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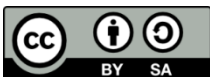
Design-Based Collaborative Learning Integration Strategy

A Methodological Framework for Implementation



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This deliverable was created as part of the project VIVA, coordinated by Vilnius University (LT) in collaboration with University Novi Sad (RS), Aristotele University Thessaloniki (EL), University Duisburg-Essen (DE), blinc eG, (DE), Smart Revolution (IT)



INTRODUCTION

This project outcome report provides input, ideas and recommendations for developing a complete integration framework with suggestions for directly and modularly using the VIVA approach. Selected tools, rules, and recommendations are offered here to ensure flexible implementation and high transferability in the specific professional and learning context of HE. Action research, in particular, is critical in developing such recommendations. Because all partners had prior expertise with online collaborative learning, they conducted action research inside their respective universities. This was a critical phase in the creation of learning modules, tools, and concepts. The goal was to implement and investigate ways in the following areas:

- in modular training and learning units
- in self-guided yet web-based learning modality
- supplementary practice units (and/or internships/traineeships)

Each HEI essentially enlisted the participation of a small group of students in an action research project. Online collaborative learning methodologies were encouraged to be used in a variety of activities and settings, such as blended learning courses, workshops, and research-driven internships. Action research was also used by each practice partner (SMART and blinc) in their internship programs for HE students. Internships were key components of the students' learning program. In contrast to mainstream internships, the VIVA internships were linked to a research issue that was addressed in the host firms using Collaborative Design Thinking Methodology. The students organized their internships in so-called learning projects, which were a self-organized learning modality on one hand, and a joint challenge in their teams with their teammates who were working in other internships, traineeships, or even mobility learning placements on the other. Students and professionals interested in the action research shared their experiences through the synchronous and asynchronous VIVA platform, as well as the collaborative online tools proposed in this report, in joint projects. In this regard, the report produced three sub-outputs, which are as follows:

1. Report template (Annexed in this report)
2. Testimonials on video
3. Framework for integration

This outcome essentially gives action research patterns and a report template for all partners to design, plan, and carry out an action research activity, as well as prepare an action research report. The findings of such surveys are critical in creating learning materials and resources for the European Continuous Professional Development programme for HE professionals, which is essential for 'Result 4'. Furthermore, each action research project is presented as a case study in a visual and narrative style on the VIVA interactive platform.





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1. Design-based collaborative learning: defining the context

Collaborative learning (CL) is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create a product. This section seeks to present the basic concept of CL, enabling one to understand it while ensuring important elements are taking into account. The term CL refers to an instruction method in which learners at various performance levels work together in small groups toward a common goal. Five fundamental elements involved in CL, are: positive interdependence, individual and group accountability, interpersonal and small group skills, face to face promotive interaction, and group processing.

Collaborative learning can occur peer-to-peer or in larger groups. Peer learning, or peer instruction, is a type of collaborative learning that involves students working in pairs or small groups to discuss concepts or find solutions to problems. Similar to the idea that two or three heads are better than one, educational researchers have found that through peer instruction, students teach each other by addressing misunderstandings and clarifying misconceptions.



Figure 1. The evolution from e-learning to design-based collaborative learning

Relevant research (see Robbins and Hoggan, 2019; Williams, 2017; Hathorn and Ingram, 2002; Han and Ellis, 2020 & 2021), shows that educational experiences that are active, social, contextual, engaging, and student-owned lead to deeper learning. CL is an umbrella term for a variety of educational approaches involving the joint intellectual effort from small group projects to the more specific form of group work known as cooperative learning. CL suggests a way of dealing with people which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the groups' actions. The underlying premise of CL is based upon consensus building through cooperation by group members, in contrast to competition in which



individuals best other group members. Key elements of CL include: positive interdependence, considerable interaction, individual accountability, social skills and group processing.

The benefits (see Barkley et al.2014) of collaborative learning in HE include:

- Development of higher-level thinking, oral communication, self-management, and leadership skills.
- Promotion of student-faculty interaction.
- Increase in student retention, self-esteem, and responsibility.
- Exposure to and an increase in understanding of diverse perspectives.
- Preparation for real life social and employment situations.

Considerations for using collaborative learning include:

- Introduce group or peer work early in the semester to set clear student expectations.
- Establish ground rules for participation and contributions.
- Plan for each stage of group work.
- Carefully explain to your students how groups or peer discussion will operate and how students will be graded.
- Help students develop the skills they need to succeed, such as using team-building exercises or introducing self-reflection techniques.
- Consider using written contracts.
- Incorporate self -assessment and peer assessment for group members to evaluate their own and others' contributions.

Getting started with collaborative learning involves:

Shorter in-class collaborative learning activities generally involve a three-step process. This process can be as short as five minutes, but can be longer, depending on the task at hand.

- Introduce the task. This can be as simple as instructing students to turn to their neighbour to discuss or debate a topic.
- Provide students with enough time to engage with the task. Walk around and address any questions as needed.
- Debrief. Call on a few students to share a summary of their conclusions. Address any misconceptions or clarify any confusing points. Open the floor for questions.

For larger group work projects, here are some strategies to help ensure productive group dynamics:

- Provide opportunities for students to develop rapport and group cohesion through icebreakers, team-building, and reflection exercises.
- Give students time to create a group work plan allowing them to plan for deadlines and divide up their responsibilities.
- Have students establish ground rules. Students can create a contract for each member to sign. This contract can include agreed-upon penalties for those who fail to fulfill obligations.
- Assign roles to members of each group and change the roles periodically. For example, one student can be the coordinator, another the note-taker, another the summarizer, and another the planner of next steps.





- Allow students to rate each other's quality and quantity of contributions. Use these evaluations when giving individual grades, but do not let it weigh heavily on a student's final grade. Communicate clearly how peer assessment will influence grades.
- Check in with groups intermittently but encourage students to handle their own issues before coming to you for assistance.

Overall, there is a clear evolution in the domain and processes of design. While in earlier years educational methods and later on audio-visual media were targets of design, the rise of computers necessitated profound adaptation. As evidenced by the state-of-the-art in research, computers in education were designed to adapt instructional objectives, content and methods to the individual learner. Intelligent Tutoring Systems (ITS) were the ultimate tools for individualisation, though their design, development and implementation were less successful than expected (De Corte, Verschaffel, & Lowyck, 1996). The 'personal' computer was shortening days. The interplay between theories of collaborative learning, telecommunication, and community-based education paved the way for the design and organisation of more hybrid, collaborative learning environments. This mix of ambition and complexity, of external structure and self-regulation, of curriculum and co-construction of knowledge necessitates brand new visions on and approaches of design.

However, in line with the recent theories of collaborative learning, designers do not focus directly on programmes, methods or tools, but rather on more complex realities, like learning environments. In the late 1990s, this concept has begun opening and broadening into the direction of learning 'communities' (Schwier, 1999) and 'virtual' environments are considered as a new generation of computer-based educational systems (Dillenbourg, 2000). The challenge in the design of virtual environments is to explore, understand and integrate different new communication functions in a pedagogically relevant way (see Mouratoglou and Zarifis, 2021).

1.1 Methodological framework for Implementation: four steps to follow

While collaborative learning can be of great value to student learning, the implementation of a technology-supported collaborative learning environment, in HE in particular, is a challenge. With their built-in features for supporting collaborative writing and social communication, wikis for example are a promising platform for collaborative learning; however, wiki-supported collaborative learning cannot function without an effective learning design. In this section we highlight some of the theory and prior research on design-based approaches to develop strategies for using IT tools to support collaborative learning in a HE classroom environment (Zheng et al., 2015).

Research on collaborative learning (Goodsell et al. 1992; Ellis and Han, 2016; Reis et al. 2018) shows that students learn more successfully when they are active participants and they learn even better when they interact with other students, whether receiving instruction online or in a face-to-face setting. Roberts (2004) further suggests that the interaction also offers the benefit of fostering social presence, having contact with actual people. Social presence has also been shown to impact student motivation and participation, actual and perceived learning, course and instructor satisfaction and retention in online courses.





Collaborative learning can not only help students develop higher-level thinking, but boost their confidence and self-esteem. Yet because the pandemic is keeping students and teachers separated and working remotely, a truly collaborative teaching and learning experience might seem elusive (Han and Ellis, 2020).

