

The Mixed Classroom Educational Model in Blended Learning

How to foster inclusivity in blended education

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Note from the authors

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We are always open for constructive feedback that propels our model. We warmly invite you, as a reader of this document to share your ideas and experiences with us.

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1. Creating enriching and inclusive blended learning

We strive for education that is enriching and inclusive for every student. For education that is accessible and engaging for each student, and which enhances critical thinking. Digital and online tools offer great opportunities to facilitate this.

When offline and digital learning methods are combined in deliberate ways, blended learning offers great opportunities to use the complementary potentials of both offline and digital learning activities. Knowledge of digital forms of learning is important, as they have swiftly become an everyday reality. The Corona-pandemic forced all education to be (temporarily) online, and has propelled the shift to blended forms of education.

The VU Mixed Classroom Educational Model is developed to enrich education for every student. In this educational approach, differences are used to let students grow to become individuals who “are capable of capitalizing on differences between themselves and others, and who are able to take different perspectives into account in understanding and resolving complex problems” (Ramdas, Slotman, Van Oudenhoven-van der Zee 2019: 6). The model offers learning goals, strategies, and activities for each of the three phases that take place in the

classroom: sensitizing, engaging and optimizing. Central to this educational approach is the creation of an inclusive learning climate. This means that pedagogy, curriculum, and assessment are all designed to engage students in learning that is meaningful, relevant, and accessible to every student (ibid.: 16)¹. This is relevant to all educational settings, offline, online, blended or hybrid.

In the first Mixed Classroom brochure (Ramdas, Sloodman, Van Oudenhoven-van der Zee 2019), we described the practical application of the Mixed Classroom model in physical, offline settings. This current brochure focuses on application of the model in blended learning, and in online and hybrid settings.²

[How can teachers use the Mixed Classroom Educational Model in blended learning?](#)
[How can teachers use the Mixed Classroom ideas to make their online and hybrid education more enriching and inclusive?](#)

As an introduction (or a recollection), in chapter 2 we will first give a brief description of the VU Mixed Classroom Educational Model. We then turn to digital learning methods and describe the opportunities and challenges regarding inclusion (chapter 3). In chapter 4, 5 and 6, we present strategies and some example learning activities per phase for blended learning. Chapter 7 concludes with a reflection on lessons learned during the pandemic and some notes on hybrid classrooms.

¹ For more information about the model, and a more elaborate explanation of the phases and strategies see the original Mixed Classroom brochure and the Mixed Classroom website.

² The paper "Mixed Classroom Educational Model in Online Education (Phase 1)" Ramdas (2020) is integrated.

Terminology:

- Blended learning: Learning as a result of a deliberate, integrated combination of online and in-person learning activities.
- Online learning: Learning as a result of online learning activities.³
- Hybrid classrooms: synchronous educational setting, which part of the students attends on-campus, while at the same time part of the students attends online.
- Synchronous: gathering in real time (for example an online lecture or real time discussion). When we use 'class' or 'session', this refers to real-time gatherings (online or in-person).
- Asynchronous activities: activities that are not based on real time access (for example, a discussion forum that students can access at their own time).
- Offline, on-campus activities: activities in settings where participants are present in real person.

³ Inspired by Van Valkenburg et al. 2020.



2. The VU Mixed Classroom Educational Model in brief

Actively combining and integrating perspectives leads to a broader mind. Students learn to acknowledge the added value of differences among students and among academic (content) perspectives, which leads to more creative problem solving (Nakui, Paulus & Van der Zee, 2009); provided that the interaction around these differences is guided well. Furthermore, not only interacting with other perspectives but actively switching between them helps students display more cognitive flexibility when performing tasks that demand higher thinking levels (Hong et al, 2000; Benet-Martinez et al, 2006). As a result, students become more sensitive to the value of diversity.

The VU Mixed Classroom Educational Model is an educational approach that supports the development of these skills and can be applied in all educational contexts. Education that is based on the Mixed Classroom ideas, teaches students how to capitalize on different perspectives to create value, and how to co-create an inclusive environment.⁴ Students, as members of society, learn to shape their own voices while truly listening to other perspectives, and to reflect on their own perspectives and assumptions. This does not entail a compromise between different perspectives or merging them into one uniform perspective.

⁴ This chapter is based on Ramdas, Sloodman, Van Oudenhoven-van der Zee, 2019.

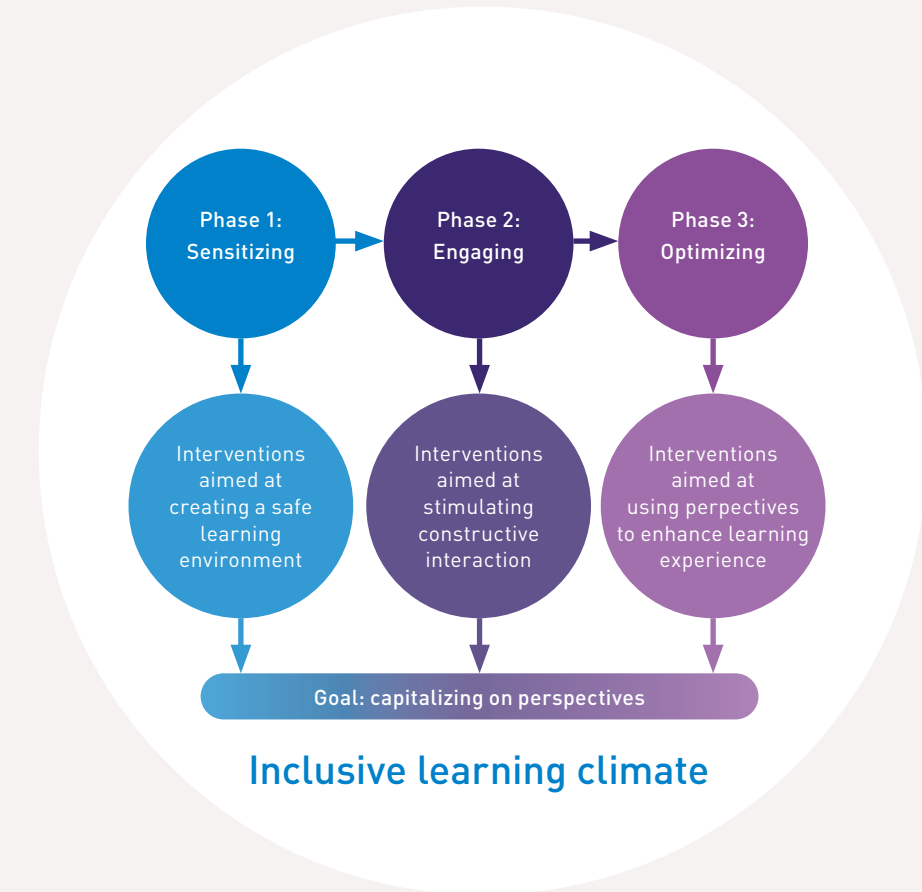
Instead, it uses the differences and possible tension between perspectives to stimulate critical thinking, develop analytical skills, and generate creative solutions.

