016, p. 681) also suggested that inquiry-based approaches or those approaches that gave the responsibility of thinking to students were more effective than teacher-directed approaches.

While both students have similar perspectives, particularly on the benefits brought by interpretation, when it comes to the more collaborative activities—such as the exchange of ideas, particularly through forum discussions, students’ perspectives are quite diverged, with one student seeing more merit in exchange than the other.

Student 1 acknowledges the value of interactions: “Through Moodle, I appreciate that we get to interact in forum discussions to exchange ideas and learnings.” This means that while there is recognition of peer engagement and its potential to contribute to student learning, there are still doubts as to how supportive these activities are to the overall learning experience. Student 1 expresses that these forums can feel like “additional activities or workload,” especially because much of the actual studying already takes place independently and asynchronously outside the platform. In other words, while the design of Moodle allows for exchange, the way it integrates (or fails to integrate) into a student’s workflow may determine how meaningful that exchange becomes.

On the other hand, Student 2 emphasises the ability of peer interactions to deepen learning. As mentioned, having classmates who belong to “different professions”, highly contribute to the value added by discussion forums, as the students are able to “benefit

from their unique insight” as professionals from different disciplines. This diversity of thought contributes to a richer and deeper learning environment. Similar to Student 1, Student 2 also has “criticisms” of Moodle and how it facilitates exchanges as a learning space, but interestingly not as “additional workload,” but more as lacking in sincere and meaningful interaction and participation. Student 2 mentions, “Unfortunately, given that it is easy for students to conduct their learning activities outside the platform, it seems that many of my classmates are only engaging as a matter of compliance, and this lack of genuine and insightful exchange sometimes leads me to feel demotivated in my studies.” It could be seen that while Moodle does provide the infrastructure for co-creation, the effectiveness of this activity is still dependent on how the space is maximised, particularly on how interaction is facilitated and encouraged.

An interesting exploration emerges, particularly with the diverging narratives or perspectives on Moodle as a space for co-creation. It is evident that co-creation in Moodle revolves not only around its design features, but also has a deep intertwining with how students interpret, encounter, and perceive these features, which must be examined against the broader background of their academic and even personal contexts. Therefore, this area remains more nuanced, and is one for emerging investigation to be examined in the next section.

**Table 3**  
*Summary of Direct Quotations on Moodle as a Space for Co-Creation*

Theme	Sub-Themes	Quotations
Co-Creation	Interpretation	<p><b>Student 1:</b> With the independence given to us students, we are put in a position where we have to think for ourselves what we make of the information being presented to us. I have learned better by being challenged to form my own ideas regarding lessons and concepts.</p> <p><b>Student 2:</b> The learning experience is quite empowering given that we no longer simply participate in the classes as mere “recipients” of knowledge; instead, we are also encouraged to formulate insights and interpretations, further adding value to the lesson and to the discussion.</p>
	Exchange	<p><b>Student 1:</b> Through Moodle, I appreciate that we get to interact in forum discussions to exchange ideas and learnings on a given lesson or reading. However, because most of the learning and studying can already be done asynchronously outside of Moodle, participating in these discussion forums can sometimes feel like additional activities or workload for the students.</p> <p><b>Student 2:</b> In my experience, having the opportunity to exchange ideas with classmates greatly contributed to my learning, especially as many of my classmates belong to different professions and I am able to benefit from their unique insight. Unfortunately, given that it is easy for students to conduct their learning activities outside the platform, it seems that many of my classmates are only engaging as a matter of compliance, and this lack of genuine and insightful exchange sometimes leads me to feel demotivated in my studies.</p>

**4.4. Emergent Theme: “Engaged” and “Autonomous” Learner Dispositions**

In the narratives presented by students, particularly on their attitudes towards exchange in co-creation, two diverging characteristics emerged. One (Student 1) demonstrated what this study would refer to as a more “autonomous” learning

disposition, while the other (Student 2) exhibited a so-called “engaged” attitude towards the learning experience.

The autonomous learner is someone who appreciates the independence afforded by the online learning environment. Therefore, they do not actively engage with the interactive spaces for academic exchange unless it is a requisite in class instruction. For these learners, the value of the platform lies in its ability to facilitate self-study rather than collective exchange. In the autonomous disposition, the learning process is largely self-paced, private, and internal. This type of learner may be likened to introverted students in a traditional classroom set-up: present and engaged, but not necessarily through verbal or social participation.