The good news is that it's not. A recent report from *Information and Learning Sciences* on interaction in online distance education that advocates implementing collaborative learning activities in distance education courses offers some ideas for university professors to integrate collaborative learning and collaboration support into their online instructional design. Assigning learners to a group won't automatically lead to productive interaction, according to the report. Instead, professors can use designated instructional design to develop tasks that require learners to interact and construct knowledge together (Schellens and Valcke, 2006). Here are four steps for designing instruction that facilitates online collaborative learning.

Set learning goals. When designing a collaborative learning activity, professors must first determine the lesson goals. For example, the goal might simply be to learn about a particular topic or acquire collaboration skills. Then, professors can consider the steps necessary to achieve the goal. For example, instructors can use reciprocal learning, asking students to explain a concept to their partners (Zheng, 2017).

Find the right level of task complexity and create positive interdependence. Collaborative tasks should be sufficiently complex and require students to co-construct knowledge to solve the problems. Professors need to design tasks that require student interaction. Simply asking students to just solve the task as a group can lead to individuals taking on subtasks instead of working together. The idea is to design collaborative activities that naturally require interaction between learners like dividing task materials from different fields between members of a group to they have to pool the information, discuss alternative solutions and come to a joint decision. Using this design fosters a positive interdependence between learners, creating individual responsibility – all essential for effective collaborative learning (Jonassen and Kwon, 2001).

Strategically form groups of students. Professors must create the right student groups to improve the likelihood of collaborative success. When dividing a class for collaborative activities, consider how the characteristics of group members might affect both the interaction and results. Heterogeneous groups in which students each have different backgrounds and skill-sets can be helpful in learning, but assigning students in homogenous groups – like grouping less-active students together, for instance – can help boost participation. The sweet spot for group size is four students. Larger groups can reduce the visibility and participation of individual group members (Gokhale and Machina, 2018).

Use technologies that specifically support collaboration. There are plenty of technologies that can foster group involvement both online and in the college classroom. Technologies that afford learner opportunities to engage in a joint task, communicate, share resources, engage in productive collaborative learning processes, engage in co-construction, monitor and regulate collaborative learning and find and build groups and communities (Bliuc et al. 2007). Groups can also require additional support to foster the collaborative relationships and activities. Once professors have designed and are implementing the collaborative tasks, they





need to support students in monitoring and promoting productive interactions. Group awareness tools can help facilitate monitoring and regulating collaborative activity with visual feedback. Collaboration scripts guide learners in engaging in productive interaction.

For facilitating the process for the partners needless to say that designing refers to systematic choices and use of procedures, methods, prescriptions and devices in order to bring about effective, efficient and productive learning. The outcome of any design activity is a plan or scenario that defines the format, content and structure of the environment, the delivery systems and implementation strategies. With the rise of more open, electronic learning environments, these definitions undoubtedly will need adaptation, since increased environmental complexity and learners' concomitant 'higher order' learning call for more sophisticated models of design. Designing is no more an intuitive endeavour with a lot of instability and variability in its knowledge-base, as reflected in Montaigne's four centuries old adage: *'du bon coeur, du bon sens et quelques petits trucs'* (a warm heart, common sense, and some handy tricks) (see Biggs and Tang, 2011). In this approach, the ceiling effect is the designers' individual competence in using recipes that only work in contexts that are identical to those in which the recipes were developed.

Gradually, recipes were replaced by more systematic procedures developed within a 'systems approach' (Zheng et al., 2015). It consists of task-analysis, problem-solving and testing by a team of experts in complex domains. Instructional knowledge was documented and put into formal didactical models and procedures. Most models consist of predefined objectives (target position), description of trainee characteristics (actual position), methods and content to bridge the gap between both positions, and control of the outcomes. The quality of instructional design highly depends on the fit between the design model and its 'intelligent' use by a designer. In this model external, programmed control, decomposition of complexity, focus on content or subject matter, and 'simple' learning principles are predominant. Designers entirely define and produce instruction, while teachers and learners are consumers of rather alienating design products at the end of the chain. However, while most theories on instructional design refer to the optimal adaptation of an environment to the individual, the rise of collaborative learning theories results in team learning design (see Wilson and Fowler, 2005).

1.2 Collaborative Design Thinking and Learning Methodology: some issues to consider before developing your Design-Based Learning activities

Design-Based Learning (DBL) is a learning strategy that requires students to use their theoretical knowledge to develop an artifact or system to tackle a real-life problem. DBL has long been utilized in design-related curricula in higher education such as engineering, computer science, and architecture. However, little is known about how DBL in non-design-based courses enhances students' learning experience, especially in recent years when the COVID-19 pandemic has compelled the worldwide education systems to adapt to online learning. If students are to take responsibility for their own learning, some responsibility for learning needs to shift away from the teacher to the students (Mouratoglou and Zarifis, 2021). However, creating the conditions for this shift of responsibility is not simply a matter of 'how





much' freedom or discipline a teacher should 'give' students. The teacher should become an organiser of students into communities for a specific purpose: learning. He or she must restructure freedom and discipline within the class, thereby establishing a 'polycentralised' collaborative learning community in which the teacher moves to the perimeter of the action, once the scene is set. This approach encourages students no longer to perceive the teacher as the only source of knowledge and information and to take responsibility for their own learning.

Designing collaborative learning environments is dependent upon the descriptive knowledge base on learning and instruction (Zhu, 2012). Firstly, the evolution in conceptions of design towards collaborative learning is described, starting from designing as an intuitive behaviour. Secondly, collaborative learning is described from different angles, like individuals-in-context, learner communities, including motivational factors and distributed cognition.

It is evidenced (see Hathorn and Ingram, 2002; Williams, 2017; Robbins and Hoggan, 2019; Mouratoglou and Zarifis, 2021) that the adequate use of collaborative learning settings may contribute to the learning quality. Thirdly, the implications of collaborative theories on instructional design are outlined, centred around: student, knowledge, assessment and community. The interplay between these perspectives is challenged in new models of (co) design. Design-based learning is based on the constructionist theory, which states that learners construct knowledge rather than passively taking in information. While it highlights the importance of producing or engaging in designing activities as a means of learning, the design process also offers a valuable learning environment. Therefore, DBL values both the learning process and its outputs or products.

DBL was created in the 1980s, and it was initially used in high schools to educate science and develop design skills (Doppelt et al., 2008). Designers (learners) build products or artifacts that symbolize a relevant learning output, and this is an active learning process that puts students at the center, encouraging them to participate actively in class. Briefly, in DBL, students are taught to develop prototype models or artifacts of a problem-solving solution. It is a teaching technique that helps students generate creative products and improves their willingness to study (Kamal and Junaini, 2019). This pedagogical approach combines problem-based learning with project-based learning in which students apply theoretical information obtained in the classroom to design products, systems, and inventive solutions (Gómez Puente et al., 2013). DBL has been utilized in design-related courses in higher education such as engineering, computer science, and architecture; nonetheless, courses other than design such as science, accountancy, and social sciences have recently begun to incorporate DBL into their curriculum (Reis et al. 2018). The literature has discussed good learning outcomes from DBL as a student-centered approach. Besides fostering collaboration, DBL also allows students to learn at their own pace, encourages transdisciplinary learning and cooperation, stimulates creativity, and increases student confidence (Dallimore et al. 2004). Since the complexity of a task usually involves collaboration and specific responsibilities, students can become "experts" in a specific area by establishing goals and constraints using representational approaches, idea development, and prototype construction for design projects. As a result, students can work in groups, share information, and develop their abilities (Doppelt et al., 2008). DBL also helps



improve students' cognitive and social abilities, for instance, public speaking and critical thinking skills during an oral presentation by defending and justifying their products and how they fit the standards. Ultimately, this helps enhance their interpersonal communication and problem-solving skills (Doppelt, 2006; Zhang et al., 2021).

