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THE HYBRID USE OF VIRTUAL LEARNING ENVIRONMENT: A BRIDGE BETWEEN THEORY AND PRACTICE

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Abstract: *This article examines the integration of Virtual Learning Environments (VLEs) into contemporary educational frameworks, focusing on their theoretical foundations, general applications, and practical implementation. The author proposes a three-phase hybrid model for VLE usage, organizing learning activities into pre-class, in-class, and post-class phases, all unified by the use of Microsoft Teams. This model seamlessly blends online and face-to-face elements, utilizing VLE tools like Teams to enhance engagement, foster collaboration, and support deeper learning. By addressing both the advantages and challenges of VLEs, the article highlights their transformative role in bridging theoretical knowledge with practical application, presenting a flexible and adaptable framework for modern education.*

Key words: *VLEs, LMSs, hybrid teaching models, online and face-to-face integration, digital education, Teams*

1. Introduction

The rapid shift to digital education has introduced new terminology, including 'online classes,' 'virtual learning,' and 'e-learning platforms.' However, many students and educators struggle to distinguish between these overlapping terms, which hinders their understanding and application.

Online classes are specific learning sessions conducted online, either in real-time (synchronous) or pre-recorded (asynchronous), while online courses are comprehensive programs comprising multiple online classes, learning materials, assessments, and additional resources.

The overlapping features of online learning platforms and e-learning platforms often blur their distinctions (Singh & Thurman, 2021). E-learning platforms are designed for structured, self-paced courses, such as those offered by Coursera, Udemy, or EduBoom, whereas online learning platforms, like Canvas, Google Classroom, Moodle, and Microsoft Teams, enable interaction between learners and instructors. The key difference lies in

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interaction: online learning platforms foster instructor-learner engagement, while e-learning platforms emphasize self-paced learning. In the setting mentioned above, Virtual Learning Environments (VLEs) occupy a central and dynamic role, serving as the backbone of the hybrid educational model. We considered it necessary to provide a concise differentiation between VLE and LMS to better understand the specific features and benefits of VLE. Furthermore, based on the characteristics of VLE, we will develop both a general model and a specific one (which I have used in my teaching activity). Since VLEs are widely used in educational settings today, their constant usage plays a vital role in keeping students connected with the subject matter, ensuring continuity and engagement throughout the learning process.

2. VLE and LMS

The implementation of Virtual Learning Environments (VLEs) in education has transformed traditional teaching methods, making it essential to establish a concrete model for their effective use. A structured approach to VLE usage not only streamlines the integration of digital tools into teaching but also demonstrates how these environments can bridge the gap between theoretical knowledge and its practical application. To achieve this, it is crucial to understand the distinctions between key terminologies like VLEs and Learning Management Systems (LMS), as these differences shape how educators design and implement hybrid learning models

The terms Virtual Learning Environment (VLE) and Learning Management System (LMS) are often used interchangeably in digital education but refer to distinct aspects of the learning experience. Virtual learning, broadly referred to as e-learning, encompasses any education facilitated online through digital technologies, combining multimedia, communication tools, and student interactivity to enhance pedagogy.

A VLE is a digital platform supporting teaching and learning through integrated tools for content management, communication, assessment, and collaboration. Examples include Moodle, Blackboard, Canvas, and MS Teams. By contrast, an LMS provides the technological infrastructure to manage and deliver content, track progress, and handle administrative tasks like grading and enrolment (Šimková & Štěpánek, 2013). While an LMS underpins a VLE, the latter focuses on the interactive and pedagogical dimensions of education.

Platforms like Moodle and Canvas qualify as both LMSs and VLEs, offering robust management features alongside dynamic tools for online learning. For this discussion, the term VLE will be used to emphasize the learner-centered aspects of virtual education.

3. VLE(s) features

Distinct features were highlighted by Pierre Dillenbourg (Dillenbourg et al., 2002), who outlined several characteristics of virtual learning environments. These include their design as information spaces tailored for structured educational use and their role as social spaces, where interactions between participants transform abstract spaces into meaningful places. Moreover, VLEs feature explicit representations, ranging from textual

formats to immersive 3D worlds, and position students not only as active participants but also as co-constructors of the virtual space. They are not limited to distance education but also serve to enhance classroom activities. Furthermore, VLEs are characterized by their ability to integrate diverse technologies and pedagogical approaches, often overlapping with physical learning environments to create a blended educational experience.

