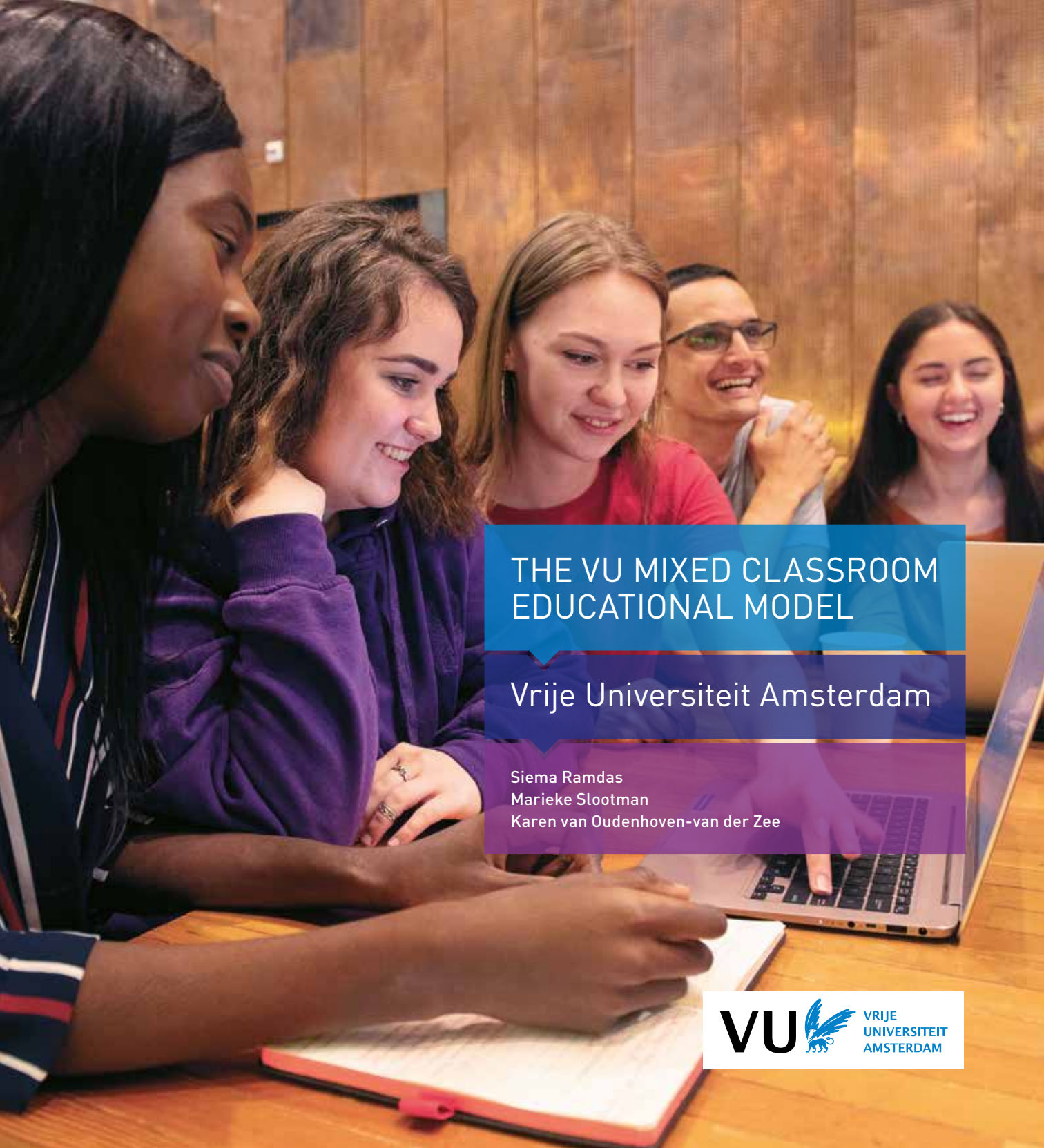

THE VU MIXED CLASSROOM EDUCATIONAL MODEL

Vrije Universiteit Amsterdam

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NOTE FROM THE AUTHORS

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We hope that in the near future, when the model will be further developed and tested, we will collect more input. We warmly invite you, as a reader of this document to give us yours.

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CONTENT

1. INTRODUCTION

The Vrije Universiteit aims to provide an open environment to students with backgrounds that vary on many different dimensions, such as religion, gender, sexual orientation, ethnicity, nationality, and socioeconomic status. Often, both in literature and in practice, the ' diverse classroom' and the 'International Classroom' are considered two different concepts, each with their own challenges and opportunities. In the context of the VU, we bring these concepts together. We believe that learning outcomes can benefit from building upon the diversity that is present in the classroom, on whatever dimension. These dimensions of diversity may overlap and interplay. We have classrooms where students differ in nationality and religion, but are socialized in similar academic cultures and speak the same language. We also have classrooms with students with a shared nationality who strongly differ in their political views, or were educated in different educational settings and therefore have different views on 'good education', and 'academic attitudes'.