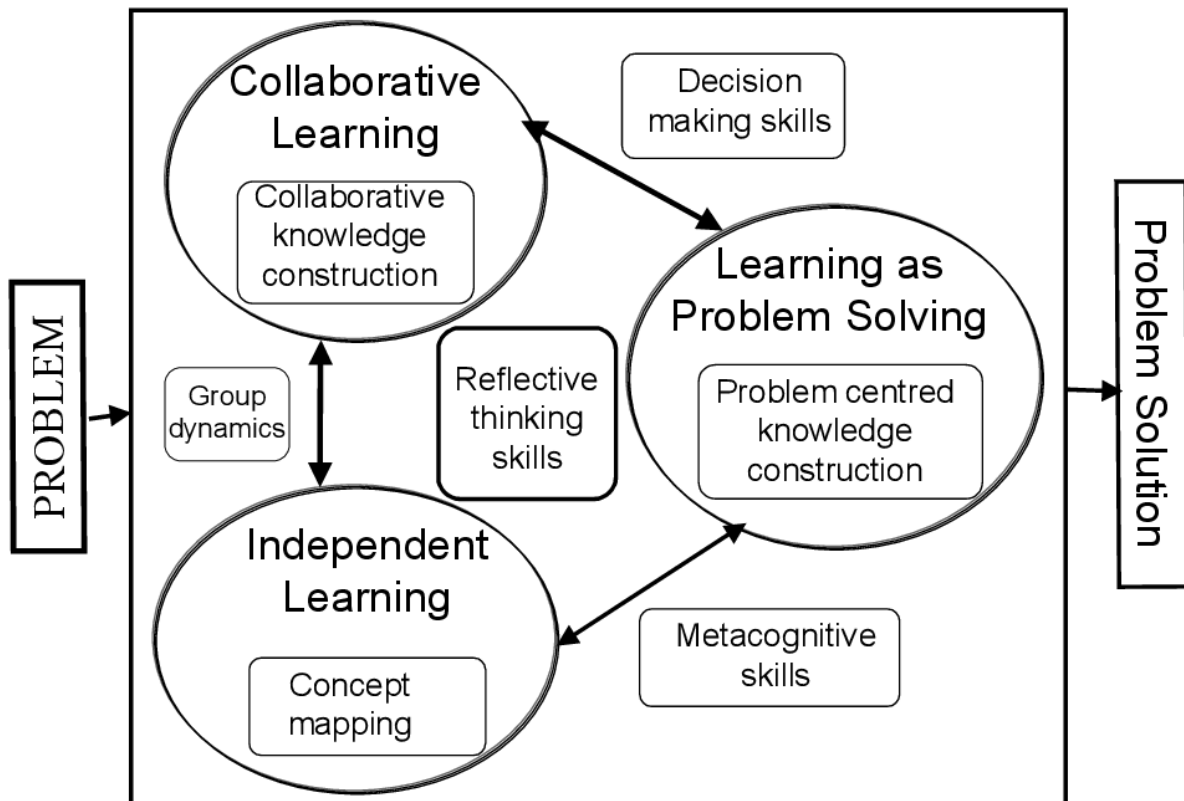


Figure 2. An example of a DBL plan

Design-based research methodology entails a research design that combines design and scientific methods to create new theories, artifacts, and practices (see Ismail and Balakrishnan, 2016). According to Amiel and Reeves (2008), the design-based research approach involves four phases:

1. An analysis of real-world issues.
2. Solution development based on existing design concepts and technological advancements.
3. Evaluating and refining solutions in iterative cycles.
4. Reflection to develop design ideas and improve solution implementation.



Phase	Activities
Identify problems in the context of current situations and generate ideas	<ul style="list-style-type: none"> At the beginning of the semester, the lecturer introduced the course, and throughout the semester, the lecturer explained various concepts and theories connected to technology management. This facilitates the students' understanding of the scenario. Students worked in groups to identify the problem they intended to solve. Students were given the option of selecting their preferred group members. To create innovative designs, students performed background studies to explore alternative solutions.
Define a solution's objectives	<ul style="list-style-type: none"> Students need to specify the solution or the design to be produced. Students present their idea/proposal and modify their idea based on the feedback from peers and the lecturer.
Design and development	<ul style="list-style-type: none"> Students begin designing their prototypes. The lecturer monitors their progress through online tutorial classes. Students in groups need to write and verbally report on their progress. Student design must be completed by the final week.
Demonstration and reflection	<ul style="list-style-type: none"> During the final week, students in groups present their designs online and explain how the theories learned in class were applied to the design.
Communication and evaluation	<ul style="list-style-type: none"> Question and answer sessions were also held to allow lecturers and peers to understand the design produced. Students submitted their finished work to an online platform for grading by the lecturer.

Figure 3. Examples of activities related to the various phases of DBL

These phases are systematic yet flexible, and the principles are adjustable and feasible for others interested in studying similar settings. However, despite a variety of design-based research processes highlighted in the literature, there is no one-size-fits-all design-based research process as the planning and implementation of research projects differ depending on the situation (Williams, 2017) and can, therefore, change depending on the design goals and circumstances. Nonetheless, many of these design-based research frameworks have been discussed in the context of related technical activities such as engineering, information science, and computer science where the students are mostly equipped with digital tools and software training (e.g., Peffers et al., 2007; Wyk and Villiers, 2014; Geitz and de Geus, 2019).

1.3 Online collaborative learning methodologies: setting the basis with the basics

As it has already been mentioned, collaborative learning is an opportunity for students and instructors to engage in shared efforts to search for meaning, understanding, and solutions to complex problems or concepts. This learning relationship invites the instructor to facilitate



active learning strategies and activities that encourage students to interact with others and share their diverse perspectives to explore course material and their own experiences in multiple ways. Using collaborative learning activities to promote active and emergent work within a course can help instructors support students in articulating and applying their learning alongside course lectures and extend meaningful discussions inside and outside of the classroom.

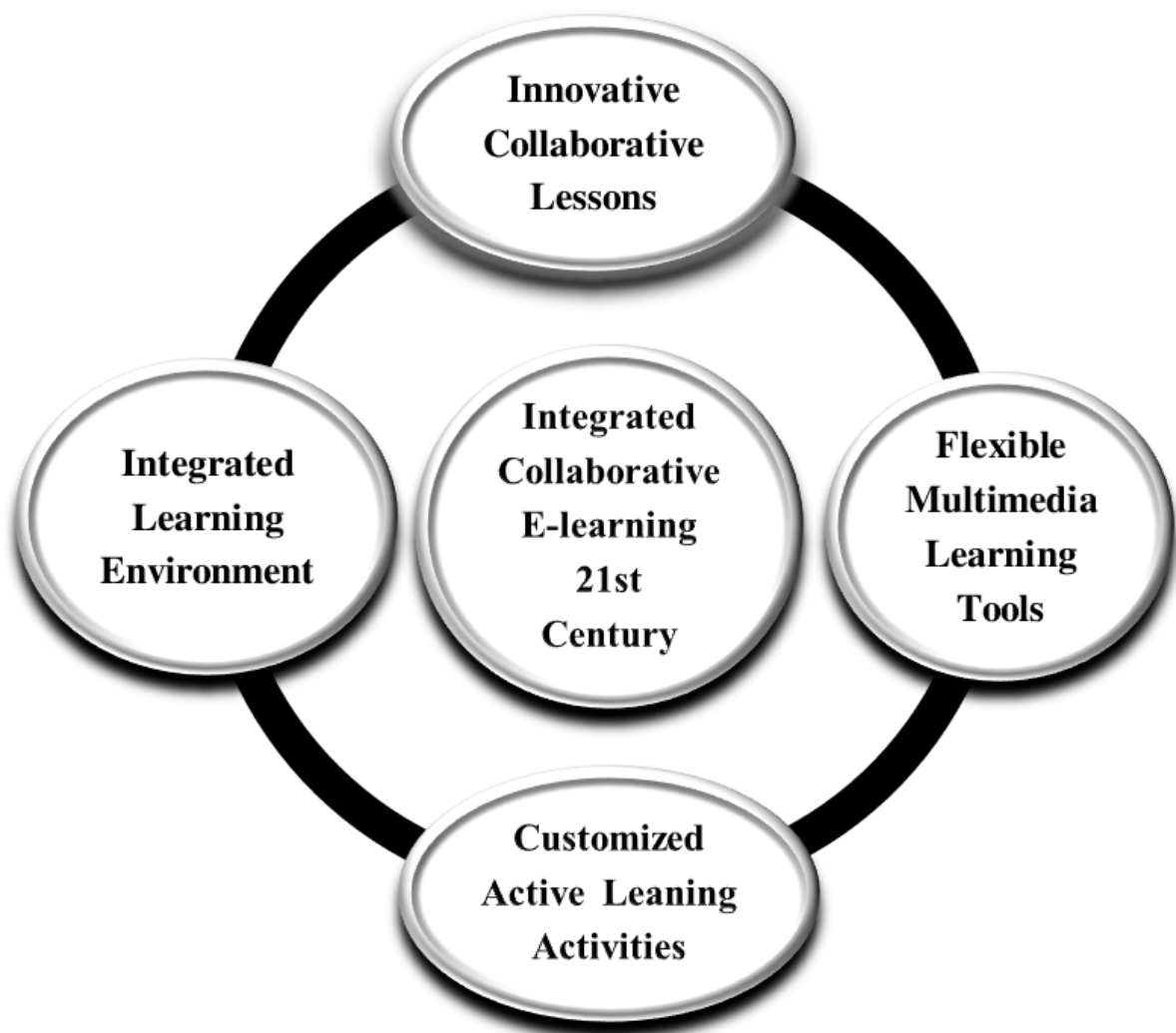


Figure 4. DBL in action: factors affecting the integration process of DBL in e-learning

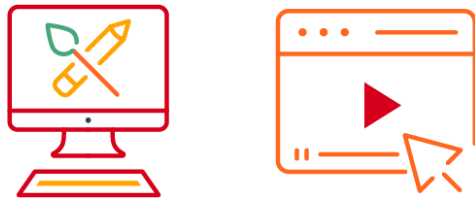
Collaborative learning activities and approaches vary in the amount of in-class and out-of-class time built around collaboration. The following **basic activities** (see Yee, 2020) can be used in any discipline and modified to suit any course context¹.