4. VLEs as Tool in Education

The introduction of VLEs into educational life was a critical element in maintaining continuity during the COVID-19 pandemic. Post-pandemic, VLEs have become an integral part of university education in Romania, marking a significant transformation in the educational landscape as their potential to complement and enhance traditional learning methods became evident. Studies have shown high satisfaction with emergency remote delivery and a clear preference for hybrid education, where the digital components of learning experiences in higher education are enhanced (Benito et al., 2021).

Even after returning to "normality," VLEs continue to be widely used due to their significant advantages, solidifying their status as indispensable educational tools. VLEs as tools are not just technical entities but are also deeply intertwined with the behavioral practices, competences, and expectations of users (Hewson and Chung, 2021). They are influenced by the disciplines or communities where they are employed, with their effectiveness depending on both technical skills and the ability to apply them pedagogically. A question, hopefully not rhetorical, should be raised, with the answer potentially serving as the starting point for another study: "How technically prepared are we, as teachers, at present to use VLEs to their full potential?" Recent studies (Caprara & Caprara, 2021) discuss the relationship between the quality of VLE usage and the mental health of students using VLEs, particularly how much the teacher's presence and interaction with their students matter. Simply replicating the teaching materials to an online environment does not make it a fully functioning online course, and neither does this approach suffice for the effective use of VLEs in a hybrid format. In the last 20 years, specialized studies have highlighted favourable conclusions regarding the use of VLEs for academic achievement. However, since the purpose of our paper is to present a three-phase model for the implementation of VLEs, we consider it unnecessary to delve deeply into these benefits, especially as some of them have already been briefly highlighted when discussing the differences between VLEs and LMSs.

5. A Hybrid-use of VLE: three-phase Model

We understand "hybrid use of VLE" as a deliberate integration of online tools and face-to-face interactions within the educational process, a continuous usage of VLE in and out of the classroom. By combining synchronous (real-time) and asynchronous (self-paced) interactions, the hybrid use of VLEs allows educators to design structured activities that maximize the use of VLE while maintaining the essential interpersonal elements of traditional classrooms. This hybrid approach is a cornerstone of the three-phase model presented in this paper.

Our contribution lies in the conceptualization and development of this three-phase model, which we designed to bridge the gap between the theoretical potential of hybrid learning and its practical implementation. Our model explicitly emphasizes the interplay between preparation, interaction, and reflection, ensuring that each phase contributes distinctly to the learning outcomes. By structuring educational activities into these phases, we provide educators with a practical and adaptable guide to optimize the use of VLEs while preserving the collaborative and human-centred aspects of teaching. We do not claim that this is an ideal model, but it represents a concrete framework that can be further developed depending on the discipline and learning objectives

A hybrid use of VLEs requires careful integration of online and face-to-face components to ensure they complement and enhance each other. This involves designing activities that leverage the strengths of both environments, such as using the VLE for pre-class preparation through videos or quizzes, and in-person sessions for discussions or hands-on applications.

I have been using Teams since the pandemic, and when we returned to face-to-face interaction, I continued to use it to make many of my seminars more engaging. The hybrid approach provides me with a much broader perspective on student activity and, most importantly, allows me to precisely monitor their engagement in the learning process.

In this section, I will present general aspects of using Teams for the three phases, as well as a concrete model resulting from the practical application of the general framework.

Generally, I design the use of VLE (Teams) into three distinct parts:

a) Pre-class (online, self-paced) - before the seminar. The aim is to prepare students with foundational knowledge and familiarize them with key concepts before the in-person session. Occasionally, if the seminar topic spans more than two hours, discussions from the previous meeting can serve as a pretext to launch pre-class activities. The latest features of Microsoft Teams have included Learning Accelerators such as Reading Progress, Search Coach, Math Progress, and Speaker Progress. I have been testing Reading Progress and Speaker Progress for some English practical courses, which I successfully use in teaching English. For instance, I uploaded text excerpts to be discussed in class and used Reading Progress to great effect. In the pre-class stage, as a pre-class assignment, students recorded themselves reading, received feedback from both Microsoft and me. I could assess reading accuracy, speed, and comprehension, providing tailored feedback to students and they became aware of aspects they could improve regarding their reading abilities.