Crucial to this education is an inclusive atmosphere, in which every student feels enabled, invited, and safe to actively engage. An inclusive learning environment is a prerequisite for belonging for every student. Achieving this is already a valuable accomplishment, as research shows that both a higher sense of belonging and a safe learning environment have a substantial effect on student learning (see a.i. Freeman et al., 2007; Zumbrunn et al., 2014). As we will see in the next chapter, digital methods can enhance accessibility and participation in various ways. At the same time, it can be challenging to establish a learning climate in which participants – students and teacher alike – feel safe to engage with minimal physical face-to-face interactions.

The VU Mixed Classroom Educational Model is built on a three-phase process taking place in the classroom (see Figure 1): **Sensitizing** students to their own frame of reference and the existing diversity in the classroom, and creating a safe learning environment to do so; **Engaging** students to interact constructively with different perspectives present in the classroom; **Optimizing** every students' learning process by capitalizing on different perspectives.

Figure 1. The VU Mixed Classroom Educational Model

(Ramdas ea. 2020: 8)



For each phase, the model offers learning goals, strategies, and examples of practical learning activities that teachers can initiate in a classroom setting. These are described, in the context of blended learning, in Chapters 4 to 6. In practice, a group does not need to proceed through these phases in a strictly linear manner. The phases can overlap and be

cyclical. It is sometimes necessary to go back to interventions used in earlier phases.

Having an inclusive learning climate is a precondition for the process. At the same time, it is strengthened by the interventions in each phase.



3. Digital learning methods in the light of inclusion and engagement

“Blended learning is a mix of face-to-face and ICT-based (often online) learning activities, learning materials and tools. (...) Ideally, the mix of elements reinforce each other: the best of both worlds. The goal is to create a learning experience that uses learning technology to enable effective, efficient and flexible learning.”⁵

(Website: Vrije Universiteit Amsterdam)

Blended learning is about **deliberately** combining and integrating offline and digital learning activities, in which we use the best of both worlds to achieve the learning goals. This requires knowledge of digital learning; not only of how to use digital activities to achieve effective learning, but also to **achieve learning that is enriching and inclusive for all**.

As we explain in this chapter, digital learning involves specific challenges and specific opportunities in relation to the Mixed Classroom, and in relation to learning that is enriching and inclusive for all (Slootman et al. 2022). When teachers are aware of these, they can purposefully apply digital learning methods in their courses, employing the strengths and avoiding the pitfalls of digital approaches. Blended learning provides the ideal context to avoid

pitfalls and make optimal use of the strengths of technology. On the other hand, online and hybrid contexts require more consideration of how to minimize the downsides of a lack of offline, on-campus contact.

3.1 Digital methods: opportunities for inclusive education⁶

The use of digital tools in learning offers multiple opportunities to make courses more enriching, engaging, and accessible for every student.

The use of digital tools and online resources offers endless possibilities for diversification, flexibility and activation. It enables the use of multiple means of engagement, representation, action and expression.⁷ In this way courses can motivate students in various ways, engage with diverse talents, and meet diverse needs without making exemptions for students with special needs or minority backgrounds.

Opportunities:

- Digital tools and platforms create endless additional possibilities for student **activation** and co-creation, through activities that are synchro-

⁵ <https://vu.nl/en/employee/educational-innovation/active-blended-learning>

⁶ This section is based on Slootman et al. 2022.

⁷ See the UDL framework, Universal Design for Learning, <https://www.cast.org/impact/universal-design-for-learning-udl>

nous or asynchronous, individual or group work, anonymous or named. Digital tools can facilitate 'flipping the classroom', in which the knowledge transfer takes place outside the classroom setting – in preparation for the class – and where real-time classes (offline or online) are based on student activation and interaction. This shifts the role teachers play during real-time classes: from real-time knowledge transfer to preparation and activation.

- The use of diverse resources, assignments, discussion platforms, evaluations or feedback, which **use various forms of media** (written text, video, audio, verbal assignments) motivates students in different ways and can meet diverse needs and engage with diverse talents. For example, allowing students to hand in a voice message, upload a PowerPoint, a vlog, or a traditional written assignment. The option to use online tools also provides opportunities to collect student input or feedback anonymously. The use of **subtitles** with digital resources facilitates access to hard of hearing students and to students for whom the lingua franca is not their native language.
- **Flexibility in time and space** enables students who are confined by time & space (disabilities, care responsibilities, financial responsibilities, international students) to participate in the course. **Flexibility in learning trajectory** allows students to have individualized learning trajectories (or tempos).
- Furthermore, digital tools can support the **organization of courses**, for example, through composing groups randomly (or based on specific criteria, such as diversification of interests, knowledge or experience), or through anonymous grading.

3.2 Digital methods: challenges for inclusive education⁸

At the same time, the use of technology also has challenges. Using technology does not automatically make education enriching and inclusive. It is important to recognize and minimize the following risks.

- **Lack of 'social presence' in online teaching reduces engagement.** In online settings, participants miss many social cues that are self-evident in physical settings. This makes it harder to establish social and emotional connections, and present themselves as 'real people', which can make them insecure. This can make the class climate less safe and inclusive for the participants – students and teachers alike – because they can less easily anticipate how others will react to their contribution. When physical interactions are entirely absent, the level of anonymity makes students even feel they are not known by others and are just treated as a number by the teacher. This often makes them refrain from active participation (Korthals Altes, 2021, see also Farrell & Brunton 2020; Moore & Miller 2022). This insecurity is fed by the absence of an established code of conduct for online interactions.

The Mixed Classroom approach, which is based on establishing this social presence, provides guidelines on how to establish a safe climate, create social presence in which diversity is invited and welcomed, create explicit norms for interaction, and monitor the classroom climate. Phase 1 focuses on establishing and nurturing an inclusive learning climate. Phase 2 and 3 offer strategies

⁸ This section is based on Slooman et al. 2022.

⁹ See: <https://coi.athabasca.ca/coi-model/description-social-presence/>

and learning activities that form the basis for meaningful interactions, which enhance social and academic connection.¹⁰

- Please, be aware that **technology can induce specific, technology-based barriers**, particularly for people with less 'digital literacy' or with limited access to good equipment and digital connection. This requires clear instruction, opportunities for testing, availability of technical support.