The VU Mixed Classroom Educational Model is an educational approach that builds upon differences to enrich the learning experience for all students present. The term Mixed Classroom hence is not used in a descriptive way (in reference to a classroom with a certain level of 'diversity'), but is the name of our educational model, in which students learn how to open up to differences, to co-create an inclusive environment and to capitalize on different perspectives in order to create value. Capitalizing on differences does not entail compromising between different perspectives or approaches or merging them into one uniform perspective or approach. Instead, it uses the differences and possible tensions between perspectives and approaches to stimulate critical thinking, develop analytical skills, and generate creative solutions.

WHY A VU MIXED CLASSROOM EDUCATIONAL MODEL?

The aim of the Mixed Classroom Educational Model is to improve our education at VU, in order to pursue our educational goals. First of all, as Vrije Universiteit Amsterdam, we want students to acquire competences that will help them to navigate, understand and thrive in a world that is increasingly dynamic; as students, but also as academics, professionals and citizens.

As future academics, students need critical thinking skills. At university, students learn to collect relevant data and information to make judgements using reflections on social, scientific or ethical issues, and to integrate knowledge and handle complexity (see for example the learning goals in the 'Dublin descriptors') (Bologna Working Group, 2005). The Vrije Universiteit ("vrij" translates as "free") aims to be a sanctuary for dialogue between people with different values, world views and academic positions. To benefit from and contribute to this, students need to learn how perspectives that are dominant in their own field relate to other academic perspectives, and how to build upon them. This also applies to learning processes and interactions. Academic development involves learning to recognize, use and balance various learning approaches, communication and cooperation styles. As future professionals, students need to function and flourish in diverse group settings; in an international project team, an interdisciplinary research group, or any other setting where different perspectives have a

seat at the table. Our diverse university campus offers unique opportunities for learning in this respect.

As citizens, as members of society, we want students to critically reflect on their role and make their own voice heard, but also: to truly listen to other perspectives, and to reflect on their own perspectives and underlying assumptions in relation to others. The VU Mixed Classroom Educational Model supports the development of these skills.

In addition, the Mixed Classroom Model aligns student learning with the VU educational vision, which is built on the VU's core values: personal, open and responsible. Personal refers to the appreciation of students' (and teachers') personal, unique identities, talents and contributions. Open expresses the value placed on diversity in the broadest sense, the recognition that the interaction of a wide range of people and perspectives strengthens learning processes. Responsible touches on the importance of societal responsibility, which involves individuals taking a stance with regard to societal challenges, while keeping an open mind for other perspectives.
Although most teachers will agree with these core values, the translation into concrete classroom practices can be a challenge. How do we create an atmosphere where students and teachers can bring their own identities into the classroom? How can we invite differences (in views, experiences, learning approaches and communication styles) to surface in safe ways? How do we go about exploring them? How do we debate academic values if emotions sometimes run so high that students – and teachers – stop listening to each other? The VU Mixed Classroom Educational Model offers strategies and learning activities to deal with these challenges.

WHAT DO WE OFFER WITH THE VU MIXED CLASSROOM EDUCATIONAL MODEL?

In this document, we unpack three phases teachers and students go through and describe steps to progress in the direction of what can be seen as an 'end goal': educating future academics 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.