Four Corners²



Four Corners is an activity that helps students make connections to course material, research ideas, and explain their own decisions and thought process. This activity can be used to activate students' prior knowledge, research a topic, debate a controversial activity, share differing perspectives, and build relationships.

Visual Prompt³



¹ For a complete list of activities and techniques see Yee, K. (2020). *Interactive Techniques*. <https://www.usf.edu/atle/documents/handout-interactive-techniques.pdf>

² Variations

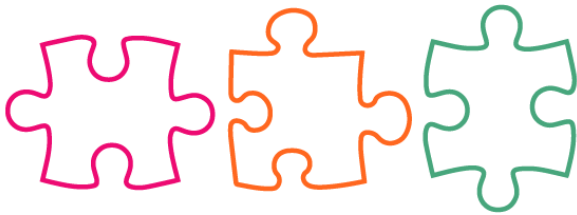
- Have a 4-corner debate where the corners are labelled *strongly agree*, *agree*, *disagree* and *strongly disagree*. The instructor poses a topic or questions, and students select a corner, prepare their statement, their reasoning, and then present to the class.
- Randomly assign students to each corner and then pose multiple choice or open-ended questions to each corner for the students to solve. This could even be made into a competition for exam review. Ask the students to explain the *Why* behind their answers.
- Host the presentations in Zoom, and individual students can submit a summary that includes information from all presentations.

³ Variations

- Introduce the image in D2L discussions. In pairs (or groups) ask students to create questions for other pairs (or groups) to answer. Questions should be based on see/think/wonder themes. Students then create a dialogue or conversation based on what they see/think/wonder is happening in the image according to the context. These dialogues could be shared during a Zoom session. Students then compare different interpretations of the image.
- Introduce the image in the Zoom main room. Don't reveal the title or context. Provide students with a link to an "Intriguing Image: See, Think, Wonder" Google Doc, Google Jamboard or three columns in the chat box or whiteboard. Model the strategy by typing in a few ideas for each column. Then place students in breakout rooms and let them complete the columns together and create a title for the image. The columns and title are then shared in D2L with each group having their own thread. Groups comment on each other's columns and titles.

The Visual Prompt guides students through a close analysis of an image. Through this learning activity, students develop awareness of context, expand critical thinking skills, enhance their observation and interpretive skills, and establish conceptual learning techniques. You can use this strategy with any visual media, including a piece of art, photograph, political cartoon, propaganda poster, or video clip.

*Jigsaw*⁴



The jigsaw activity is a collaborative technique where one student or group of students researches a certain topic and then teaches this topic to other students. This technique promotes research, problem solving, communication and cooperation skills.

*Guided Notes*⁵



Guided Notes are instructor (or student) prepared notes that outline lectures, presentations, or readings, but leave blank space for students to fill in key concepts, facts, definitions, etc. Guided Notes promote active engagement during lecture or independent reading, provide full and accurate notes for use as a study guide, and help students to identify the most important information covered.

⁴ Variations

- If the topic has 4 buckets to research, create groups of 4 students and assign a bucket to each student. Group members then teach one another and individually summarize the topic. This can be done in a Zoom breakout room or in a D2L discussion.
- A group researches 1 bucket and then 1 student rotates to another group, learns about the new bucket, and then reports back to their own group to collect all buckets.
- Each group creates a poster (in Google documents or Google Slides), then all groups rotate through each poster in gallery walk style where the owner of the poster gives a 2-minute overview. Individual groups/students then need to compile their findings.

⁵ Variations

- In pairs or groups, students take turns (either by week, module or unit) depending on how the course is structured, creating guided notes based on one essential reading from that topic. The pair/group would post their guided notes in D2L and would be responsible for responding to posts on the discussion board from other groups. The completed guided notes would be shared in a Zoom session, discussed with the instructor and then later posted to D2L.

Iceberg Diagram⁶



With an iceberg, only its tip is visible above the water while the bulk of it is invisible below the water's surface. The iceberg theory implies that information or data that is important could be hidden for the proper evaluation of an event, a problem, or a situation. The iceberg diagram teaching strategy prompts students to look deeper than the surface in order to gain awareness of the numerous underlying causes that give rise to a concept, event, topic or situation⁷.

World Café⁸



The World Café is a structured conversational process for knowledge sharing in which groups discuss a topic at several small tables like the setting in a café. This method fosters a relaxing and informal environment that develops collaborative dialogues around questions that matter to generate innovative ideas.

⁶ Variations

- An evaluation tool - diagrams could be uploaded to Dropbox. Students could write an essay explaining the ideas in the bottom part of the iceberg.
- Comparing concepts, events, topics or situations - students could have different concepts, events, topics or situations that they are comparing and present their icebergs on Zoom. This could help students recognize patterns or the uniqueness of each concept, event, topic or situation.
- Current concept, event, topic or situation - could use the iceberg template to investigate a current concept, event, topic or situation of the students' choosing. The students would work in groups and complete an iceberg diagram for their chosen concept, event, topic or situation. Then present their iceberg diagram in Zoom or in D2L by recording their thoughts and explanations of what they think caused the concept, event, topic or situation.

⁷ Also see 'Facing History and Ourselves. *Iceberg Diagrams*'. <https://www.facinghistory.org/resource-library/teaching-strategies/iceberg-diagrams>

⁸ Variations

- Move the World Café to D2L discussions. Create groups in D2L discussions and encourage students to have a natural conversation within their group. Alternatively, students could set up their own Zoom session or another collaborative tool of their choice. The students could then report back to the class either in a live session or through discussion boards.



2. Selected tools, rules, and some... recommendations

Online learning can be a challenging process for most of us in HE. Often, it requires some concentration and a level of engagement from students. Yet, how can an instructor ensure greater immersion of students? Our answer is — by implementing collaborative learning strategies! They will surely add to students' active learning and motivation and even improve a firm's organizational learning. Read on to explore the effective collaborative learning activities and examples of how to use them for your course or corporate training. What is a collaborative learning strategy? First, an online collaborative learning strategy is an instructional and training method under which two or more students interact to perform a learning activity, understand a concept, apply a model, or develop specific skills (Dallimore et al. 2004; Gómez Puente et al., 2013; Wilson and Fowler, 2005). There are different types of collaborative teaching strategies that instructional designers and course creators may use: Jigsaw methods. Peer teaching activities (peer-to-peer discussion, peer editing, etc.). Problem-centered collaborative learning activities (case studies, role-playing, etc.). Cohort⁹ or community learning tasks based on conversation. In most of them, the instructor's role is to design experience via collaborative tools rather than share knowledge as an expert. There is great variety of online collaborative learning strategies to implement in training or course Today, with the rise of skills demand, instructors and course creators actively adopt proven classroom methods within the online realm. That way, they keep students engaged and motivated. However, what collaborative teaching techniques can best be incorporated into the VIVA approach?

