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Hybrid Course Design for Applied Management Learning in Higher Vocational Colleges: Digital Capability and Student Engagement as Pedagogical Pathways

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Abstract: Introductory management courses in higher vocational colleges are expected to teach concepts, prepare students for workplace coordination, and cultivate practical judgement. Hybrid course design is often proposed as a remedy for the limits of lecture-centred delivery, yet its educational value depends less on the existence of an online platform than on how digital and face-to-face activities are sequenced. This article develops an integrative conceptual review of hybrid pedagogy in vocationally oriented management education. Drawing on literature on blended learning, constructive alignment, experiential learning, digital competence, and student engagement, it identifies two pedagogical pathways through which hybrid design may strengthen applied management learning: the development of digital capability and the formation of multidimensional engagement. Digital capability is treated as students' capacity to use digital tools for inquiry, collaboration, evidence handling, communication, and reflective task completion. Student engagement is understood as behavioral, cognitive, emotional, social, and agentic participation in learning. The article proposes a course-level framework in which well-designed online preparation, in-class problem work, collaborative case analysis, feedback, and assessment alignment combine to support applied learning outcomes. The review suggests that hybrid management courses are most effective when technology functions as a scaffold for practice rather than as a repository for content.

Keywords: Hybrid Course Design; Blended Learning; Management Education; Higher Vocational Colleges; Digital Capability; Student Engagement; Applied Learning Outcomes

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1. Introduction

Introductory management courses occupy an awkward but important position in higher vocational colleges. They are usually placed early in a programme, so students encounter them before they have a mature vocabulary for organisations, markets, or managerial work. At the same time, these courses are expected to support employability: students must learn to read workplace situations, communicate with peers, explain decisions, and connect management concepts to concrete tasks. A course that only transmits definitions of planning, organising, leadership, and control may therefore satisfy the syllabus while leaving students unable to interpret a simple service failure, a delayed production schedule, or a team conflict. This gap between conceptual coverage and applied performance is especially visible in vocational settings, where the legitimacy of a management subject depends on whether students can see its usefulness in practice.

Hybrid or blended learning is often introduced as a response to this difficulty. In its broadest sense, blended learning combines online and face-to-face learning experiences in a planned educational arrangement[1]. Earlier work has argued that such arrangements can be transformative when they are used to reconfigure teaching presence, learner responsibility, and the use of classroom time[2]. More recent discussion cautions that the term has become too broad to be meaningful unless it is tied to specific design decisions[3]. For introductory management education, the essential issue is not whether a course uses a platform, videos, quizzes, or discussion boards. The issue is whether these elements help students move from passive reception to disciplined management thinking.

A stronger rationale for hybrid management teaching emerges when the course is viewed through the logic of constructive alignment. Learning outcomes, activities, and assessment tasks should point toward the same forms of capability[4]. In a vocational management course, such alignment means that students should not merely remember management theories; they should use concepts to diagnose situations, justify alternatives, and communicate feasible actions. Experiential learning theory offers a complementary perspective because it treats learning as a cycle of experience, reflection, conceptualisation, and testing[5]. Hybrid teaching can support this cycle by distributing different moments across modes. Online spaces may support preparation, rehearsal, evidence search, and reflection, while face-to-face sessions may support debate, coaching, role play, and immediate clarification.

However, hybrid teaching may also reproduce the weaknesses of conventional teaching. A teacher may upload long slides, add a discussion forum that students rarely use, and then continue lecturing in class. In such cases, the online component merely increases workload without changing the quality of learning. The problem is partly technological, but it is also pedagogical. Teachers require the ability to connect content, teaching strategy, and technology in ways that serve disciplinary purposes, a concern that is consistent with the technological pedagogical content knowledge perspective[6]. Management teachers need to know not only which platform functions are available, but also which digital routines help students interpret evidence, formulate arguments, and collaborate on managerial problems.