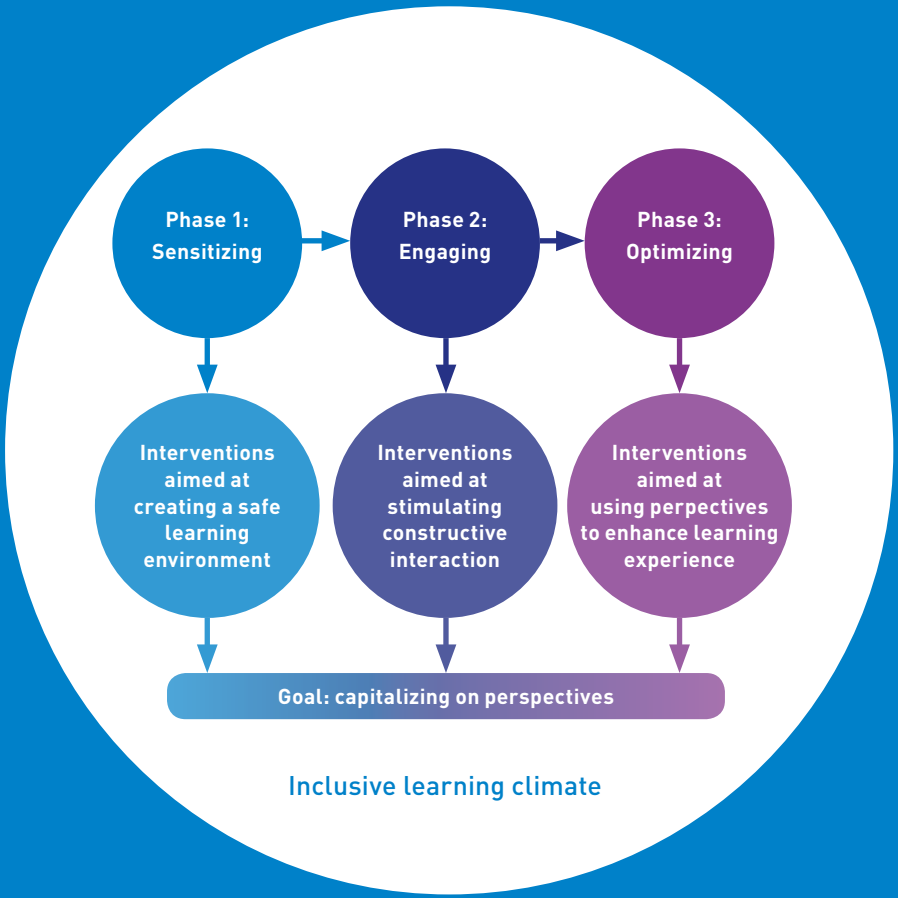
The Mixed Classroom approach requires us to think beyond simple categories such as 'women' or 'Chinese students', and to seek and recognize nuances between and within individuals. The Mixed Classroom Model also goes beyond mere knowledge and content. With 'capitalizing on differences', we also refer to norms, codes and habits in relation to learning preferences, communication styles, ways of cooperating and interacting. After all, teaching academic skills and knowledge occurs in a social, interpersonal setting, and learning is a personalized process that is strongly influenced by the social context.

We first describe the model in rough lines, explaining the characteristics of the three phases (sensitizing, engaging and optimizing), and of an 'inclusive learning climate', which is both a precondition for and an outcome of the Mixed Classroom approach (Chapter 2). In chapter 3, we offer strategies that can be followed

in each of the three phases, and give examples of learning activities (individual, dyadic or group exercises) that can be used in small and large groups. In the last chapter we reflect on the role of the teacher, and on the development of teachers themselves (Chapter 4). By providing a 'model', with strategies and examples of learning strategies, we do not pretend that reality is simple and practice is easy; we certainly acknowledge that these classroom dynamics can be challenging at times. Furthermore, this model is a work in progress. We invite teachers to use it, to try it in more or less extensive and elaborate ways, and to give us feedback on what works with them, and what does not, and in what circumstances. With your feedback, and the input of research and evaluation projects, we will work on ongoing elaboration and refinement of the model. This version of the Mixed Classroom manual is just a start.

Of course, the responsibility for reaching the Mixed Classroom learning goals not only lies with individual teachers. To make improvements to the education of our students and to build on diversity, it is important to also include the level of the curriculum and the broader institution. This is what we aim for in next stages of our project. In this document, however, we focus on the level of classrooms, providing inspiration and guidance for teachers who want use the VU Mixed Classroom Educational Model in their teaching.

THE VU MIXED CLASSROOM EDUCATIONAL MODEL



2. THE VU MIXED CLASSROOM EDUCATIONAL MODEL

The VU Mixed Classroom Educational Model is built on a three-phase process through which students learn how to capitalize on different perspectives and approaches. We distinguish between the following phases, taking place in the classroom:

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;
2. **Engaging** students to interact constructively with different perspectives present in the classroom;
3. **Optimizing** every students' learning process by having them capitalize on different perspectives and approaches.

An essential element in these three phases is an inclusive learning climate (see chapter 3). Having an inclusive learning climate is a precondition for the process, but at the same time it is strengthened by the interventions in each phase.

For each phase, the model offers goals, conditions and practical interventions that teachers can initiate in a classroom setting. Of course, in practice this is not a strictly linear process; the phases can overlap and can be cyclical. Going through the three phases can take a single lesson, or an entire year, depending for example on course content, formal learning goals and group dynamics. Progressing from one phase to the next may sometimes happen automatically, as there are processes that will occur naturally over time. However, more often, conscious interventions are needed to move through these phases to reach the final phase, where the potential of the mixed classroom is used fully. Below, we explain each of the three phases, as well as what we mean by an inclusive learning climate. In chapter 4 we discuss the phases in more detail, and describe useful strategies and give practical examples of learning activities that support these strategies.