In the next chapters, we describe learning activities that make use of collaborative online tools that facilitate students' learning process, which can be used in blended, online, and hybrid learning. We provide

¹⁰ See Tinto 1993, who uses 'social integration' (forming meaningful connections with peers and staff) and 'academic integration' (academic performance, self-perceptions, academic progress and a belief that lecturing staff are personally committed to teaching and supporting students).

examples of online tools known to us that fit the learning activities we describe. We advise to check which tools are available to you in your own institution. Using tools that are supported by your educational institution facilitates access to technical support and ensures compliance to the privacy regulations of your institution.

Commonly, blended course designs that are considered "good education" include a lot of interaction amongst students, in the form of collaborative group work. However, this interaction is mostly content related. Students work together on case studies or solve problems together. By adding the Mixed Classroom dimension, we make sure we also keep the focus on the process that students go through while working together. We want students to reflect on questions such as: What am I learning about myself during this assignment? What happens when I disagree with someone? How do we resolve different approaches to a problem?





4. Mixed Classroom in blended learning: Sensitizing (phase 1)

During phase 1, the emphasis is on two main themes: (1) sensitizing students to their own frame of reference and the existing diversity in the group and (2) creating an inclusive learning environment, in which every student feels enabled, invited and safe to engage.

Central questions during this phase are: How do I create a safe learning environment? How can I invite students to share their perspectives? How can I stimulate students to examine their own frame of reference? How do I frame diversity in a positive way? Focusing on the following strategies and the concrete learning activities below will help answer those questions.

Learning goals phase 1:

- Students are able to reflect on their own frame of reference, and are aware of their own perspective as not necessarily a universal perspective;
- Students are aware of the importance of “openness” towards other perspectives;
- All participants in the learning process (teachers as well as students) know what a safe learning environment entails and how they can contribute to it.

We describe the strategies that can be followed in phase 1, with some examples of learning activities.

4.1 Strategy: Establishing ground rules for interaction and discussion

Establishing ground rules for interaction proves to be even more important in a blended environment. Here, classroom participants might have to deal with a certain extent of anonymity or the permanency of written posts in a discussion forum. This can especially be the case when English is not their native language (Alexander, 2002). It can be harder to gauge student reactions without access to their facial expressions and other non-verbal communication during online sessions in the course, particularly when cameras are switched off.

In most blended course designs, the learning process is supported by an online environment. Because students and teachers will have to navigate both the in-person classroom setting, as well as the online environment, it is necessary to collaboratively establish ground rules for how interaction will take place. For online communication, synchronous or asynchronous, the following questions can be relevant: “How will discussions take place?” (Will we react to the teacher and each other via the chat window, or are we allowed to interrupt someone; will discussions have a place in the synchronous online sessions or do students feel more comfortable discussing in a discussion forum?) “How will we communicate in the general chat window?” “How do we feel about private chats

between students during an online class?” “Can we edit and/or delete posts to a discussion or forum?” “How will we address transgressions in online communication outside of the real-time online sessions?” “What do we agree on regarding recordings of the tutorial/webinar?”. Organising answering these questions in a learning activity will help.

Practical examples:

Guidelines collection

As a starting point, teachers can use a tool like Mentimeter, Tricider or a Google Doc to have students come up with their own guidelines for interaction. The following questions can be used to start the conversation: “What do you need from the group to participate in online discussions? If we have to collaborate, how will we do that? How are we going to disagree with each other?”. This exercise can be used

for project groups to establish guidelines for interaction and collaboration, or for big groups to establish guidelines for discussion during online lectures or webinars. Using digital tools can also be helpful in a physical, in-person setting. Since most of these tools provide students with a certain amount of anonymity, they most likely share what they need. Results can be posted online, so that they are available to refer to or check in on for the rest of the course.

Guidelines in breakout groups

Create groups in Canvas, Zoom or Microsoft Teams and have students come up with a set of guidelines they as a group decide on. They can do this inside or outside of the real-time online session and post their collaborative findings to a discussion board. The results can be reflected on during an in-person classroom session. This is especially useful if students are collaborating in groups throughout the course.

4.2 Strategy: Reducing anonymity

An online classroom can feel especially anonymous. In some systems for example, students cannot see the entire class at once. In hybrid sessions, students that join the lecture online miss a lot of the interaction that goes on in the classroom. This can lead to feelings of unsafety, which in turn can lead to less contribution, or worse, hinder the learning process. To reduce anonymity, an icebreaker exercise or an online introduction (inside or outside a real-time session) can be helpful. It is also important that teachers take time for their own personal introduction, in which they share some personal details. This can be done by posting a video or a short bio in the online learning environment.

Some examples:

Pictures

Create a discussion in the online learning environment (for example Canvas or Brightspace) and ask students to pick and post a picture (using the Flickr search option if available, or have students copy and paste them) that best represents them, or illustrates their expectations of the course. This can be done before the course starts.

Objects

During a synchronous online lesson, ask students to pick an object in their vicinity that is special to them, and ask them to hold it to the camera and share why they chose it. During a hybrid session, ask students to pick something from their bag that holds some significance for them. This can be as simple as a receipt for a gift they bought, a special keychain, or their headphones. A variation on this exercise is to ask them what they wished was on their desk or in their bag right now. For larger groups, the exchange can be done groups of two or three.

Name Generator

In online and offline settings, for larger groups, an online tool can be used to randomly pick names to select someone to answer a question. These questions can be posed by the teacher as well as by other students. All students can get called on to answer, or to expand on a given answer, which means they have to stay alert and listen to each other’s explanations. The focus is taken away from providing a single right answer. Instead, this gives students the opportunity to build on each other’s answers.

4.3 Strategy: Monitoring learning climate

In order to keep track of whether the learning climate is still perceived as safe and inclusive by all students, it is useful to set up processes for students to give feedback on how they are experiencing their learning environment, both offline and online, throughout the course in an early stage. Teaching a blended course gives us access to a lot of tools to monitor the learning climate, that can collect students’ experiences in the online classroom, most of them anonymously.

Some examples:

Quiz

Set up a short quiz and ask students to fill out the questions every other session. You can create a Likert scale quiz in the online learning environment (e.g., Canvas, Brightspace, Blackboard, etc.) and if possible, select the option for students to remain anonymous. Questions you can add are: “Did you feel included in today’s lecture/tutorial?”, “How did you contribute to a safe learning climate?” or “What worries you?”



Contract Check

As explained above, it is constructive to have the group regularly reflect on the established guidelines. For example, by voting on the guideline they feel still needs extra attention. Or by putting the guidelines in order of successful implementation by the group (using ranking questions in Mentimeter works well).