   The activities in the pre-class phase can be highly varied and depend on the teacher's creativity and the lesson objectives. Pre-recorded content, tutorials, or documents can be delivered; a preliminary check of what will be discussed during the physical meeting can be conducted through quizzes and polls. Collaborative tasks can be assigned using tools like SharePoint to share ideas or questions about uploaded materials. Also ClassNotebook is a great path to get my students engaged and prepared for the next session. Reminders and notifications are another way to maintain focus on the subject.

b) In-class (on-site, conducted by the teacher). The challenge in this stage is to connect pre-class preparation with real-time learning experiences. The time given to VLE may vary; teachers can focus solely on traditional methods or strive to combine them with VLE tools for a more integrated approach. Depending on the syllabus, the objective may be to deepen understanding of a subject or reinforce previously taught content with practical abilities. When only the teacher has a laptop and students use their phones, various engaging activities can still be conducted: interactive quizzes, such as those created with Kahoot! or Microsoft Forms, live polling through tools like Mentimeter or Slido, collaborative annotations on shared documents or presentations projected by the teacher, while discussion prompts posted in Teams chat facilitate real-time engagement.

At the end of the session, students can submit reflections or key takeaways digitally through forms, creating a seamless connection between digital and in-person learning. Teachers can also utilize interactive whiteboards, such as Jamboard, where students contribute ideas via their phones. Additionally, resource sharing ensures students have immediate access to supplementary materials, and peer feedback tasks foster collaboration and critical thinking.

We can notice that students take various actions during in-class activities when Teams or similar apps are integrated into the teaching process: they respond to questions, share their opinions, and see instant results projected. They also provide input or suggestions, reflect on their learning, and engage in reviewing and commenting on each other's work. Additionally, students offer instant feedback regarding their understanding of the material or the dynamics of the session. Obviously, the integration of technology ensures a student-centred approach, but when intertwined with traditional learning methods, it maximizes effectiveness. The questions of "how often" and "how much" technology can be added to our on-site classes depend on several factors, including the objectives of the lesson, the technical capabilities of the students, and the context of the educational setting. Balancing these elements ensures that technology serves as a tool to enhance, rather than overshadow, the learning experience

c) Post-class (online, self-paced). Either used to consolidate knowledge or extend learning, the post-class phase has demonstrated its utility, especially for assessment and obtaining grades. Some new activities that could be performed during the post-class phase: self-assessment activities (students can complete a self-assessment checklist to reflect on their learning progress), asynchronous discussions (students answer open-ended question), revision through quizzes.

Some activities are particularly effective. For example, virtual peer-teaching allows the teacher to assign students the task of explaining a specific concept or skill to their peers in a short recorded video or through a live session. Concept mapping is another impactful activity, where students use tools like Miro or Lucidchart to collectively create visual representations of the material covered, promoting teamwork and critical thinking. Online journaling, which we consider to be a more demanding activity, requires students to maintain a digital record of their thoughts, reflections, and progress related to their learning. Tools like Microsoft OneNote

provide structured templates for students to create and organize journal entries effectively. This activity is described as "more demanding" because it can be time-consuming for both students and teachers, particularly when personalized feedback is expected. Additionally, it may sometimes lead to superficial entries rather than meaningful reflections if students are not adequately motivated or guided.

Teachers commonly use the post-class phase to comprehensively assess student activity and progress, utilizing it as an opportunity to conduct formative or summative assessments, such as final reports or presentations, to evaluate overall mastery of the subject matter. The post-class phase is particularly suitable for assigning grades, as it provides a comprehensive opportunity to evaluate students' activities and progress. While grades or scores could be given at any phase of the three-phase model, the post-class stage is more appropriate for this purpose.

Moguš (Moguš et al., 2012) suggests a correlation between student engagement with the VLE and their final marks. Students with lower online engagement tend to achieve lower marks, regardless of whether they access the VLE on campus or at home. The authors analyse different types of student activity, such as assignment uploads, resource views, and forum participation, to understand how these activities correlate with academic performance. The research also highlights that "heavy" VLE users, those who spend two or more hours per week engaging with the platform, often perform better in final examinations and their performance within the VLE itself is a strong predictor of their final exam scores.