The course level is also a useful scale because it is where students experience pedagogy most directly. Policy documents may encourage digital transformation, and institutions may invest in platforms, but students encounter these decisions as weekly tasks, deadlines, discussions, and assessments. A framework that remains at the level of general strategy therefore gives teachers little guidance. By focusing on the learning sequence, the present review translates broad claims about hybrid learning into decisions that can be observed and revised within one semester. It also leaves room for local adaptation, which is essential in vocational programmes with different student profiles and industry links.

This article therefore asks a focused conceptual question: how can hybrid course design improve applied learning in introductory management courses in higher vocational colleges? It argues that two mechanisms are especially important. The first is digital capability, defined here as students' situated ability to use digital tools critically and purposefully for learning and work-like tasks. The second is student engagement, understood as a multidimensional pattern of participation rather than simple attendance or platform activity. The contribution of the article is a course-level framework that links hybrid design features to applied management outcomes through these two pathways. The article does not claim that hybrid delivery is automatically superior to face-to-face instruction. Its claim is more specific: hybrid pedagogy becomes educationally valuable when digital preparation, classroom interaction, feedback, and assessment are integrated around the practical uses of management knowledge.

2. Materials and Methods

2.1 Review Scope and Source Selection

The study adopts an integrative conceptual review design. This design is suitable where a field is shaped by several partially connected literatures rather than by a single stable empirical tradition. The review drew on five bodies of scholarship: blended and hybrid learning, management and business education, digital competence, student engagement, and vocationally oriented pedagogy. The aim was not to produce a statistically exhaustive mapping of every publication on blended learning. Instead, the review sought to identify concepts and design principles that can explain why hybrid formats may influence learning in introductory management courses.

Sources were selected through three criteria. First, priority was given to peer-reviewed articles, books, and reports that are widely used in higher education research. Second, selected sources had to offer concepts that could be translated into course design, such as learning alignment, teaching presence, engagement, feedback, or digital competence. Third, the source had to be relevant to practice-oriented learning rather than only to content delivery. For example, work on digital competence was included when it described the use of digital tools for information, communication, collaboration, or problem solving[8][9]. Work on student engagement was included when it moved beyond the measurement of participation and addressed the quality of student involvement[10][11].

2.2 Synthesis Procedure

The synthesis followed a mechanism-based logic. The first step was to identify recurrent design features of effective hybrid teaching: concise preparatory input, low-stakes diagnostic tasks, face-to-face application, collaborative work, feedback loops, and reflective consolidation. The second step was to connect these features with learning processes in management education. Management courses require students to read ambiguous situations and make judgements under incomplete information; therefore, learning processes that promote inquiry, discussion, evidence handling, and reflection were treated as central. The third step was to interpret digital capability and engagement as mediating pathways between design and outcomes. This interpretation is consistent with the Community of Inquiry view that meaningful online and blended learning depends on the interaction of teaching, social, and cognitive presence[7].

The analysis was deliberately bounded at the course level. Institutional strategy, learning management systems, and national policy matter, but the immediate concern of this article is how an instructor can design a basic management course that uses online and face-to-face modes coherently. The unit of analysis is therefore the recurring learning sequence: what students do before class, what they do in class, what feedback they receive, and how the work is assessed. This focus makes the framework useful for teachers who must operate within existing timetables, class sizes, and institutional platforms.

2.3 Analytical Categories

Three analytical categories guided the review. The first category was hybrid sequencing, which refers to the deliberate distribution of learning activities across modes. The second was digital capability, which refers to the academic and work-related use of digital tools rather than to general technology familiarity. The third was student engagement, which refers to behavioral, cognitive, emotional, social, and agentic participation. These categories were used to examine how a hybrid management course can support applied outcomes such as case diagnosis, evidence-based explanation, teamwork, concise communication, and reflective decision making.