On the other hand, the engaged learner is the one who enjoys and thrives in collaborative learning environments. They take great interest in interacting with the insights of their peers through forum exchanges and even seek opportunities to interact, debate, and co-create meaning with others. For this type of learner, Moodle serves not merely to centralise and present course content; instead, it is a dynamic learning space that comes alive through shared reflection and meaning-making among students.

The emergence of these learner dispositions provides an additional area for study in the future, particularly an inquiry into the determining factors that contribute to these kinds of learning preferences. This kind of exploration can provide better insight into potential teaching strategies in the online learning environment, including different ways that the learning experience can be further contextualized through individualized approaches in instruction.

## 5. Conclusion

This study provided an exploration of the learning experiences of students, from the students’ own perspectives—particularly on how the Moodle learning management system was able to facilitate their learning. This research utilised a duoautoethnographic approach, wherein two students actively exchanged, discussed, and reflected on their learning experiences. Through these reflections, they were able to answer how Moodle created—or could further create—a more effective learning environment. Their insights contributed a new perspective to the field of open and distance e-learning, by explaining how learning could be better facilitated through the learning management system. Moodle was found to support the learning process by facilitating a space for (1) content, where students could effectively perform their responsibilities as self-directed learners through a wide range of resources presented in a coherent and accessible manner; (2) communication, where students benefitted from reliable information streams that helped them manage their coursework; and (3) co-creation, where students were empowered in their learning activities through an environment that promoted independent, critical, and reflective thinking. While this research was primarily focused on understanding Moodle’s role in student learning, it also surfaced an unexpected yet significant theme describing the divergence in learning styles and engagement patterns of “autonomous” and “engaged” learners. The emergence of these new characterisations of learner dispositions opens a new area of inquiry particularly in recognising the potential implications for how educational providers can adapt their teaching strategies to accommodate diverse learning preferences. Insights from this study may be utilised to inform faculty development initiatives by highlighting the value of learner-centred design and the importance of acknowledging diverse learning dispositions. This study also opens potential areas for further inquiry, wherein theoretical studies may explore other possible learner dispositions, while practical studies can investigate how LMS features can be adapted to accommodate these differences ultimately informing more inclusive

instructional design and targeted professional development for educators. Overall, the findings of this study are important, as they offer an additional perspective that educators, administrators, and developers alike can consider in the delivery of education—whether in teaching strategies, pedagogical approaches, or the development and configuration of technologies that support learning.

**Funding:** The findings of this study were initially presented at the MoodleMoot Japan 2024 conference in Nagasaki, Japan, through the support and funding provided by the University of the Philippines Open University under its research dissemination grant. This exposure greatly contributed to the further development and refinement of the research.

**Acknowledgement:** The authors would like to acknowledge the contributions of the journal advisers, chairpersons, editorial board members, and the respective international offices for their continuous support. ChatGPT was used in proofreading the text to ensure proper grammar, syntax, UK English spelling, and punctuation

## References

- Al-Ajlan, A., & Zedan, H. (2008). Why Moodle. *2008 12th IEEE International Workshop on Future Trends of Distributed Computing Systems* (pp. 58–64). IEEE.  
<https://doi.org/10.1109/FTDCS.2008.22>
- Aljad, R. R. (2023). Analysis of development trends and experience of using LMS in modern education: An overview. *E-Learning Innovations Journal*, 1(2), 39–62.  
<https://doi.org/10.57125/ELIJ.2023.09.25.05>
- Altinpulluk, H., & Kesim, M. (2021). A systematic review of the tendencies in the use of learning management systems. *Turkish Online Journal of Distance Education*, 22(3), Article 3.  
<https://files.eric.ed.gov/fulltext/EJ1301272.pdf>
- Aperocho, M. D. B., Eborda, M. A., Galman, A. M., & Maranan, J. M. (2023). Filipino students' online learning experiences during the COVID-19 pandemic: A phenomenological inquiry. *The International Journal of Learner Diversity and Identities*, 30(2), 358–365.  
<https://doi.org/10.18848/2327-0128/CGP/v30i02/358-365>
- Arham, A. F., Norizan, S., Muenjohn, N., Ridzuan, A. R., & Mohd Amin, M. F. B. (2023). Empirical study on factors influencing ODL acceptance among undergraduates in Malaysia. In A. H. Jaaffar, S. Buniamin, N. R. A. Rahman, N. S. Othman, N. Mohammad, S. Kasavan, N. E. A. B. Mohamad, Z. M. Saad, F. A. Ghani, & N. I. N. Redzuan (Eds.), *Accelerating transformation towards sustainable and resilient business: Lessons learned from the COVID-19 crisis* (Vol. 1, pp. 824–833). European Proceedings of Finance and Economics. <https://doi.org/10.15405/epfe.23081.75>
- Arinto, P. B. (2016). Issues and challenges in open and distance e-learning: Perspectives from the Philippines. *The International Review of Research in Open and Distributed Learning*, 17(2), 162–180. <https://doi.org/10.19173/irrodl.v17i2.1913>
- Ballad, C. A. C., Labrague, L. J., Cayaban, A. R. R., Turingan, O. M., & Al Balushi, S. M. (2022). Self-directed learning readiness and learning styles among Omani nursing students: Implications for online learning during the COVID-19 pandemic. *Nursing Forum*, 57(1), 94–103. <https://doi.org/10.1111/nuf.12664>
- Baticulon, R. E., Sy, J. J., Alberto, N. R. I., Baron, M. B. C., Mabulay, R. E. C., Rizada, L. G. T., Tiu, C. J. S., Clarion, C. A., & Reyes, J. C. B. (2021). Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. *Medical Science Educator*, 31(2), 615–626. <https://doi.org/10.1007/s40670-021-01231-z>