2.1 Action research as a DBL tool

What is action research? To most newcomers in the field, the word 'research' can be intimidating; and to add 'action' into the puzzle could make it seem like an ordeal. Therefore, some information about the concept and characteristics of action research is a helpful start before you embark on the project itself. It should make you realize that action research is simply a useful process that we have employed in our day-to-day lives in bits and pieces without realizing it. A clear understanding of action research will ensure that you start out right, and proceed in the right direction. The action you implement is primarily meant to improve your practice (Dick, 2011). In improving yourself, the positive effects are passed on your participants. Therefore you should start by exploring your own shortcomings as a practitioner and how you can professionally develop yourself and improve your practice. This is how action research is different from an experimental design. In the latter design, the researcher like a scientist approaches an experimental action in a detached manner, makes impartial observations and calculations and reports the results of the action on the subjects

⁹ Cohort-based learning is an effective lifeline for instructors adapting to entirely new teaching methods when designed and implemented with care. Cohort learning encourages students to construct knowledge as they master new material, transforming the classroom into a community of active knowledge-builders. As a result, the role of the instructor or mentor shifts from "information provider" to "facilitator," and evaluating students' learning progress becomes an integral part of this position.



rather than on oneself. Educational action research is action research carried out in educational settings (Nelson, 2017). It is a form of self-reflective inquiry designed to improve the understanding, practices and situations in your school and classroom. The issues related to action research are usually based on your teaching and teacher practices. For example, as a language teacher, you may address the issue of improving your teaching strategy to improve your students' language proficiency. In this instance, the implication is that in improving your practice, your students' language learning may benefit from it. Action research is practitioner-centered; therefore the issues should be relevant to your duties and responsibilities as a teacher (Vaughan and Burnaford, 2016). Macro issues that arise from root causes like poverty or sanctioned policies that are viewed as beyond the control of the practitioner to change or improve, and therefore need not be considered for action.

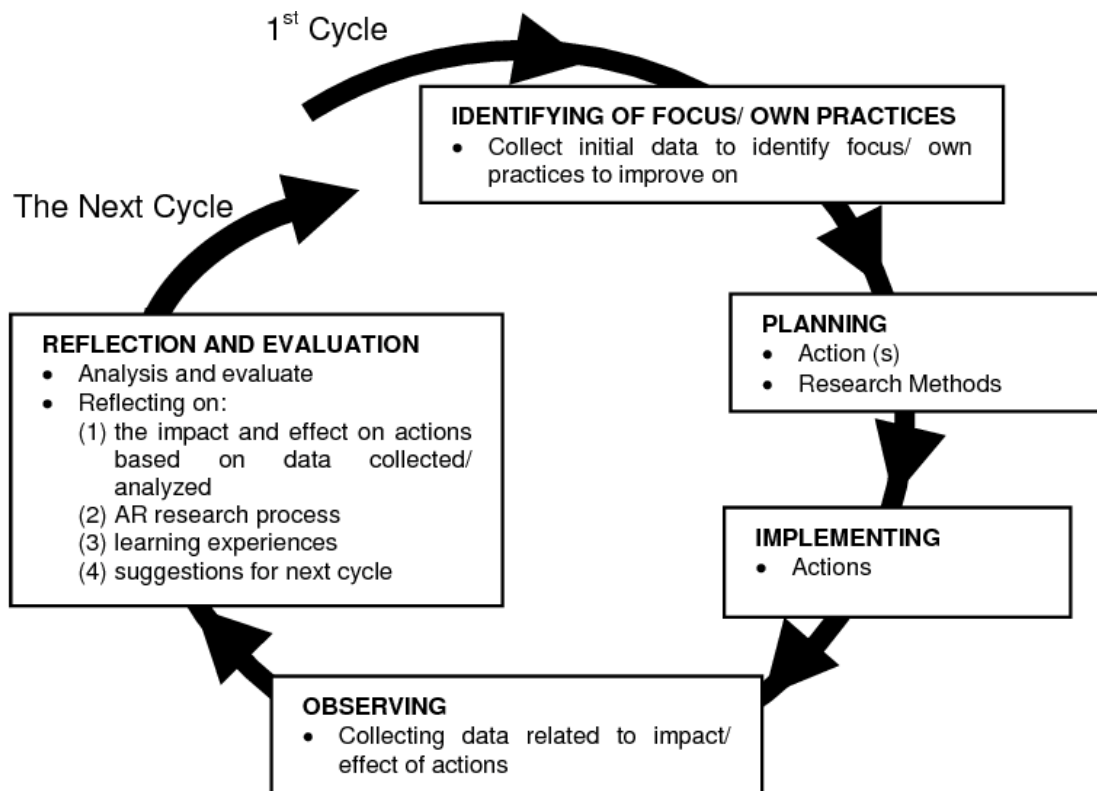


Figure 5. A simple model for educational action research

The plan of action should basically be perceived as achievable within the scope and ability of you as a teacher in the classroom. This reflects the characteristic of action research that it is usually carried out by practitioners in their line of work. Educational action research is basically carrying action research in educational settings, which is what your action research is all about. For the purpose of convenience in the VIVA project, the term “*action research*” shall subsequently be used to encompass the concept of educational action research. The action research framework is most appropriate for HE professionals who recognize the shortcomings in their educational activities and who would like to adopt some corrective action, formulate



a plan, carry out an intervention, evaluate the outcomes and develop further strategies in an iterative fashion (Stringer et al. 2019). In short, action research is a workable technique for classroom teachers to achieve the following purposes:

- (a) To integrate teaching with research
- (b) To improve the effectiveness of practice
- (c) To bridge the expectation and performance gap
- (d) To continuously develop the personal and professional self
- (e) To routines reflexive teaching
- (f) To realize educational values
- (g) To enable systematic and scientific re-evaluation of current theories and
- (h) To influence what is known about teaching, learning, and schooling.

Some important characteristics of action research to consider in your endeavour in VIVA project are the following (also see Nelson, 2017):

1. **It is a dynamic and systematic process of self-inquiry and action carried out by practitioners in the line of work.** This means that the action should be current and relevant to you. It should be related to your present teaching responsibility so that you should not expend extra time on the research. In other words, action research should be integrated into your teaching.
2. **The researcher is involved in an immediate and direct way.** It is crucial for you to understand that the course of action you take involves you directly.
3. **The project is undertaken collaboratively by the participants in the situation, not by outsiders studying the practice of an individual or group.** You and your participants are actively involved in the action. If you are merely an observer looking at an action on a group of subjects, it becomes more of an experiment and less of an action research.
4. **The action proceeds through a spiral of cycles of planning, acting, observing, reflecting and evaluating.** You may repeat the implementation of action as many times as you feel necessary to produce results, adapting and improving on each cycle of action in even small but significant ways.
5. **It raises awareness and understanding of your practice, leading to change and improvement through practical action.** The research action allows you to improve and grow professionally. That is why you should decide on an area that is related to your teaching responsibility.

As you plan your implementation report for VIVA, bear in mind that some or all of the above characteristics should be reflected in your action research. You must also bear in mind that action research is not a library project where we learn more about a topic that interests us. It is not problem-solving in the sense of trying to find out what is wrong, but rather a quest for knowledge about how to improve and it is not about doing research on or about people, or finding all available information on a topic looking for the correct answers. It is about exploring your strengths and limitations and acting on it to improve yourself and your participants. Furthermore, action research is not about learning why we do certain things, but rather how we can do things better; it is about how we can change our instruction to impact students.





Last but not least, as it is sometimes hard to imagine possible projects without seeing the ideas of others, so here are some *possible projects* which cover a wide variety of themes in higher education practice:

- Developing video field trips to enable engagement with industry case studies
- Using QR codes around the campus to promote learning in-situ
- Using mixed media approaches to assist international students with threshold concepts in food quality management
- Using online learning objects to promote health and safety in the laboratory
- What are the benefits of having *students as teachers* in laboratory scenarios?
- How can library staff support students to engage critically with academic sources?
- A project to engage students with their feedback
- Developing facilitation and clean questioning techniques within a laboratory setting
- Working across continents: Developing approaches to foster cultural understanding within the context of international higher education partnerships
- Using head cameras to extend the learning from practical engineering exercises
- Using tablets to facilitate feedback on practical tasks in the outdoor environment
- Using music to initiate discussion in an agricultural programme
- How can revisions to schemes of work assist with student transitions in to higher education?
- I can't get them to summarise! Supporting students in academic writing
- Making my teaching more inclusive: A self-audit and review study in to how teaching in a veterinary context can be made more inclusive
- Developing interactive electronic workbooks to enhance student record keeping and reflective practice in a professional veterinary programme
- Flipped classroom: Evaluating a flipped classroom pedagogy in the context of a first year business module
- Frequently asked questions: Developing a video bank as a revision tool
- How can I promote critical thinking amongst my final year students?
- Lecture capture: Do they really want to see it again? An action research study assessing the student perspective of lecture capture technology
- Promoting good academic writing through the use of peer review
- Using quizzes after each lecture to consolidate understanding
- Developing efficiencies in my approach to student assessment feedback