3. Results

3.1 Hybrid Management Pedagogy as Structured Alternation

The first result of the review is that hybrid management pedagogy should be understood as structured alternation rather than as the coexistence of online and offline materials. In poorly designed hybrid courses, students experience the online part as separate homework and the classroom as a repetition of what they have already seen. In well-designed courses, each mode gives the other a reason to exist. Online preparation builds a minimum conceptual base; classroom activity tests and extends that base; post-class work consolidates the judgement formed through discussion. The course becomes a sequence of purposeful transitions.

A typical sequence in an introductory management topic can be described as follows. Before class, students watch a short explanation of a concept such as span of control, motivation, service quality, or conflict management. They then complete a brief diagnostic task, such as classifying a workplace incident or identifying two possible causes of a management problem. The teacher uses the responses to identify misconceptions. In class, students apply the concept to a richer case, negotiate interpretations in groups, and receive feedback on the quality of their reasoning. After class, they revise a short memo or submit a reflection that connects the case to a future workplace role. The sequence does not depend on expensive technology. It depends on the disciplined relation between preparation, application, and feedback.

This finding matters because introductory courses can easily become overloaded. Teachers often feel obliged to cover many theories, while students struggle to distinguish core ideas from peripheral details. Hybrid design can either worsen or reduce

this problem. It worsens the problem when every lecture is supplemented by additional videos, readings, and quizzes without a clear purpose. It reduces the problem when online materials are concise and when class time is reserved for interpretive work that cannot be completed by solitary reading. Active learning research suggests that student learning improves when learners are required to process, discuss, and apply ideas rather than only listen[14][15]. Hybrid design can create the conditions for such activity, but only when the online part prepares students for participation rather than replacing it.

Table 1. Structured hybrid sequence for an introductory management topic

Phase	Typical activity	Pedagogical function	Applied management value
Pre-class input	Short video, annotated slide deck, or guided reading on a core concept.	Creates a shared conceptual starting point.	Students enter class with the vocabulary needed for diagnosis.
Diagnostic task	Brief quiz, case classification, or one-paragraph response.	Reveals misconceptions before face-to-face teaching.	Teacher feedback can target errors in reasoning rather than repeat content.
Face-to-face application	Group case analysis, role play, problem-solving discussion, or decision memo workshop.	Turns abstract concepts into situated judgement.	Students practise communication, trade-off analysis, and collaborative reasoning.
Feedback loop	Peer review, teacher questioning, model answer comparison, or rubric-based comments.	Makes quality criteria visible.	Students learn what counts as a convincing management explanation.
Post-class consolidation	Revised memo, reflective note, or workplace transfer task.	Stabilises learning after discussion.	Students connect classroom cases to future work situations.

3.2 Digital Capability as an Enabling Pathway

The second result is that digital capability should be treated as an enabling pathway rather than as a background characteristic. Many students in higher vocational colleges use mobile devices frequently, but frequent use does not guarantee academic or professional digital competence. Students may be comfortable with messaging and social media while still struggling to search for credible information, organise evidence, collaborate in shared documents, or present a brief management recommendation. Digital competence frameworks emphasise information literacy, communication, content creation, safety, and problem solving[8][9]. In management education, these domains need to be connected to workplace-like tasks.

A hybrid management course can cultivate digital capability when digital tools are used to support the practices of management work. Students can search for evidence on customer complaints, compare organisational charts, analyse simple survey responses, or prepare a short briefing for a simulated supervisor. They can also use collaborative documents to divide roles, track contributions, and produce group outputs. These activities are different from asking students to submit answers through a platform. They require students to use technology to inquire, coordinate, and communicate. In this sense, digital capability is not a separate graduate attribute placed beside management knowledge; it is a medium through which management knowledge is enacted.

The capability pathway also has an equity dimension. Hybrid learning may disadvantage students when it assumes that all learners have stable access, private study spaces, or the same level of digital confidence. The design response should not be to avoid digital tasks, because workplace environments increasingly expect digital coordination. Rather, teachers should scaffold the tasks. For instance, a first-year course can begin with a guided search template, a shared-document protocol, and explicit instructions on how to cite an online source. Later tasks can gradually reduce the scaffolding and require students to make more independent digital choices. In this way, the hybrid course develops capability over time instead of treating it as a precondition for success.