- [Beer, C., Clark, K., & Jones, D. \(2010\). Indicators of engagement. ASCILITE 2010. ASCILITE 2010 Conference Proceedings: Curriculum, Technology & Transformation for an Unknown Future, 75–86. <https://doi.org/10.14742/apubs.2010.2044>](#)
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Chauhan, T., Visnu, S., & Kumar, S. (2025). Bridging the digital divide: A review on digital literacy, e-learning, and LMS solutions for rural communities. *Preprints*. <https://doi.org/10.20944/preprints202504.0411.v1>
- Cho, M.-H., & Kim, B. J. (2013). Students' self-regulation for interaction with others in online learning environments. *The Internet and Higher Education*, 17(1), 69–75. <https://doi.org/10.1016/j.iheduc.2012.11.001>
- Damjanovic, V., Jednak, S., & Mijatovic, I. (2012). Factors affecting the effectiveness and use of Moodle: Students' perception. *Interactive Learning Environments*, 23(4), 496–514. <https://doi.org/10.1080/10494820.2013.789062>
- Escobar-Rodríguez, T., & Monge-Lozano, P. (2012). The acceptance of Moodle technology by business administration students. *Computers & Education*, 58(4), 1085–1093. <https://doi.org/10.1016/j.compedu.2011.11.012>
- Fabito, B. S., Trillanes, A. O., & Sarmiento, J. R. (2020). Barriers and challenges of computing students in an online learning environment: Insights from one private university in the Philippines. *arXiv*. <https://arxiv.org/abs/2012.02121>
- Hewidy, H., Purkarthofer, E., & Eränta, S. (2023). A tale of four studios: Evolving planning and architecture education towards mixed modality in a post-pandemic world. *Education and Information Technologies*, 29, 11847–11868. <https://doi.org/10.1007/s10639-023-12320-4>
- Karadimas, N. V. (2018). Comparing learning management systems from popularity point of view. *2018 5th International Conference on Mathematics and Computers in Sciences and Industry (MCSI)* (pp. 141–146). IEEE. <https://doi.org/10.1109/MCSI.2018.00040>
- Khatser, G., & Khatser, M. (2022). Online learning through LMSs: Comparative assessment of Canvas and Moodle. *International Journal of Emerging Technologies in Learning (iJET)*, 17(12), 184–200. <https://doi.org/10.3991/ijet.v17i12.30999>
- Lazonder, A. W., & Harmsen, R. (2016). Meta-analysis of inquiry-based learning: Effects of guidance. *Review of Educational Research*, 86(3), 681–718. <https://doi.org/10.3102/0034654315627366>
- Lonn, S., & Teasley, S. D. (2009). Saving time or innovating practice: Investigating perceptions and uses of learning management systems. *Computers & Education*, 53(3), 686–694. <https://doi.org/10.1016/j.compedu.2009.04.008>
- Moore, M. G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education*, 3(2), 1–6. [https://eddl.tru.ca/wp-content/uploads/2019/08/EDDL5101\\_W9\\_Moore\\_1989.pdf](https://eddl.tru.ca/wp-content/uploads/2019/08/EDDL5101_W9_Moore_1989.pdf)
- Moore, R. L., & Wang, C. (2021). Influence of learner motivational dispositions on MOOC completion. *Journal of Computing in Higher Education*, 33(1), 121–134. <https://doi.org/10.1007/s12528-020-09258-8>
- Naveh, G., Tubin, D., & Pliskin, N. (2012). Student satisfaction with learning management systems: A lens of critical success factors. *Technology, Pedagogy and Education*, 21(3), 337–350. <https://doi.org/10.1080/1475939X.2012.720413>