2.2 Online Collaborative Learning Tools: some approaches and proposals

Before all, you should understand that collaborative learning is a pretty comprehensive concept. Any learning is collaborative if it goes beyond the interaction between two people toward a specific task or goal. For example, when you teach cohorts¹⁰ or groups and ask them

¹⁰ The cohort model of learning is an instructional approach to teaching that creates a group in which students learn collaboratively. The students, usually called 'cohorts,' start, progress, and complete a course together as one unit. This means that the same people stay within the class for all their lectures, tutorials, or seminars and typically form close relationships with each other over time. Each student learns from instructors who use learning activities to facilitate progress through





to do a particular task, this process has a collaborative concept at its core. For it to work online, you, as a facilitator, should consider the student collaboration tools that suit your course, specific cohort, or activity you designed. There are two approaches to organizing the learning flow and setting the collaboration (see Bliuc et al. 2007; Zhu, 2012; Yee, 2020):

1. **Approach 1.** Pick a flexible platform for comprehensive and complex courses The first method contemplates that you need a flexible and comprehensive collaborative learning platform. With multiple integrations, messenger, and activity builder, you, or your course administrator, can focus on teaching and not monkey job. *Imagine the scenario: you have different courses built around case studies, simulations, and think-pair-share activities. Each program requires you to adopt a collaborative or communication strategy and choose the right instruments. Respectively, you should organize each group's community discussion, role-playing, and peer reviewing separately.* Sounds like a nightmare, especially for a HE instructor. Therefore, picking a solid collaborative learning software can be the best solution to deal with such a workflow.
2. **Approach 2.** Select a suite of student collaborative tools to support a task or answer the learning need The second approach is entirely different from the first one. In this case, you first identify collaborative needs and then find an adequate answer. For instance, if you want to create a community for the solution discussion, you will need Slack or Zoom as a place for discussion. However, for a UX/UI design course, you will likely need tools like Figma or Miro for peer editing. At the same time, let's consider a more complicated scenario where you can use various collaborative websites for students. *Imagine you organize a unique bootcamp course with multiple guests that involve listening, discussion, solving cases, and making tasks. In this regard, you can use Hopin for conferencing, Padlet for content curation, and Notion or Quizizz for making assignments or homework.* Sure, it will be hard work for a curator as well. However, the second approach gives you enough opportunities and freedom to create specific architecture, tasks, and flows. The suite of online learning collaboration tools gives you freedom and opportunities. What for? To create an advanced curriculum and curate it as you want.

As a result, the choice of the best tools derives from the factors that influence the learning provision and form the needs. And here is the list of them:

- Number of courses and size of groups.
- Type of communication.
- Activities within the program.
- Desired level of student engagement.
- Suitable collaborative learning type and strategies.

various stages. Some of the learning activities include instruction, application practice and reinforcement demonstrations, self-paced workbook assignments, practice assessments/quizzes, etc. The cohort model in education encourages personalized feedback tailored to each individual's needs throughout different parts of the lesson plan structure.





Before picking the approach, think about whether it will add to or jeopardize the learning process you are building. In case you are to pick the first approach, the particular list of learning platforms and LMSs for collaborative learning is for you:

- #1. EducateMe: Powerful platform with a focus on cohort-based learning. **EducateMe is a powerful collaborative learning software with rich features and resourceful tools to handle communication and task management.** Firstly, it offers an in-built messenger, Slack-like channel, group manager and multiple integrations for hosting live sessions. That way, you can make students collaborate in cohorts, peer-review their works, or create a community. Secondly, EducateMe has an easy-to-use course builder and a proper assignment management organization. Overall, it is ideal for managing cohorts and building your learning around collaboration. It will suit almost any collaborative strategy, from Jigsaw to think-pair-share. Additional EducateMe online collaborative learning tools: Interactive assignments supported by the Kanban approach. Ability to create lessons with HTML raw code. Integrations with Zoom, Loom, Miro and more.
- #2. 360 Learning: Flexible software with excellent features for corporate actors. **360 Learning is a flexible collaborative learning platform many business and corporate actors use for training.** It is intuitive as it allows course or path creation in the form of a presentation. This tool has great features for collaboration. First, it has a comment and news feed, forum, upvotes, and sharing to manage discussions. Secondly, there is a “learning needs” section where a student can ask for an expert opinion and comment from anyone in the group. You can make different tasks with interactive questions, for instance, asking to pick-point an answer on an image or record the video. The software has good reporting functions. Ultimately, 360 Learning is an excellent platform for sharing expertise, igniting conversation, and exchanging thoughts.
- #3. Disco: Community-focused collaborative learning platform **Disco is another collaborative learning tool, yet, paying particular attention to community management.** This approach allows them to have powerful tools for collaboration and discussion. First, it has integrated direct messaging and threaded channels for effective peer-to-peer engagement. Also, its product builder tool is intuitive and allows you to create spaces, feeds, and pages and upload materials for discussion within each community. Even the interface looks like you are using a messenger. It is an excellent platform if you prefer community and social learning strategies for reaching your business or education goals. It suits the Jigsaw collaborative method well.

Depending on a learning need learning platforms can be a suitable solution for your organization, helping you automate the workflow and improve student engagement. If you offer training regularly and focus on expertise, relevance, and efficiency, it is the best way to teach students and employees. Yet, what if one doesn't need an all-around solution and wants simply to improve the established program or workflow with a suitable tool? There, much will depend on the collaborative learning needs and strategies. ***In particular, students may work in pairs or small groups under the think-pair-share method; case studies and Jigsaw strategy***



will require splitting into cohorts to solve issues; guided design will need repeated communication between students followed by teacher's feedback. The following sections provide tools to add to the various collaborative learning strategies. Collaboration tools for teachers to improve organization One of the essential principles of online collaborative learning is the organization of student interaction. Thus, an instructor should consider platforms for collaboration that define roles and set the space for ideas exchange (Mouratoglou and Zarifis, 2021). These include:

- #4. Notion: Flexible tool to organize the learning environment. **Notion** is flexible, appealing, and feature-rich software that organizes collaborative learning processes. Its integrations and upload functionality allow you to easily share info, create projects, track progress, and provide feedback. It is an all-in-one solution where you can allocate and track assignments, handle databases, and remind people of tasks.
- #5. Trello: Solid collaborative learning platform with project management features. **Trello** is more of a task management tool rather than a collaborative tool. Yet, due to its project management options, you can define the roles and build the collaboration workflow. Its Kanban approach may be great for setting assignments, dividing into groups, and projects. At the same time, thanks to sharing and commenting options, it is ideal for implementing the Jigsaw approach and case studies.
- #6. Airtable: Spreadsheet good for planning and collaboration. **Airtable** is another platform that is good for planning and organization of workflow. It may look like a simple spreadsheet. Yet, it can offer much more. Airtable takes an advanced database approach focusing on data. Thus, an instructor can define the tasks, their urgency and assign them to students. The tool offers commenting and sharing options that are a must for project-based learning.
- #7. Miro: Powerful software for visual collaboration. **Miro** is one of the most popular online collaborative learning tools. It is an intuitive yet advanced whiteboard option that provides virtual space for multiple tasks: idea creation, before and after session discussion, presentation, project planning, and design thinking. Whiteboard space supports adding files, texts, drawings, and sticky notes and has tons of integrations.
- #8. Mural: Another whiteboard software for visual collaboration. **Mural**, one of the Miro alternatives, offers a fresh approach to visual collaboration due to its simple whiteboard. Compared to Miro, it can be better for smaller projects. It is straightforward and allows drawing, making notes and prototypes, and sharing or organizing ideas. It has live and recorded opportunities and is excellent for various types of learning, like think-pair-share or peer review.
- #9. Padlet: A wall for sharing ideas. **Padlet** is a convenient and visually appealing note-taking space that many may compare with Pinterest. So, with this collaborative learning tool, students can create one or more walls (boards) where they can place different posts. They may be a video, image, document, link, or audio. This software is effective for peer review, reflection, and brainstorming.