Digital capability is also closely related to credibility in management reasoning. A student who can locate basic evidence, distinguish an assertion from a supported claim, and present data clearly is better positioned to make a persuasive management argument. Introductory management courses often deal with familiar topics such as motivation, leadership,

teamwork, and service quality. Because these topics feel familiar, students may rely on personal opinion. Digital tasks can counter this tendency when they require students to support interpretations with evidence, compare sources, or visualise a simple pattern. The educational value lies not in the tool itself but in the disciplined use of the tool to improve judgement.

Table 2. Digital capability dimensions in vocational management learning

Dimension	Course task example	Management learning value
Information and evidence literacy	Find and compare evidence related to a service failure, employee complaint, or customer trend.	Improves evidence-based diagnosis and reduces opinion-only reasoning.
Digital communication	Prepare a concise briefing slide, recorded explanation, or written memo for a simulated manager.	Builds clarity, audience awareness, and professional expression.
Collaboration and coordination	Use a shared document to allocate roles, track progress, and assemble a group case response.	Connects teamwork theory with the experience of coordinating actual work.
Data handling	Summarise a small data set from a class survey or simple business scenario.	Supports practical interpretation of operational or customer information.
Reflective digital practice	Revise a decision memo after peer and teacher feedback.	Encourages students to treat feedback as part of professional improvement.

3.3 Student Engagement as the Proximal Pathway

The third result is that student engagement is the proximal pathway through which hybrid design influences learning. Engagement cannot be reduced to attendance, log-in frequency, or the completion of quizzes. Research commonly distinguishes behavioral, cognitive, and emotional engagement[10], while later work emphasises the broader interaction between students and their educational environment[11]. In hybrid management courses, social and agentic dimensions are also important. Students engage socially when they negotiate meaning with peers, and they engage agentically when they ask questions, propose examples, or influence the direction of a discussion.

Behavioral engagement appears when students prepare, attend, submit tasks, and contribute to group work. Cognitive engagement appears when students connect theories to cases, compare alternatives, and monitor the quality of their own explanations. Emotional engagement appears when students experience the course as relevant rather than as a list of abstract terms. Social engagement appears through collaboration, peer questioning, and shared responsibility for a group output. Agentic engagement appears when students bring workplace observations, part-time job experiences, or local business examples into the learning process. Hybrid design can support each of these forms, but only if the activities require visible participation.

Several design practices are particularly useful. Short pre-class tasks create a reason to prepare. In-class case work creates a reason to speak and listen. Shared digital documents create a record of contribution. Feedback creates a reason to revise. Assessment rubrics create a reason to care about the quality of explanation rather than only the correctness of an answer. These practices align with research on online engagement strategies, which emphasises instructor presence, structured interaction, and meaningful learning tasks[12]. They also reflect findings from educational technology studies showing that engagement improves when technology is embedded in purposeful pedagogy rather than used as an isolated novelty[13].

In vocational management education, engagement is inseparable from relevance. Students may not immediately recognise why a classical theory of motivation or organisational structure matters. Engagement improves when teachers frame such theories through realistic decisions: how to assign responsibilities in a small team, how to respond to a customer complaint, how to communicate a change in a work schedule, or how to reduce conflict between employees. Hybrid design helps because students can encounter the basic vocabulary before class and then spend face-to-face time on judgement. The course becomes less about remembering theory names and more about using theory as a tool for interpreting work.

3.4 Integrated Pathway Model and Applied Learning Outcomes

The review leads to an integrated pathway model. The first layer of the model is course design: online preparation, diagnostic tasks, in-class application, collaborative production, feedback, and assessment alignment. The second layer is the mediating process: digital capability and student engagement. The third layer is applied learning outcomes: case diagnosis, evidence-based explanation, teamwork, managerial communication, and reflective transfer. The central argument is that hybrid design affects outcomes indirectly. A course does not improve simply because content is distributed across digital and physical spaces. It improves when that distribution develops capabilities and increases the quality of students' participation.