The three-phase model stands out from traditional blended learning approach due to its structured and time-bound format. Unlike blended learning, which broadly combines online and face-to-face methods in flexible ways, the three-phase model offers a more systematic framework, but both may include assessments at various stages. The three-phase model ensures that the same content is delivered across all interactions, whether online or offline. It highlights the procedural nature of learning and aims to create a cohesive experience that integrates both modes seamlessly, all interactions serve a single content objective. In blended learning, the content delivery can vary between online and face-to-face sessions, often depending on the medium’s strengths or the teacher’s preferences.

Below, I will illustrate a three-phase model for a seminar on Intercultural Education, designed for second-year master's students. The topic was entitled "Recognizing Discrimination in School." In the course, students were taught about direct discrimination, indirect discrimination, multiple discrimination, harassment, and bullying. The seminar is designed to use VLE to complement the theoretical foundation provided in the course with practical applications.

I. Pre-class – online, Teams

Objectives: Review course content; reinforce previously discussed knowledge; prepare students to recognize types of discrimination using real-world examples; spark interest; ensure readiness.

Duration: 15-20 minutes

Activities using VLE (asynchronous)	**Teaching methods/ tools**	**Observations**
Students are required to complete the following tasks prior to attending the seminar: **a**) Quiz (True-False and Multiple Choice) – 5 minutes. (task: „Complete the quiz") **b**) Read a newspaper article (200-250 words): (task: „Read the newspaper excerpt carefully, and then answer briefly"). The article presents a case of discrimination, but the title and specific clues revealing the type of discrimination are hidden. After reading the text, students must answer the following questions: 1. What type of discrimination does the article present, if any? 2. What are the suggested means of addressing the discrimination? 3. What would you do if this situation happened to you? (10-15 min)	Flipped classroom/Microsoft Teams, Reading Progress or Class-Notebook.	Points are awarded for task completion, ensuring accountability and incentivizing participation. I launch the quiz 2 days before the seminar Tailored teacher feedback; time-consuming; Keeping tasks under 20 minutes respects students' workload and is more likely to be completed consistently.

II. In-class, face to face

Objectives**:** Apply theoretical knowledge to practical contexts; deepen knowledge of fields where discrimination occurs; analyze real-world examples of discrimination; reflection through writing personal scenarios.

Duration: 2 hours (including 30 minutes for VLE usage)

Activities (traditional classroom activities combined with VLE activities, synchronous)	**Teaching method/ tools**	**Observations**
a) Discuss the results of the quiz given in pre-class, draw conclusion using Microsoft analytics. Discuss responses obtained in previous pre-class reading activity; Students are prepared to get information regarding fields where discrimination mostly occurs. (15 minutes) **b)** Traditional lecture/pptx presentation „Fields Where Discrimination Occurs" (40 minutes)	a) traditional, active learning; observation, discussions; conversations/Microsoft analytics; Classroom activities b) traditional methods: direct instructions and Socratic lecture, explanation / pptx presentation	Check beforehand to what extent the students have completed the quiz;

Activities (traditional classroom activities combined with VLE activities, synchronous)	Teaching method/ tools	Observations
c) Based on lecture given, students are split into small groups, each assigned a field of discrimination (e.g., workplace, education, healthcare). Students analyzed a specific field of discrimination, identified examples, discussed causes and effects. They could use personal knowledge or did a quick Google search. Each group had a worksheet to complete based on the field where discrimination occurs. The worksheet included sections such as examples, causes, and effects. At the end of this activity, each group presented real cases from their assigned field and shared their findings with the larger group. **d)** VLE activity: writing and reflecting on personal scenarios of discrimination. In Microsoft form I created a Reflection Form and asked students to complete within 20 minutes. I shared the link to the form directly in the Teams chat or pinned it in the classroom channel. Students could complete the form quickly on their devices, submitting their responses in real time. **e)** Review responses in class. I used the Responses Tab in Microsoft Forms to review the students' submissions and provoke further discussions, as well as to prepare the next offline activity. **f)** Assign a post-class activity using Teams, or simply wrap up the activity and assign the post-class task later in the week.	c) traditional group work, collaborative learning in the classroom. d) Personal reflection/brain-writing in Microsoft form e) discussions, observations/projected some responses given to round up some conclusion or general trends.	Engagement levels vary—some students actively participate in discussions, while others may require prompts; physical space needed; assign roles in each group; prints needed; allow sufficient time; Need guidance, offer some guidelines about the length of their work.