- Oliveira, P., Cunha, C. J. C. A., & Nakayama, M. K. (2016). Learning management systems (LMS) and e-learning management: An integrative review and research agenda. *Journal of Information Systems and Technology Management*, 13(2), 157–180. <https://doi.org/10.4301/S1807-17752016000200001>
- Otto, S., Overgaard Markman, A., & Svarre, T. (2024). Critical success factors for Learning Management Systems in higher education: A literature review. *Proceedings of the International Conference on Networked Learning*, 13. <https://doi.org/10.54337/nlc.v13.8501>
- Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2009). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, 9(3), 105–119. <https://doi.org/10.1111/j.1539-6053.2009.01038.x>
- Paragina, F., Paragina, S., Jipa, A., Savu, T., & Dumitrescu, A. (2011). The benefits of using MOODLE in teacher training in Romania. *Procedia - Social and Behavioral Sciences*, 15, 1135–1139. <https://doi.org/10.1016/j.sbspro.2011.03.248>
- Reigeluth, C. M., Watson, W. R., Watson, S. L., Dutta, P., Chen, Z., & Powell, N. (2008). Roles for technology in the information-age paradigm of education: Learning management systems. *Educational Technology*, 48(6), 32–39. <http://www.jstor.org/stable/44429625>
- Rotas, E. E., & Cahapay, M. B. (2020). Difficulties in remote learning: Voices of Philippine university students in the wake of COVID-19 crisis. *Asian Journal of Distance Education*, 15(2), 147–158. <https://www.asianjde.com/ojs/index.php/AsianJDE/article/view/504/324>
- Sáiz-Manzanares, M. C., Marticorena-Sánchez, R., Muñoz-Rujas, N., Rodríguez-Arribas, S., Escolar-Llamazares, M.-C., Alonso-Santander, N., Martínez-Martín, M. Á., & Mercado-Val, E. I. (2021). Teaching and learning styles on Moodle: An analysis of the effectiveness of using STEM and non-STEM qualifications from a gender perspective. *Sustainability*, 13(3), 1166. <https://doi.org/10.3390/su13031166>
- Teichroew, D. (2003). Information systems. *Encyclopedia of computer science* (pp. 865–868). John Wiley and Sons Ltd.
- Toshalis, E., & Nakkula, M. J. (2012). *Motivation, engagement, and student voice* (Executive summary). Students at the Center, Jobs for the Future. [https://www.howyouthlearn.org/pdf/Motivation%20Engagement%20Student%20Voice\\_0.pdf](https://www.howyouthlearn.org/pdf/Motivation%20Engagement%20Student%20Voice_0.pdf)
- Umek, L., Aristovnik, A., Tomažević, N., & Keržič, D. (2017). An assessment of the effectiveness of Moodle e-learning system for undergraduate public administration education. *International Journal of Innovation and Learning*, 21(2), 165–177. <https://doi.org/10.1504/IJIL.2017.10002132>
- Vania, I. G., Yudianta, W., & Susanto, H. (2022). Does online-formed peer relationship affect academic motivation during online learning? *Journal of Educational, Health and Community Psychology*, 11(1), 72–91. <https://doi.org/10.12928/jehcp.v11i1.21970>
- Zanjani, N., Edwards, S. L., Nykvist, S., & Geva, S. (2016). *LMS acceptance: The instructor role*. *Asia-Pacific Education Researcher*, 25(4), 519–526. <https://doi.org/10.1007/s40299-016-0277-2>
- Zlatković, D., Đenić, N., Ilić, M., & Zakić, A. S. (2022). Providing dynamic adaptivity in Moodle LMS according to Felder-Silverman model of learning styles. *Technics and Informatics in Education – TIE 2022*. <https://doi.org/10.46793/TIE22.271Z>