The model also clarifies the role of feedback. Feedback is often treated as a comment given after a task, but in hybrid design it should be built into the learning sequence. A diagnostic quiz before class is a form of feedback to the teacher because it reveals what students have misunderstood. Peer discussion is feedback to students because it exposes them to alternative interpretations. A rubric is feedback before submission because it tells students what features of reasoning will be valued. Effective feedback helps learners answer three questions: what is the goal, where am I now, and what should I do next[17]. In management courses, these questions translate into whether students can identify the problem, justify their diagnosis, and improve the practicality of their recommendation.

Assessment alignment is the final element of the model. If final assessment rewards memorisation alone, students will rationally treat online tasks and case discussions as peripheral. If assessment includes a case memo, an oral briefing, a group analysis, or a reflective application task, students have a clearer reason to engage with the hybrid sequence. This does not mean abandoning conceptual knowledge. It means assessing concepts through their use. A student can still be required to explain leadership, motivation, or control, but the explanation should be connected to a situation that demands interpretation. In this way, assessment confirms that hybrid learning is not an extra layer added to the course; it is the organising logic of the course.

Table 3. Design principles for hybrid management courses

Principle	Implementation	Risk if ignored
Integrate modes	Every online task should be used in class, feedback, or assessment.	Students treat online work as optional busywork.
Limit content load	Use concise preparatory materials and reserve class time for application.	Hybrid delivery becomes a heavier version of lecturing.
Make participation visible	Use diagnostic tasks, shared documents, and brief outputs.	Teachers cannot distinguish preparation from passive attendance.
Teach digital routines	Model searching, source evaluation, collaboration protocols, and memo revision.	Digital tasks reproduce inequality in confidence and access.
Assess applied reasoning	Use cases, briefings, memos, and reflective transfer tasks.	Students memorise terms without developing practical judgement.

4. Discussion

4.1 Course Design Implications

The framework has practical implications for teachers of basic management courses. First, teachers should design backward from applied outcomes. If the expected outcome is that students can analyse a workplace coordination problem, the course should not begin with a long lecture on every theory of organisation. It should begin with a manageable concept, a short case, and a task that requires students to use the concept. The online component should prepare students for this task, not duplicate the textbook. The face-to-face component should then require interpretation, argument, and feedback. Such design is consistent with constructive alignment because students practise the form of thinking that they will later be assessed on[4].

Second, teachers should protect face-to-face time. The classroom is valuable because it allows students to hear disagreement, defend interpretations, observe modelling by the teacher, and receive immediate clarification. If the teacher uses class time mainly to repeat online content, the hybrid model loses its advantage. A more productive class session may begin with a

five-minute review of common errors from the pre-class task, followed by group analysis of a case, teacher questioning, and a brief written conclusion. This arrangement is not technologically complex, but it changes the centre of the lesson from exposition to guided practice.

Third, teachers should treat digital capability as part of the curriculum. This requires explicit instruction. Students can be shown how to search for a credible source, how to summarise evidence without copying, how to organise a shared document, and how to revise a memo after feedback. These routines may appear minor, but they are central to employability. In many workplaces, management communication is mediated by documents, platforms, dashboards, and asynchronous messages. A vocational management course that ignores these practices risks presenting management as a set of textbook definitions rather than as a communicative and evidence-based activity.

Fourth, teachers should be careful with workload. Hybrid learning can fail when students perceive it as double teaching: online lectures plus full classroom lectures plus extra assignments. The design principle should be substitution and integration rather than accumulation. A pre-class video can replace part of the lecture; a diagnostic task can replace a routine homework exercise; a revised memo can replace a conventional short-answer quiz. When students see that each task is used in class or assessment, they are more likely to interpret the hybrid structure as purposeful.