III. Post-class, online, Teams

Objectives**:** consolidate knowledge; reflect on the activities; encourage critical thinking; promote constructive feedback; foster digital literacy.

Activities using VLE (asynchronous)	Teaching methods/tools	Observations
a) gallery walk in VLE Each group uploaded the worksheet they completed in class to Teams; some rewrote it in Word, while others uploaded a photo. The topics included Workplace Discrimination, School Discrimination, Healthcare Discrimination, and Economic Discrimination. I proposed a gallery walk, where each student was invited to suggest solutions to combat discrimination by leaving a comment on each image/word docx. **b**) praise colleagues a) flipped classroom/Channel post in Teams, comments and observations	**a**) flipped classrom/ Channel post in Teams, comments and observations **b**) „send praise to people" Teams feature	Some students provided superficial comments or solutions, while others delved deeply into the issues, leading to uneven levels of engagement. A few students dominated the activity by leaving multiple comments. Certain groups uploaded incomplete or poorly formatted worksheets, hindering understanding or participation. Some students proposed innovative or unanticipated solutions. The "Praise" feature resulted in generic or insincere recommendations. Students focused only on praising their peers rather than providing constructive suggestions or solutions

6. Conclusions regarding the Three-phased Model

As educators, understanding the traits of Generation Z is extremely important. They are multitaskers who quickly adapt to technology and possess an interactive and visually oriented learning style. They are also drawn to dynamic content such as videos, infographics, and gamified learning experiences. Moreover, they thrive in environments that provide immediate feedback, personalized learning paths, and opportunities for peer-to-peer interaction. Generation Z expects immediacy and speed in their learning experiences.

My personal insight is that I should consistently apply this model to all my seminars. Overall, the three-stage use of VLE closely resembles a project-based lesson structure, consisting of preparation, the lesson itself, and debriefing. The same content was divided into three parts, effectively combining online and face-to-face interactions to leverage the strengths of both formats. The pre-class phase primes students for deeper learning, the in-class phase fosters active application and collaboration, and the post-class phase reinforces key concepts through reflection and peer engagement. The fact that I use Teams before and after ensures the distribution of content over a longer period of time, avoiding condensing everything into a single 2-hour session. Partial distribution (through

tasks or even by exposing students to different inputs) can facilitate the effect of spaced learning. VLE is the common element that connects and ensures continuity between the phases. Fields like engineering, medicine, and art/design heavily rely on hands-on, practical training that cannot be entirely replicated through VLEs. Simulations or augmented reality (AR) tools during the pre-class or post-class phases would better replicate hands-on activities. It is important to understand discipline-specific challenges so that we can adapt the three-phase model by enhancing the duration, content, or complexity of the moments when we use the VLE. Teachers should actively participate in workshops and ongoing professional development sessions designed to help them utilize VLE features effectively. These sessions should include practical training on creating interactive content, tracking student progress, and incorporating multimedia tools into their teaching practices. Additionally, educators should invest time and demonstrate enthusiasm to align with Generation Z's expectations.

7. Advantages and Drawback of VLE(s) Usage

The Virtual Learning Environment (VLE) addresses the needs of Generation Z in multiple ways: it offers searchable resource libraries, real-time updates, and instant access to course materials, satisfying their demand for quick knowledge acquisition. Additionally, VLEs allow students to progress at their own pace, revisit challenging topics, and access educational content from any device, at any time, and from anywhere.

More importantly, VLEs empower students to become co-producers of learning material, encouraging active participation and collaboration in the educational process.

The series of features offered by Teams help students take greater responsibility for their learning and manage their educational process effectively. In the *Grades* section of each team (course), students can view the grades they have received for assignments, quizzes, and other activities assigned by the teacher. Knowing exactly where they stand reduces uncertainty and boosts confidence. This section also includes feedback provided by the instructor. Students can check which tasks have been completed, the deadlines, and the status of each activity (e.g., "in progress," "completed," "submitted late"). Seeing tasks marked as "completed" or "achieved" provides tangible milestones of success, boosting their morale and sense of accomplishment.