- #10. Flip: Video discussion platform to ignite responses. **Flip**, formerly known as Flipgrid, is an exciting collaborative learning platform that enables students to record their video responses. That way, educators can start a discussion, get students' reflections, leave, and ask for feedback. Importantly, it allows getting recorded feedback vital for engagement and community building. Thus, the platform is great for presenting ideas and peer review/teaching.
- #11. Loom: Video feedback and presentation tool for better collaboration. **Loom** is another video recording tool that is extremely handy in providing feedback and presenting ideas. With it, students can record and capture their screens and back the recording with personalized messages. At the same time, people can leave comments and reactions after watching the recorded video. Therefore, this collaborative learning tool is ideal for project presentations, working on case studies, or Jigsaw projects.
- #12. Nearpod: Interactive presentation platform with features for quizzes. **Nearpod** is a collaborative learning tool allowing you to create interactive presentations with live quizzes, assessments, and discussions. Even though the software could be more intuitive, it has multiple functions to increase engagement. For instance, you can add quiz games, like matching pairs, ask students to respond with drawings, and organize a poll or collaborative board discussion.
- #13. Kahoot: Platform for gamified quizzes and discussions. **Kahoot** is learning software that offers exciting features for making quizzes and assessments. Its main goal is to make them more engaged. In this regard, various quizzes and puzzles can be customized with a unique tool. Kahoot also offers features for discussions and video conferencing. Lastly, it has collaboration features for teachers.
- #14. More commonly used in HE. **Zoom**. A well-known screen-sharing tool that has a chat and record meeting feature. The ability to change the background can add some fun. **Microsoft Teams**. The main Zoom alternative. It has similar functions but a more flexible chat. Its free version offers more storage and longer calls. Yet, there are fewer integrations. **Slack**. Out of many messengers, it is the most popular among business actors and ideal for collaboration. Students and instructors can create groups and channels based on the topic or assessment. Besides, you can send direct messages and have voice and video meetings with it. **Hopin**. It is an exciting collaborative learning software, a suite of tools for hosting streams, webinars, events, and video sharing. Thus, it can be great for joint sessions between experts or within a specific community. **Discord**. Even though Discord is for communities, it can be efficient for teams and small groups. Discord provides screen and video sharing capabilities, convenient channels, and threads to handle communication and multiple bots. It may be a great alternative to Slack.

Before you decide which on-line tool to use define your need first and answer with an appropriate tool afterwards. Understanding which software is right for your online collaborative learning strategies takes a lot of work. You should consider multiple factors, including learning needs, the size of the course and program, and its goals. Based on your analysis, you then pick the approach you need for managing the learning workflow: Approach





VIVA

Versatile and Innovative open educational resources for collaborative
Virtual and mobile learning Arrangements in HE

#1. Use a flexible platform with features that will suit comprehensive and complex courses.
Approach #2. Use a suite of online tools based on the collaborative learning need.





3. Framework for integration and implementation

The main aim is to enhance the quality of educational practices whilst creating an inspiring learning environment for learners, giving them an opportunity to determine their own learning activities as far as learner-centered approach is in practice. Much effort has been spent in providing e-learning applications to the learners, tools, and strategies for teachers. However, not much effort has been done in connecting the dots - integrating elements and requirements of the current educational needs, fulfilling the nation's educational policies and aspirations into a mechanism that helps teachers to have a wider perspective in the process of designing the instructions creatively, systematically, practically and professionally. How can you incorporate collaborative learning into your VIVA project? The good news is, we are provided with lots of opportunities. Here are some ideas (see Yee, 2020):

1. Project work

When you're designing project work for your students, it's important for students to take responsibility, and feel like they have ownership over the project. So, once your students are in groups, get them to choose from a range of four or five different problems. For example:

- There isn't enough green space in our neighbourhood
- Students don't have a climate-friendly mode of transport to the university
- The authentic materials students use in class are very mono-cultural

It doesn't matter if more than one group chooses the same problem, as you'll find they'll come up with quite different solutions. Once each group has chosen a problem that interests them, it's time to provide your students with a structured approach to the project with these different stages:

- Planning
- Research
- Writing
- Presenting

Students can negotiate within their groups about who will take the lead at each stage, depending on each student's skillset. Working collaboratively at each stage is an important part of the process, giving students the chance to learn from one another and practise their communication skills.

2. Cooperative games

There are lots of simple cooperative games you can play in class to get your students working together to solve problems and thinking creatively. One fun activity is getting your students to spell out a word using only their bodies.

- First, split your class into three or four groups.
- Give them a list of words, eg TIMID or FERRY. It's a good idea to use words which your students have only recently learned, as this activity will embed the correct spelling for your learners.
- Get each group to work together to create the word with their bodies.
- Ask the other groups to guess each letter and identify the word.





This activity builds rapport and a sense of group achievement. It also provides you with an opportunity to review new vocabulary – provided the words aren't too long of course!

3. Team building activities

Team building activities are an opportunity for students to develop their collaborative learning skills. They also help students build rapport with one another and have fun at the same time! One effective activity is to use your classroom furniture to create an obstacle course for your students to navigate:

- When the class begins, split students into pairs. Try to avoid pairing students who are already friends, as they don't need help building their relationships.
- Hand out blindfolds. One student in each pair can put on a blindfold.
- Their partner must guide them through the obstacle course by giving directions to let them know which way to go.
- Once each pair has had a turn, get the students to help you rearrange the furniture and then the guider can become the guided.

This activity gets students moving and practising their communication skills. It's a strong follow-up class after a lesson focused on body parts or giving directions. It will allow students to use their new vocabulary in context, work on their pronunciation and ask and answer questions.

4. Creative group activities

When it comes to finding ways for your students to learn together, creative group activities are a good way to provide lots of chances for participation. With role-playing activities and improvisation games, students can work on language skills like active listening and presenting. Here's an example:

- Come up with a jumping-off point for students. Give them an age-appropriate scenario, for example, three kids find a purse with 1,000euros inside and no ID, or three old friends meet at a school reunion.
- Split students into groups, and give each group a few moments to come up with some background ideas for their characters.
- Then, get them to take the stage and improvise their way through a scene. To help them with momentum, you can give them specific words they have to mention during their scene.

This type of activity gets students' creative juices flowing. It also helps them to get into a rhythm of working and learning together.

All these activities will provide your students with learning goals to work towards in pairs or groups. Collaborative learning will boost their academic achievement, make them accountable to each other and develop their power skills, as well as helping them to build relationships with other students outside of their usual class friendships.

Besides the above easy-to-implement ideas the need for a more solid integration framework for VIVA may also lead you to consider the Collaborative Instructional Design System (CIDS) (see Voogt et al. 2015). This is an innovative tool in instructional design that will benefit teachers as well as stakeholders for both schools and higher institutions (Ismail and



Balakrishnan, 2016). It was developed as an option for educationalist in fulfilling the current educational needs especially the 21st Century education with its 4Cs learning needs (*critical thinker, communicator, collaborator, creator*), and learning opportunities developing “globally competitive learners”, regardless of their abilities. It is a new dimension at engaging teachers and other professional learning communities to be collaboratively involved in the 21st-century learning, facilitating and preparing learners to the Fourth Industrial Revolution – IR4.0, while facing the challenges of the newly emerging smart Society 5.0 (see Zain, 2017).