4.4 Strategy: Exploring values and assumptions

Valuing diverging perspectives starts with the acknowledgement that multiple views exist and are present in the online classroom. In order to explore the existing values and assumptions, it can be helpful to have students reflect on their previous educational setting, their personal talents, or their backgrounds. Most of the learning activities in the original VU Mixed Classroom Educational model can be executed online, provided that subgroups (Canvas or other online learning environment) or breakout groups (Zoom, MS Teams, etc.) are made within larger online groups.

Practical examples:

Memes

Students find a meme (or picture, or proverb) that for them sums up their background and upbringing, and post it to a discussion thread. To create a safer learning space, especially for a group that has not met offline before, the instructor can create Canvas subgroups for students to share their images in and discuss them. This exercise can also work during an in-person lecture or tutorial, by asking students to find a meme on their phones or laptops.

“What shaped you?”

Students share what shaped them as a person, or changed their perspective. Depending on course con-

tent, students can be asked to share a book, movie, political event or conversation that had an impact on their lives (An example could be: “I became vegan after watching the documentary Cowspiracy”). Students can share these in the online environment or in class. It is important to emphasize that students are asked to share only what they are comfortable with. In an online setting, the options for sharing are numerous: students can share a sound clip, a song, an image, etc.

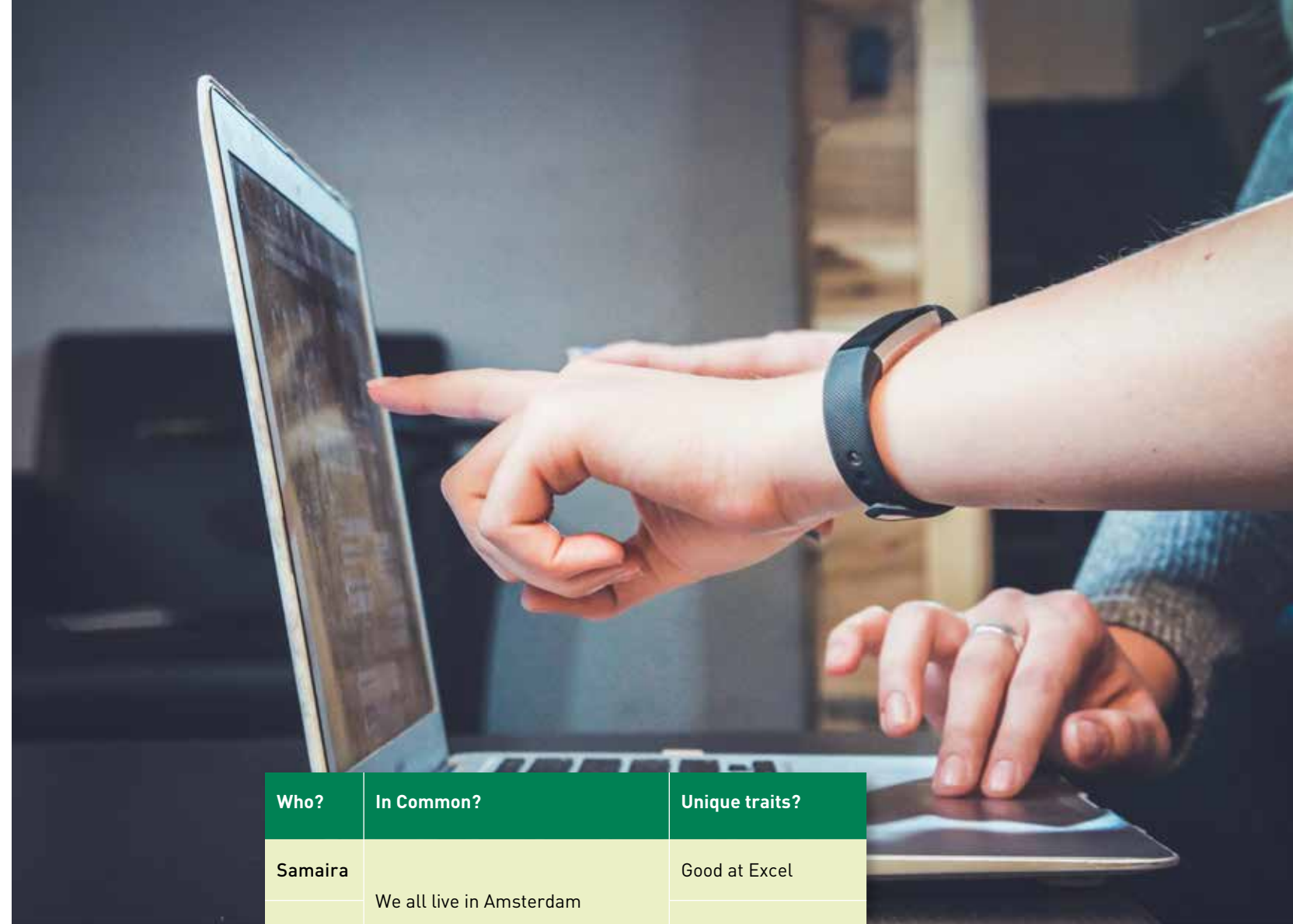
4.5 Strategy: Inviting induction of identities

Research shows us that students are more inclined to share their unique views in the group when they experience both belonging and a sense of allowed uniqueness (Jans, Postmes and Van der Zee, 2012). A learning group benefits from creating a shared identity. However, stimulating expressions of individuality can be challenging in an online setting because of the absence of many personal cues. Using subgroups in Canvas or breakout groups in Zoom allows us to use learning activities described in the original VU Mixed Classroom Educational Model.

Practical examples:

Grid

This is a variation on an existing exercise: Divide students into groups, and ask them to create a collaborative document (i.e., Google Docs) to create a grid or table. Students then fill the grid/table with things they have in common as a group, and skills that the individual members bring to the group that are unique to them. This document can serve as a basis for agreements on working together as a group (see table on the right).



Who?	In Common?	Unique traits?
Samaira	We all live in Amsterdam	Good at Excel
Lotte		Out of box thinking
Wesley	We're all struggling with the course workload	Motivating group
Abdel	We're all aiming for a good grade for this assignment	Time management
Chun	Our favourite meal is breakfast	Creative/writing



5. Mixed Classroom in blended learning: Engaging (phase 2)

One of the main goals in phase 2 is that students learn how to interact with perspectives other than their own. While phase 1 is geared towards exploring one's own view and perspective, the focus of phase 2 is how to interact with others constructively. This means keeping an open mind for other points of view, approaches to work, and experiences. When students feel safe enough to share their own points of view, it is possible to have them engage and interact with other unique perspectives.

This phase can be challenging for both students and teachers, since the unease and tension that can arise may feel like the safe learning climate is jeopardized. Interventions in this phase are therefore ideally geared to students practicing interacting with different perspectives in a constructive way, for example by using learning activities in which students work with perspectives that are not necessarily their own, which leads to less emotionally charged discussions. Developing a sensitivity for when moments of tension can occur, and reacting aptly, is also an important teaching-skill during this phase.