Some institutions enable the *Insights* feature, which provides data on student progress, including time spent on the platform, activity in chats, and participation in virtual meetings. *Insights* and progress tracking make students aware of the effort they are putting in, validating their hard work and encouraging them to stay motivated. Teachers can provide detailed comments on submitted assignments, allowing students to use this feedback to improve their performance.

For quizzes created using Forms, results are displayed immediately, enabling students to see where they made mistakes and what they got right. The ability to revisit challenging topics and resubmit assignments shows students that mistakes are part of the learning process, reducing fear of failure and building resilience. Additionally, students can track which resources they have accessed and completed (e.g., videos watched, files downloaded) to ensure they have covered all necessary materials.

Compared to the multiple benefits, potential drawbacks may seem insignificant, but they must still be taken into account. The most significant issue is the lack of training on how to use VLEs (both for teachers and students) or the absence of digital competencies. Constant visibility of grades and progress can lead to undue stress or anxiety for some students, especially those who struggle academically or compare themselves to their peers. Without face-to-face interaction, written feedback may be misinterpreted as overly critical or lacking nuance, potentially harming a student's confidence. The variety of features and tools within a VLE can be overwhelming for less tech-savvy teachers or students, leading to frustration or a sense of inadequacy.

Without effectively integrating VLEs and face-to-face interaction, there is a risk of fostering limited personal interaction, which can lead to feelings of isolation and demotivation among students. Tracking participation and task completion may prioritize quantity over quality, leading students to focus on "ticking boxes" rather than engaging deeply, which can diminish a sense of genuine achievement. That is why teachers must strike a balance and address the need for meaningful engagement, ensuring that assessments and activities promote deep learning and critical thinking rather than mere task completion.

If progress or participation data is visible to peers (e.g., in group projects or forums), students who perform below average may feel embarrassed or discouraged. Visible performance data can unintentionally foster a competitive environment rather than a collaborative one, where students focus more on outperforming others than on their own growth and learning. Educators should carefully manage how progress and participation data are shared by prioritizing private feedback channels and emphasizing individual growth over peer comparisons. This approach ensures that all students feel valued and motivated, regardless of their performance levels.

References

Benito, Á., Yenisey, K. D., Khanna, K., Masis, M. F., Monge, R., Tuğtan, M. A., Vega, L. D., & Vig, R. (2021). Changes that should remain in higher education post COVID-19: A mixed-methods analysis of the experiences at three universities. *Higher Learning Research Communications, 11*(1), Article 1195. https://doi.org/10.18870/hlrc.v11i0.1195

Caprara, L., & Caprara, C. (2021). Effects of virtual learning environments: A scoping review of literature. *Education and Information Technologies, 27*(6), 3683–3722. https://doi.org/10.1007/s10639-021-10768-w

Dillenbourg, P., Schneider, D. K., & Synteta, P. (2002). Virtual learning environments. In A. Dimitracopoulou (Ed.), *Proceedings of the 3rd Hellenic Conference: Information & Communication Technologies in Education* (pp. 3–18). Kastaniotis Editions. https://www.researchgate.net/publication/32231093_Virtual_Learning_Environments

Hewson, E. R. F., & Chung, G. W. (2021). Beyond the VLE: Transforming online discussion and collaboration through Microsoft Teams. *Journal of Perspectives in Applied Academic Practice, 10*(1), 64–72. https://doi.org/10.14297/jpaap.v10i1.490

Mogus, A. M., Djurdjevic, I., & Suvak, N. (2012). The impact of student activity in a virtual learning environment on their final mark. *Active Learning in Higher Education*, 13(3), 177-189. https://doi.org/10.1177/1469787412452985

Šimková, M., & Štěpánek, J. (2013). Effective use of virtual learning environment and LMS. *Procedia - Social and Behavioral Sciences, 83,* 497–503. https://doi.org/10.1016/j.sbspro.2013.06.096

Singh, V., & Thurman, A. C. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988–2018). *American Journal of Distance Education, 33*(4), 289–306. https://doi.org/10.1080/08923647.2019.1663082