4.2 Assessment and Institutional Implications

Assessment is the point at which the credibility of hybrid teaching is tested. A hybrid course that claims to develop applied management learning should include assessment that captures applied reasoning. Possible formats include short case analyses, group decision briefings, reflective learning logs, oral explanations, or portfolio tasks. Formative assessment is especially useful because first-year vocational students may need repeated opportunities to see the difference between description and analysis. Research on formative assessment and feedback indicates that learners benefit when feedback supports self-regulation and improvement rather than only judgement after the fact[16][18].

Institutions also have responsibilities. Course-level design depends on platform reliability, teacher workload, classroom arrangements, and professional development. Teachers need time to redesign materials, not simply instructions to upload resources. They also need support in making digital tasks accessible to students with uneven devices or connectivity. Professional development should therefore move beyond technical training. It should help teachers convert a topic into a hybrid sequence, design a diagnostic task, read student responses, and facilitate a case discussion. This kind of support recognises that hybrid teaching is a pedagogical practice, not a software function.

The framework may also guide programme-level coordination. If every course uses a different platform routine, students spend unnecessary energy learning formats rather than learning management. Programmes can agree on a small number of common routines: short preparatory input, pre-class check, group case document, feedback rubric, and revised output. Such routines reduce confusion while still allowing each teacher to adapt content. They also make digital capability cumulative across courses. Students who learn to prepare a management memo in one course can later use the same routine for marketing, human resource management, entrepreneurship, or operations management.

4.3 Risks, Boundary Conditions, and Equity

The proposed framework should not be interpreted as a universal guarantee. Several boundary conditions are important. Large class size may limit the amount of individual feedback a teacher can provide. Weak platform access may reduce the reliability of pre-class tasks. Students with low academic confidence may avoid online discussion if the environment feels punitive. Teachers with limited design experience may find it easier to upload content than to build learning sequences. These conditions do not invalidate hybrid pedagogy, but they require design choices that are modest and sustainable. A course can begin with one weekly diagnostic task and one case discussion rather than attempting a complete redesign at once.

Equity requires particular attention. Hybrid teaching can support inclusion when online materials allow students to review content at their own pace, prepare before speaking, and receive feedback in multiple forms. It can also create exclusion when access problems, unclear instructions, or hidden digital expectations are ignored. Teachers should therefore provide alternative access routes where possible, use mobile-friendly materials, keep videos short, and explain how online work connects to class activity. The goal is not to lower expectations, but to make expectations transparent. Students should be

challenged to use digital tools professionally, while also receiving the scaffolding needed to reach that standard.

Another risk is superficial engagement. Students may complete quizzes mechanically, copy from online sources, or divide group work without genuine discussion. The response is to design tasks that require interpretation and traceable contribution. For instance, a group case document can include a section for evidence, a section for alternative explanations, and a section for the final recommendation. Peer review can ask students to comment on the quality of reasoning rather than simply agree or disagree. In this way, the digital record becomes a support for thinking and accountability, not merely a submission channel.

4.4 Limitations and Future Research

This article has limitations. It is an integrative conceptual review, not a systematic review or an empirical test. The framework therefore requires validation through classroom studies. Future research could examine whether hybrid sequences improve students' case analysis, communication quality, or reflective transfer compared with lecture-centred formats. Mixed-methods designs would be useful because quantitative measures of achievement can be combined with qualitative analysis of student memos, discussion patterns, and teacher feedback. Learning analytics may also help identify whether online preparation predicts the quality of in-class participation, but such data should be interpreted carefully and ethically.

Further research should also examine moderators. Prior digital capability, language proficiency, teacher design competence, class size, platform usability, and assessment culture may all affect the success of hybrid management courses. Studies in higher vocational colleges are particularly needed because much of the blended learning literature has been developed in universities or fully online environments. Vocational contexts have distinctive features: students may be more practically oriented, curricula may emphasise employability, and teachers may be expected to connect theory with industry scenarios. These features make the context valuable for developing a more situated account of hybrid pedagogy.