Learning goals phase 2

- Students recognize and are willing to explore perspectives and approaches that differ from their own;
- Students know how to recognize other perspectives than their own and are able to interact with these perspectives in a constructive way;
- Students know how to recognize unease and tension that these interactions can bring, and have practiced resolving them.

Several strategies can be followed in Phase 2. For every strategy we give examples of (digital) learning activities.

5.1 Strategy: Structuring interaction with other perspectives

Technology can be strategically used to create purposeful interactions with diverse perspectives. Peer interaction can be a great way to have students engage with various viewpoints, to bridge gaps and facilitate critical understanding. This can be done by providing the students with material before class,

with digital tools that allow them to show how they are interacting with the content (such as Perusall, FeedbackFruits or Google Docs). This also provides students with a sense of autonomy and competence. If the peer interaction takes place online, we advise to first develop guidelines for interaction.

Practical examples:

Case Study Discussion

Students are presented with different cases or examples on a platform like Padlet or the Canvas discussion board. They explore these cases paying attention to pros, cons, and other insights. In class, they are divided into small groups, in which they role play a particular position taking different viewpoints. Before the discussion begins, the teacher reminds the students the guidelines for interaction, or their collective needs to make this process fruitful. After the session is complete, students get the chance to write and reflect about the process on the Padlet, Miro or other discussion/collaboration board. From this learning activity, students can easily progress into a phase 3 activity, see “*Jigsaw*” or “*Solving the Problem*” below.

Question Jar

While students take in content for the course – for example when reading a text, watching a video, or listening to a podcast – they use an online discussion board to post at least one or more questions that has come up for them during their interaction with the content. The teacher condenses these questions, and in class, students work together in groups to answer these. Each group then presents their solutions to the class, with interaction moderated by the teacher. A variation could be that the groups work on their question asynchronously, and they post their solution on an online board or in the online learning environment (e.g., Canvas, Brightspace, Itslearning, Blackboard). This exercise offers benefits of the flipped classroom methodology, in which learning in

the classroom is based on students’ interaction with peers and the teacher.

5.2 Strategy: Creating ‘in-between spaces for interaction’

Online environments can provide an ‘in-between space’: a space outside of the real-time classroom sessions in which they interact and develop a sense of belonging and community. The use of forums and discussion boards, and working together on a shared document, creates networks of understanding. As students develop their communication skills across medias, it is vital for them to have a common understanding of what makes such interactions meaningful, and to have autonomy over these processes.

Practical examples:

Content Club

In this activity, students actively engage with content while preparing material for a class, using collaborative tools such as Perusall, FeedbackFruits, or discussion boards in which they answer or pose questions. During the class, students look at the common questions or comments that arose while interacting with the content. Questions that cannot be answered during the class session can be addressed through the discussion board or through the ‘Collab Hangout’ as discussed below.

Collab Hangout

Online collaborative tools like Slack, Trello, or Asana provide teachers with the ability to interact with students between sessions. For example, in such a Collab Hangout, questions can be addressed that go unanswered during the class. Note that it is impor-

tant to provide students with communication guidance so that they know what to expect when working with such applications. Similar to walk-in hours at the workplace, teachers can specify when they will be available on these applications to address queries, to manage students’ expectations.

5.3 Strategy: Dispelling the illusion of explanatory depth

We tend to overestimate our understanding of complicated concepts (Kahneman, 2012). Our assumptions or judgements about the world around us are therefore less well-informed than we think. Once we are confronted with the task to explain ‘self-evident’ concepts, or when we receive in-depth information, we realise the deficiencies in our knowledge (Rozenblit and Keil, 2002). This is also the case when students encounter perspectives that diverge from their own, which we can use in the classroom to stimulate students to come to new insights. This requires explicit reflection on the offered knowledge in relation to their own perspectives and on their own development.

However, our experience with critical classroom discussions shows us that can be challenging to take enough time during these encounters. Often, in the midst of an in-depth discussion, teachers struggle to find a balance between fuelling student curiosity, the ticking clock, and course material that needs to be covered. Blended environments offer an effective solution for this issue: critical evaluations do not need to be cut off, but can be continued through discussion boards and collaboration tools.

Practical examples:

Before and After

In ‘Before and After’, students reflect on their own

learning. Before a lecture or tutorial, or ideally even before students start their preparations, they respond to statements related to the topic, posted in the online learning environment. After the lecture or tutorial, students return to their original responses and reflect about any surprises or insights. Did they change their minds? Why? They can also explore what they are curious to know more about, or what they still struggle with. This would also help monitor the learning climate of the class.

Predict, Observe, Explain

‘Predict, Observe, Explain’ is especially useful in settings where students perform tests or experiments. Reading the assignments or instructions, students are asked to predict what they think will happen. Before class, they share their predictions on an online discussion board, where they can react on each other’s predictions. They then observe the actual experiment in an in-person session and explain the difference (if any) with the prediction: doing this in small collaborative groups has proven to increase students’ understanding and dispelling the illusion of explanatory depth (Cinici, Sözbilir and Demir, 2011).

5.4 Strategy: Employing integrative conflict management

Working on group assignments with students that come from other disciplines or with different outlooks on life can lead to feelings of unease and tension within the group, and sometimes even to conflict. The integrative approach within conflict management entails an active search for information about facts and interests during a conflict (Rognes and Schei, 2010). Taking a step back to reflect on the situation can help deescalate it, using questions such as: Why are we in

disagreement? What do we want out of this situation? Which assumptions are the stances based on? What would benefit all of us? What more information do we need to decide this? This approach is especially useful when structured into a learning activity aimed at preventing conflict, for example a brainstorm before the actual assignment.

Practical examples:

Affective Response Email

In this individual activity, students write an email articulating their affective response: how something made them feel (Paulson and Faust, 2019). This email can be directed to an author they are reading about, a theory or an idea. This can be a response on many levels; focused on content (“I feel angry reading Hegel because I think his thoughts are racist”), on metacognitive skills (“I feel worried because I don’t understand Hegel’s theory”) or collaborative processes (“I feel frustrated that I have to do this assignment on Hegel with someone whose approach is very different”).

Students do not need to share this email with a peer, but having a moment to focus on their affective response gives them the opportunity to examine what underlies their perspective. This can prevent and deescalate possible tensions caused by the content or collaboration with others. Sharing this email with the teacher can help the teacher gain insight in what is happening in class, but the email can also be shared within the student group or not at all.