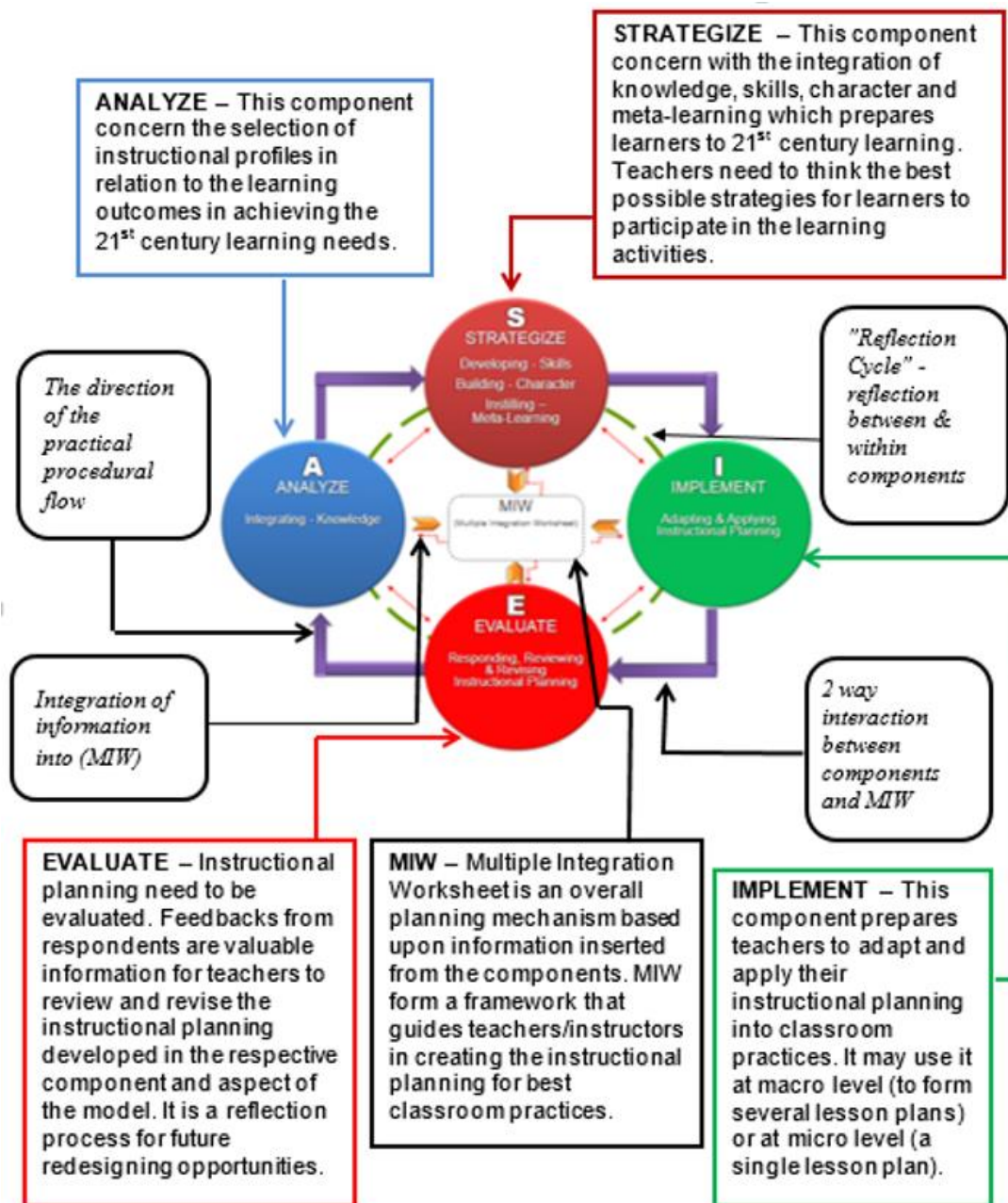


Figure 6. The Collaborative Instructional Design System (CIDS) (Source: Zain, 2017)



This model provides the procedural flow of the instructional planning which is flexible, constructive and user-friendly. It provides an option for practitioners in the educational field as a valuable tool or mechanism in planning the lesson creatively, following the needs of learners based on their characteristics or attributes. Learners are also given an equal opportunity to determine a variety of methods, activities, and recommendations proposed to be experienced in an enjoyable and exciting learning and facilitating environments. This model has a broad perspective towards improving the quality of learning, facilitating and training activities. It provides opportunities for teachers to discuss and share materials, experiences and their creativity with other colleagues throughout the country towards creating a high-tech learning approach fulfilling the requirements of the current and future education landscape. While special advanced features of the Professional Learning Community (PLC) with its wider scope and concepts are integrated into CIDS giving more opportunities for teachers, learners, and communities to be connected and share valuable information on various aspects of education especially related to the employability issues. Individuals are invited or voluntarily participate in the program by registering as a member of PLC (Zain, 2017). They can choose to become members of a particular community group - educators, administrators, teachers, professional, student, and private communities. Users may communicate virtually with PLC members for advice, contributions, and sharing of ideas in meeting the needs of learning skills. The model is **interactive** - a userfriendly interactive features which provide options to interact with the content of the items, **integrative** in planning the content - provide options for teachers to integrate planning items provided or add new items as needed in the planning process, **prescriptive** - provide a fast accessing of preset information that assists users in understanding the features of the model, and **constructive** in the organization of the components - a complete, comprehensive and well organized strategical planning procedures. The model begins with the individual teacher or a group of teachers in the same subject area collaboratively analyzed the suggested aspects in the first component of the model that include the instructional profiles such as subject, theme, learning areas, topic, learning objectives and outcomes or other profiles for the particular subject. In the second component of the model, features of the 21st-century learning skills analyzed, various instructional tools (techniques, methods, and activities) selected, appropriate thinking tools especially dealing with the principle of higher order thinking skills (Ismail & Balakrishnan, 2016), and aspect of moral values identified. This leads to the formation of instructional questions. They are essential questions for the topic which formed instructional strategies in the instructional planning. Teachers will select the strategies prepared in the third component for their best practices in the classroom to ensure its appropriateness and effectiveness for the learners (Zain, 2017).

The final component is the evaluation stage whereby responses from feedback are gathered to review and revise the instructional planning strategies in the respective component and aspect of the model. It is a reflection process for future instructional redesigning opportunities. However, evaluation is not only taking place at the end of the planning but at every component of the model as indicated by dotted lines. The Reflection Cycle is another form of evaluation/reflection for teachers in their instructional planning process as indicated





by the green circle. There are other advanced features that benefit teachers in their instructional planning as well as instructional leaders (principle, headmasters, evaluators) in monitoring, supervising, evaluating and accessing the teachers' professional competencies. There are options allowing teachers to create daily lesson plans (DLPs) according to their respective needs creatively and professionally and creating a Professional Learning Community (PLC) to build character and unleash learners' creativity (Zain, 2017).

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ANNEX

Suggested Report Template

The implementation report refers to your training/learning offers and project.

The **first part** describes the **teaching/learning project** that you delivered, first in a conceptual way (target group, contents, objectives, methods) and secondly as learning pathway of your students and learners.

The **second part** is your experience report (min 1 page) for “technical” **documentation** about:

1. the evolvement of your learning course/modules and the experiences you made with the development (e.g., what was the most successful part of it, what was challenging).
2. You should draw conclusions from your first launch: what will remain in the next round, what do you want to improve.
3. It is also interesting to know what you have learnt (as trainers). What was new for you and what will you use in future?

In the **third part** you should provide your experiences in an easy-to-read **story** about your VIVA project.

1. Your Learning Project / Learning Module description

Please describe the learning project that you developed and delivered during the VIVA project along the following pattern.

- **Summary**
- **Target group**

Please give a short description of your target group: age, what kind of educational background, study subjects,...

- **Themes (content area)**

Please list the themes/content areas that you worked on with your students.

- **Learning objectives**

- **Knowledge:** *Please describe the knowledge that students are supposed to acquire during the project.*
- **Skills:** *Please describe the skills that students are supposed to acquire during the project.*
- **Attitudes:** *Please describe which attitudes students are supposed to develop during the project.*

- **Themes (content area)**

Please list the themes/content areas that you worked on with your learners.

2. Your Experience Report

Please write an experience report from your **trainers’ perspective**¹¹ (min 1 page) about

1. Development process

¹¹ You may add other points that are important for you.





- The development and realisation of your learning course concept (sum up of the most important things here)
- The experiences you made with the development (e.g., what was the most successful part of it, what was challenging)
- 2. Contents:
 - Which contents related to DBCL (according to the VIVA approach) did you tackle?
 - How could you embed it in other programmes?
- 3. Methodology
 - Could you transfer the concept of COL&V as we planned it?
 - Did you apply Design thinking and how did that work out?
- 4. Outcomes
 - Could you see competence developments of your learners?
 - Did your learners develop something like products/prototypes?
- 5. Impact
 - In how far was the concept innovative (in contrast to other learning offers)?
 - Were your learners satisfied? How was the feedback?
- 6. Perspective
 - You should draw conclusions from your first launch: what would remain in a next round in your programme, what would you want to improve.
- 7. Professional Development
 - It is also interesting to know what you yourself has learnt (as trainers). What was new for you and what will you use in future, maybe also in other courses?





3. Narrative Project Report

Please consider the following points as supportive structure and guiding questions. You should tell a story (if you like in the journey metaphor but you can also use any other storyline). Please do not exceed 2 pages and please add photos)

- Starting point / Setting the scene:
 - Small description of your field of work
 - What is the usual practice in your AE institutions/company related to
 - Digital Literacy
 - Teaching/learning approaches
 - What are the challenges in your context in regard to Digital Literacy
 - Why is it necessary to be innovative?
- Start of the journey
 - Why do you consider it important to work in a European team?
 - What did you have in your backpack when you started?
 - How did you get to know your fellow travellers?
 - How did you get on board your home crew?
- Milestones
 - What would you consider important development steps?
- On the way
 - What were the most valuable experiences, the best moments?
 - What was difficult and
- On arrival
 - What will you take home and transfer into your practice?
 - How did your travel mates like it (the colleagues in the European teams, at home, the learners, other stakeholders)
 - Please provide testimonials