Finally, future research can refine the applied outcomes proposed in this article. General achievement scores may not capture the learning that matters in management education. More precise indicators could include the accuracy of problem diagnosis, the relevance of evidence, the clarity of a recommendation, the quality of teamwork, and the ability to revise work after feedback. These indicators would allow researchers to test whether digital capability and engagement truly mediate the relationship between hybrid design and learning outcomes. They would also give teachers more actionable evidence for redesigning their courses.

5. Conclusions

Hybrid pedagogy offers a promising but easily misunderstood route for improving introductory management courses in higher vocational colleges. Its value does not lie in transferring lectures to a platform or adding online tasks to an already crowded syllabus. Its value lies in creating a coherent learning sequence in which students prepare, apply, discuss, receive feedback, and revise. This article has argued that two pathways explain why such design can matter: the development of digital capability and the strengthening of multidimensional engagement. Digital capability enables students to use tools for evidence, communication, collaboration, and reflective improvement. Engagement gives those practices educational force by drawing students into behavioral, cognitive, emotional, social, and agentic participation.

The proposed framework places applied management learning at the centre of hybrid design. Students should leave an introductory management course not only with terms and theories, but also with the ability to use those theories when they interpret workplace problems. For teachers, the main task is to make the relation between online preparation, classroom activity, feedback, and assessment visible. For institutions, the main task is to provide the conditions under which such design is sustainable. When these conditions are met, hybrid management courses can help vocational students move from knowing about management to practising the early forms of managerial judgement that their future work will require.

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Reference

[1] Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), The handbook of blended learning: Global perspectives, local designs (pp. 3-21). Pfeiffer.

[2] Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. The Internet and Higher Education, 7(2), 95-105. https://doi.org/10.1016/j.iheduc.2004.02.001

[3] Hrastinski, S. (2019). What do we mean by blended learning? TechTrends, 63, 564-569. https://doi.org/10.1007/s11528-019-00375-5

[4] Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.). Open University Press.

[5] Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice-Hall.

[6] Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017-1054.

[7] Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. The Internet and Higher Education, 2(2-3), 87-105.

[8] Redecker, C. (2017). European framework for the digital competence of educators: DigCompEdu. Publications Office of the European Union. https://doi.org/10.2760/159770

[9] Vuorikari, R., Kluzer, S., & Punie, Y. (2022). DigComp 2.2: The digital competence framework for citizens. Publications Office of the European Union. https://doi.org/10.2760/115376

[10] Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59-109. https://doi.org/10.3102/00346543074001059

[11] Kahu, E. R. (2013). Framing student engagement in higher education. Studies in Higher Education, 38(5), 758-773. https://doi.org/10.1080/03075079.2011.598505

[12] Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. Online Learning, 22(1), 205-222. https://doi.org/10.24059/olj.v22i1.1092

[13] Bond, M., Buntins, K., Bedenlier, S., et al. (2020). Mapping research in student engagement and educational technology in higher education: A systematic evidence map. International Journal of Educational Technology in Higher Education, 17, 2. https://doi.org/10.1186/s41239-019-0176-8

[14] Freeman, S., Eddy, S. L., McDonough, M., et al. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23), 8410-8415. https://doi.org/10.1073/pnas.1319030111

[15] Prince, M. (2004). Does active learning work? A review of the research. Journal of Engineering Education, 93(3), 223-231. https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

[16] Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. Studies in Higher Education, 31(2), 199-218. https://doi.org/10.1080/03075070600572090

[17] Hattie, J., & Timperley, H. (2007). The power of feedback. Review of Educational Research, 77(1), 81-112. https://doi.org/10.3102/003465430298487

[18] Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: The challenge of design. Assessment & Evaluation in Higher Education, 38(6), 698-712. https://doi.org/10.1080/02602938.2012.691462