Smaller Rooms

Unpacking difficult topics can benefit from working in smaller groups. The videoconference platforms used for online or hybrid classrooms often have the option to create breakout groups in which participants can temporarily work in smaller groups. These smaller breakout rooms or groups provide participants with the possibility to delve deeper into a topic. Further-



more, it reduces anonymity and gives space to the quieter voices in a larger group.

5.5 Strategy: Reinforcing guidelines for interaction & monitor learning climate

Strategies from Phase 1 may need reinforcement across medias. The interaction guidelines set in the start for online, hybrid sessions and in-person sessions, may need rearticulation to steer interactions in a more inclusive way. Checking in with students frequently can help the teacher bridge gaps in comprehension whilst maintaining an inclusive learning climate.

Practical examples:

Online quiz

An online quiz on Kahoot! or Quizlet provides teachers with information on which questions students are struggling with. These quizzes can be organized to be taken by the student at their own pace and time, which takes away the anxiety of a test, but at the same time offers formative assessment advantages such as knowledge of the students’ level of understanding.

Adding a few explicit questions about how students are experiencing the learning climate so far can give valuable insight. Some example questions: Did you feel free and safe to ask questions or express your opinion in the classroom? Did you feel like there was room for the expression of various perspectives or approaches of students?¹¹

¹¹ Source of these questions (in slightly adapted form): “Mixed Classroom in course- and curriculum questionnaires”, 2019

Quick Check

A Quick Check only takes a few minutes in a synchronous session and is especially useful in groups with low interaction. Students can convey their level of understanding by showing their fingers: 5 would imply excellent understanding, and 1 would suggest low or next to none. For students who have their cameras turned off this activity can be conducted through the use of emoticons. Mentimeter allows for anonymity in such checks and can also be used with larger groups. This quick survey activates the students and helps the teacher observe if the method of teaching has achieved the learning goals. It is useful to do this activity mid-session as it provides space and time for the teacher to teach the rest of the session or seek adjustments.



6. Mixed Classroom in blended learning: Optimizing (Phase 3)

During the previous phases, the stage has been set, and measures have been taken to create and reinforce a safe and inclusive learning climate. Students have reflected on their own frame of reference (phase 1) and have practiced interacting with perspectives different from their own (phase 2).

In phase 3, the focus is on optimizing every student's learning process by capitalizing on different perspectives. Students actively share their perspectives, and diverging perspectives are invited, encouraged and offered. Students engage with them in enriching ways. By focusing on different academic (content) perspectives instead of solely personal perspectives, in this phase students learn to see the relevance of diversity for their academic skills, further strengthening their academic integration.

Interventions during this stage are now explicitly focused on reaching learning goals for learning *in* diversity, as well as learning *from* diversity (Radstake, 2017). Although these learning goals can be assessed during all three phases, formatively as well as summatively, in phase 3 summative assessment is an expected part of the programme. This does not mean that by reaching this phase, the strategies used for phases 1 and 2 cease to be of importance. Some strategies, especially those that stimulate a safe and inclusive learning environment, require a permanent focus.

Learning goals phase 3:

- Students actively seek and consider perspectives and approaches different to their own;
- Students are able to switch between these perspectives and approaches;
- Students are able to integrate and combine perspectives when analyzing problems or cases;
- Students can demonstrate combining different perspectives to formulate creative solutions, both individually and in a group setting.

Four strategies can be followed in Phase 3. Also here, we give some examples of (digital) learning activities.

6.1 Strategy: Combining perspectives in a structured way

This strategy builds upon “structuring interaction with other perspectives” in phase 2. To teach students to not only interact with other perspectives, but to also combine and integrate them and develop new insights and solutions, students must practice doing so. By implementing learning activities that explicitly ask students to do this (instead of depending on it to happen incidentally), we stimulate their learning in this area.

Practical examples:

Jig Saw or Expert exercise

In this exercise, student groups are formed, which each get a different 'piece of the puzzle': each part of information is necessary to solve a problem or tackle a case. In blended settings, this can be organized in the online learning environment, by creating groups and allotting them their part of the necessary information. Each group looks at their piece of information in depth. An option is to use collaborative tools such as Perusall or Google Docs online for this. In the in-person classroom situation, new groups are made, consisting of students that each are now 'experts' on a different piece of the puzzle. Students then try to combine all information available to them to tackle a case, or answer a question (Doymus, 2010). This exercise works well when using the "flipping the classroom" method, where students acquire their factual knowledge online, outside of the classroom, and apply it to solve problems in a classroom setting under the guidance of the teacher.

Time Blocks

This exercise breaks up the process of problem solving in various stages, with various levels of interaction. Before the lecture, students are asked to post a complicated question about the material for the entire group, in a collaborative tool like Padlet, Miro or Google slides. During the real-time class, online or offline, they make groups of three or four, and pick one question on the "board" (it cannot be a question of one of the group members). They first take some time to try to solve the question individually. This step is necessary to ensure all approaches in the group come to the surface. After a while, a buzzer goes, and they work collaboratively to come up with answers to the question, taking notes during the process – which steps are taken, what main themes are discussed, etc. After the question has been answered, it is shared with the entire group,

including the notes about how the answer was constructed by the group.

6.2 Strategy: Switching between perspectives to stimulate cognitive flexibility

Research shows that students with bicultural backgrounds display more cognitive flexibility. Their constant switching between frames of reference makes them more adept to adjust quickly and to consider things from fresh and different perspectives. These are vital skills for adaptation and creativity. A condition for this augmentation of cognitive flexibility, however, is that students value both frames of reference equally (Benet-Martínez et al., 2006; Spiegler and Leyendecker, 2017).

Learning activities in which students switch between perspectives and (to a certain extent) integrate multiple perspectives stimulate this cognitive flexibility amongst all students. A blended environment allows for even more opportunities to practice this skill. In a blended setting, students are usually switching between an online context and offline context. As is explained in the strategy "Reflecting on learning process" below, having students reflect on this process can benefit their learning.

Practical examples:

Solving the Problem

This variation on the "Jig Saw" exercise above asks students to take on different roles or perspectives, for example to examine a legal case from different angles. In Solving the Problem, student groups can work together online to explore their role or perspective, and present their findings during a tutorial or lecture.

These presentations can of course also take a more creative form, such as a video or an infographic. This way, all students gain insight into the bigger picture and the different interests involved. When students are then asked to take on another perspective (during a debate, discussion or while looking at a case), this will stimulate their ability to switch between different frames of reference.

Big Paper

Big Paper is a silent exercise; no talking is allowed. Students get a flip-over sheet per duo and the problem/question/case they need to work on. In an online environment, they can work in Padlet, Mural, Miro, or a Zoom/Microsoft Teams whiteboard in a breakout room. They read the assignment, text, or problem in silence, and proceed interacting with the material by writing down questions, remarks or steps to solve the problem on the (virtual) big paper. They can react to each other, ask each other questions, draw diagrams etc, but it all needs to be done on paper and in silence. Cameras can be turned off. Working in silence like this slows down the direct communication process, which stimulates students to actively switch to their partner's frame of reference and perspective. After a while, students can be asked to share their "big paper" with another duo. They can then add another round of remarks, questions and answers (Facing History and Ourselves, 2019).

6.3 Strategy: Reflecting on learning process

Actively reflecting on the learning process concerning Mixed Classroom learning goals will help student-learning in this area. The benefit is two-fold. Deep levels of reflection are related to deeper student learning (Nelson Laird et al, 2014). Furthermore, to prepare students to operate and conduct themselves

in situations where a clear-cut answer or solution is not possible, they must practice reflective skills (Veine et al, 2020). An example could be to ask students, after a discussion where different viewpoints or approaches were brought forward, to write down which different perspectives they heard, what it is they can learn from them, and how they can integrate them into their own perspective or approach. An activity like "One-minute Paper" as described below can be useful.

Practical examples:

One-minute Paper

The One-Minute Paper is an exercise that can be used to ask students to reflect on their learning. After a lecture, group exercise or discussion (or after an interactive learning activity from phase 2), students get one minute to write down which insights they take away. By having students actively think about the learning that took place during the interaction with other perspectives, they will be stimulated to reflect on them in relation to their own (Paulson and Faust, 2019). This exercise can be done online, or in-person, synchronous or asynchronous. Since this is an individual exercise, sharing insights afterwards is not necessary, but can be added to the activity.

Focus on Process

Students often focus on the disadvantages of group assignments. It is true that it can be challenging to organise the logistics and communication online and offline, deal with group dynamics and keep track of an equal workload amongst group members. Having them reflect on the added value of working together helps them focus on what can be learned from the process. In Focus on Process, they can answer questions like "What have you learned from your team members?" "What bothered you most about someone's approach? What happens if you frame that in a positive way?" "When did someone change your

mind?” These types of questions can be posed in an online quiz in the online learning environment, or a voting tool like Mentimeter (open-ended questions). You can also add them to a tool like Buddycheck.

6.4 Strategy: Rewarding students for building on perspectives

In an educational design that stimulates learning, it is important that learning goals, learning activities and assessment are aligned (Biggs & Tang 2014). Therefore, in every phase, it is important to check if students have reached the learning goals. In phase 1, assessment will most likely be primarily formative and consist of feedback. Summative (graded) assessment of the students’ ability to reflect on their assumptions in this stage can have a negative effect on feelings of safety. In phase 2, assessment can have a more formal form (still not necessarily summative), for example by including an evaluation of the group process in the assessment of assignments. Phase 3, most likely contains (also) summative assessment. It is recommended that Mixed Classroom learning goals as stated in the beginning of this chapter are explicitly integrated in the learning goals of the course or programme. That way, students are expected to demonstrate their ability to combine and integrate perspectives.

Practical examples:

Adding a perspective

For assessments such as open-ended question exams or essays, it can help to ask students to integrate at least two perspectives/schools of thought/opposing views in their answer. It will formalize learning in this area when assessment forms (or rubrics) contain a category about students’ ability to combine perspectives. For exams, a sub question can be added to have students explain how a problem/case could be solved with two or more perspectives or approaches.

Structured Peer Feedback

Structured peer feedback can be a powerful tool to add to the assessment of a course. Asking students to reflect or give input on each other’s work can help students build on different perspectives. A condition for this method to work well is providing students with a feedback structure: a set of questions to answer (i.e., “How does the chosen approach differ from your own?”) or by integrating it into a learning activity. An example could be: students sending their first draft of an essay or a math problem to a fellow student, using a collaborative online tool such as Perusall or Google Docs. Their feedback partner either adds to it, or answers questions about it (“What steps are missing?” “How would you disagree with this argumentation?”). Students then not blindly ‘accept changes’ but integrate what they consider useful to improve their work. To strengthen learning during this process, students can be asked to add a few lines about what they changed to their work after the peer feedback and why.

7. Lessons learned and some notes on Hybrid Classrooms

7.1 Lessons learned about online teaching during COVID¹²

Research shows that the online teaching during the corona period – in which the COVID-pandemic forced all in-person education to instantaneously move to an online setting – had severe impact on the engagement of students (Korthals Altes, 2021). Although the move to the online setting did not necessarily reduce study success (instead, many students found their online education more efficient), the online education in this emergency situation did negatively impact student motivation, emotional engagement and active participation. Students felt that the teacher saw them as ‘an anonymous crowd’ and they did not know their peer students. They felt unseen, felt unacknowledged as people, and could not anticipate how others would react to their input. Although they felt anonymous, at the same time they felt extremely visible when speaking during an online class when they had their cameras on and with their names printed onscreen. This made them feel insecure and reluctant to actively participate during class.

These experiences show the importance of having a course deliberately designed for a specific context. The Mixed Classroom exercises described in this brochure can form practical sources of inspiration to es-

establish social presence, an inclusive learning climate, and a learning community: also in programmes that have an online component. These activities include: organizing introduction activities; create/articulate codes of conduct and evaluate class climate. Additional suggestions are: become a person (share personal experiences); contact the students before the start of the class; use students’ names; (even more) explicitly articulate that students can turn to you for help; organize offstage time (separate from classes, or before/after class).

7.2 Hybrid classrooms¹³

Hybrid classrooms offer great opportunities for less mobile or distant students to attend classes. However, the risk in hybrid settings is that online-attending students have a second-class status compared to students who are physically present. Due to a lacking technical setup, limited opportunity for teachers to spread their attention, or teachers and students favouring the physically present students, online students can feel like distant observers instead of real participants. If hybrid education is offered, online and offline students should have the same status. The course should be directed to both.

¹² This section is based on Slootman et al. 2022.

¹³ This section is based on Slootman et al. 2022.

To engage online-students on an equal level, we recommend the following:

- It is important to set-up equipment in such a way that the online students can see and hear speakers well, and that teachers can see the online participating students and their contributions. Sometimes it can be useful to ask all students (also those in class) to log into the video call, even for a short while. This is especially useful to “Reduce anonymity” (Phase 1: Sensitizing), even more so when combined with an introductory exercise.
- In hybrid settings, phase 1 (Sensitizing) activities are especially important. It helps to design activities for this phase that invite online and in-class students to interact. An example to create guidelines for communication: two online students can be added to two or three in-class students. The in-class students can also join the breakout room in Zoom or Teams via a laptop. The group then discusses what they all need to feel included, from the teacher and from each other, online or offline. They can report the result of their conversation via the chat window.
- Keep addressing and involving the online students, inviting them to participate and engage with their contributions. It might be easier to spread attention when the teacher can involve a colleague or teaching assistant. Another option is to involve students in-class to engage with students online via chat.
- By using the phase 1 (Sensitizing) and phase 2 (Engaging) strategies “monitoring learning climate” and “reinforcing guidelines for communication”, teachers can check in with online students if they still feel engaged and included. An example is the aforementioned “Quick Check” exercise, where students in class indicate how engaged they feel by a show of their fingers, 5 would imply very engaged, and 1 would suggest low or next to no engagement. Students online use can use the same method or an emoji. A voting tool can be used for anonymity.
- Organize learning activities in such a way that they engage both online and offline students. For example, students both in class and at home can work on an assignment at the same time online using Google Docs or another collaborative tool. They can communicate via an (often integrated) chat tool. Having both these groups present in a course also offers a lot of opportunity to have students practice switching between perspectives (phase 3: Optimizing). An example is pairing an online and an in-class student for the “Big Paper” exercise described on page 29.

References

- Alexander, S. (2002). Designing Learning Activities for an International Online Student Body: What Have We Learned? *Journal of Studies in International Education*, 6(2), 188–200. <https://doi.org/10.1177/1028315302006002007>
- Benet-Martínez, V., Lee, F., & Leu, J. (2006). Biculturalism and Cognitive Complexity: Expertise in Cultural Representations. *Journal of Cross-Cultural Psychology*, 37(4), 386–407. <https://doi.org/10.1177/0022022106288476>.
- Biggs, J., Tang, C. (2015). Constructive Alignment: An Outcomes-Based Approach to Teaching Anatomy. In: Chan, L., Pawlina, W. (eds) *Teaching Anatomy*. Springer, Cham. https://doi.org/10.1007/978-3-319-08930-0_4
- Cinici, A., Sozibilir, M., & Demir, Y. (2011). Effect of cooperative and individual learning activities on students’ understanding of diffusion and osmosis. *Egitim Arastirmalari-Eurasion Journal of Educational Research*, 43, 19-36.
- Doymus, K. (2008). Teaching chemical equilibrium with the jigsaw technique. *Research in Science Education*, 38(2), 249-260. Doi: 10.1007/s11165-007-9047-8.
- Alexander, S. (2002). Designing Learning Activities for an International Online Student Body: What Have We Learned? *Journal of Studies in International Education*, 6(2), 188–200. <https://www.facinghistory.org/resource-library/teaching-strategies/big-paper-silent-conversation>
- Farrell, O., & Brunton, J. (2020). A balancing act: a window into online student engagement experiences. *International Journal of Educational Technology in Higher Education*, 17(1), 1-19.
- Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshmen at the classroom and campus levels. *The Journal of Experimental Education*, 75(3), 203-220.
- Hong, Y., Morris, M., Chiu, C., & Benet-Martínez, V. (2000). Multicultural minds. A dynamic constructivist approach to culture and cognition. *The American Psychologist*, 55(7), 709-720.
- Jans, L., Postmes, T., & Van der Zee, K. (2012). Sharing differences: The inductive route to social identity formation. *Journal of Experimental Social Psychology*, 48(5), 1145-1149.
- Kahneman, D. (2012). *Ons feilbare denken: thinking, fast and slow*. Business Contact.
- Korthals Altes, T. (2021). Sense of belonging and student engagement in online classrooms. [Unpublished Master’s Thesis]. Vrije Universiteit Amsterdam.
- Moore, R. L., & Miller, C.N. (2022). Fostering presence in online courses: A systematic review (2008-2020). *Online Learning*, 26(1), pp. 130-149. DOI: 10.24059/olj.v26i1.3071
- Laird, T. F. N., Seifert, T. A., Pascarella, E. T., Mayhew, M. J., & Blaich, C. F. (2014). Deeply affecting first-year students’ thinking: deep approaches to learning and three dimensions of cognitive development. *The Journal of Higher Education*, 85(3), 402–432. Nakui, Paulus & Van der Zee, 2009
- Paulson, D.R., Faust, J.L. (n.d.). Active Learning for the College Classroom, Cal State LA, Department of Chemistry and Biochemistry, retrieved December 8, 2019, from: <http://www.calstatela.edu/dept/chem/chem2/Active/main.htm>
- Radstake, H. (2017). E-learning handbook Diversity sensitive instructional design. Universitair Centrum voor Gedrag en Beweging, VU. Available from: http://www.handbookdiversity.nl/story_html5.html

Ramdass, S. (2020) Mixed Classroom Educational Model in Online Education (Phase 1), https://assets.vu.nl/d8b6f1f5-816c-005b-1dc1-e363dd7ce9a5/53a735e9-d4f8-4ab0-a0e7-8aeae9a13bb7/20200405_Online_edition_VU_MCEM_tcm270-939710.pdf

Ramdass, S., Slootman, M., & van Oudenhoven-van der Zee, K. (2019). The VU Mixed Classroom Educational Model. Vrije Universiteit Amsterdam. https://research.vu.nl/ws/portalfiles/portal/95377215/Ramdass_Slootman_Oudenhoven_vd_Zee_2019_Mixed_Classroom.pdf

Rognes, J. & Schei, V. (2010) Understanding the integrative approach to conflict management. *Journal of Managerial Psychology*, 25(1), 82-97.

Slootman et al. (2022) An introduction to e-Inclusion. Building Capacity for Inclusive Education in Digital Environments. Amsterdam: Erasmus +.

Spiegler, O., & Leyendecker, B. (2017). Balanced cultural identities promote cognitive flexibility among immigrant children. *Frontiers in Psychology*, 8. doi:10.3389/fpsyg.2017.01579

Rozenblit, L., & Keil, F. (2002). The misunderstood limits of folk science: An illusion of explanatory depth. *Cognitive Science*, 26(5), 521-562. doi:10.1207/s15516709cog2605_1

Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Second Edition. University of Chicago Press.

Van Valkenburg et al 2020, European Maturity Model for Blended Education. Report. Accessed May 24, 2022, from <https://embed.eadtu.eu/>

Veine, S., Kalvig Anderson, M., Haugland Andersen, N., Christian Espenes, T., Bredesen Søyland, T., Wallin, P., Reams, J. (2020) Reflection as a core student learning activity in higher education - Insights from nearly two decades of academic development, *International Journal for Academic Development*, 25:2, 147-161, DOI: 10.1080/1360144X.2019.1659797

Zumbrunn, S., McKim, C., Buhs, E., & Hawley, L. R. (2014). Support, belonging, motivation, and engagement in the college classroom: A mixed method study. *Instructional Science*, 42, 661-684. doi:10.1007/s11251-014-9310-0

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