PHASE 1: SENSITIZING

During phase 1, the emphasis is on two main themes: sensitizing students to their own frame of reference and the existing diversity in the group, and creating a safe learning environment to do so. In a safe learning environment, students can express their ideas, beliefs, requirements and identities freely in an atmosphere of mutual trust and respect, empathy and open mindedness (Hockings, 2010). For students to learn from each other's perspectives, views, experiences, learning approaches and communication styles, they need a classroom environment in which it feels safe for them to share their individual perspectives. This is especially the case if this perspective is a minority one. Studies show that if students do not experience the classroom environment as safe, they will not only be reluctant to interact with the teacher and other students; their learning outcomes will be affected negatively (Ambrose et al., 2010). This is also the case when stereotypical images are triggered, for example of women, ethnic minorities and working-class backgrounds. As a teacher, the first steps towards a mixed classroom are therefore focused on making students feel safe in the classroom setting. Since this requires continuing attention throughout all

TEACHER TESTIMONIALS:

"I teach tutorials to first year Bachelor students in Chemistry. The groups do not seem very diverse at first glance, but I do notice some sub-groups, and students hardly interact with students outside these groups. Usually when we discuss something, the same students always speak up. Others are really quiet, and never contribute. I think some students have different answers, or would approach something in different ways. However, if I ask students directly, they say they agree with whatever has been said. I notice the same when they work on group assignments in class in their own subgroups."

"About half of the second-year students in my lectures has had at least part of their education outside of the Netherlands. For my subject, this can be an asset, since they bring a lot of knowledge and experience into the classroom. However, I don't want to put students on the spot and ask them about their personal experience directly, even though I do think all students would benefit from their input."

three phases, we will go into the topic in more detail in chapter 3.

Additionally, in phase 1, students explore their own frame of reference with respect to other perspectives. It takes effort to recognize that views and approaches that are taken as the (self-evident) norm are not the only ways to approach a subject or learning-activity; to recognize that other views and approaches exist that also can have value and legitimacy (Bennett 1986, 2004). In a classroom with students who were educated in different academic traditions (where for example verbal participation during discussions was appreciated differently), it will benefit students – as well as teachers – to first unpack their own (implicit) assumptions before entering phase 2.

As mentioned above, every phase has its own value to the learning process. Phase 1 establishes an inclusive learning environment and strengthens the sense of belonging of students, particularly for whom this previously was less self-evident. 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 (e.g. Freeman, Anderman and Jensen, 2007; Zumbrunn et al., 2014).

Learning goals phase 1:

- Students are able to reflect on their own frame of reference, and demonstrate awareness of their own perspective being not necessarily a universal perspective;
- Students are aware of, and can articulate the importance of "openness" towards other perspectives and approaches;
- Students know what a safe learning environment entails and how they can contribute to it.

PHASE 2: ENGAGING

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

Bringing differences to the surface may still sometimes lead to moments of tension and discord that may negatively interfere with the learning process (Caroll, 2015). Hence, this phase can be challenging for both students and teachers, since the unease and tension that can arise may feel like the safe learning

TEACHER TESTIMONIALS:

"I do an introduction activity during the first tutorial with my first-year Psychology students. I know my students and they know each other. They also seem to mix when they have to pair up, or work in groups. However, sometimes during a discussion, it will get really heated, around topics that I also have an opinion about. I'm very happy that they feel safe enough to give their personal views on topics. What makes it challenging is that students seem to react from a place of emotion rather than rationally weighing arguments, especially when I'm asking them to reflect on their personal experience. I'm not entirely sure how to deal with the tension that occurs at those moments."

"Thinking critically is, in my opinion, one of the most important things we can teach students when they are studying Law. I try to stimulate their thinking by challenging them with controversial statements or having them convince they neighbour of an opposite point of view during my lectures. This works, sometimes. Other times the interaction just doesn't happen. Perhaps students don't feel comfortable enough yet to really engage and disagree with each other, or perhaps the groups are too big. It would be useful to have more tools as to how to approach this."

climate is jeopardized. Interventions in this phase are therefore ideally geared to students practicing to interact with different approaches and perspectives in a constructive way. This process can for example entail using learning activities that ask students to take points of view that differ from their own. This can reduce the emotional tension in the interaction. Being sensitive for when moments of tension can occur, and reacting aptly, are important skills to practice during this phase.

The value of this second phase lies in the increase in academic and social integration by means of meaningful interaction within classroom situations. Research shows that social integration (forming meaningful connections with peers and staff) as well as academic integration (academic performance, self-perceptions, academic progress and a belief that lecturing staff are personally committed to teaching and supporting students) (Rhodes and Nevill, 2004) are related to student retention. Additional value lies in the increase in collaborative and communication skills of students, especially within diverse groups. These skills are mentioned in all the models describing '21st century skills' that were formulated in order to guide and stimulate educational innovation (Voogt and Pareja Roblin, 2010).

Learning goals phase 2:

- Students recognize and are willing to explore perspectives and approaches that differ from their own;
- Students are able to interact with these perspectives in a constructive way;
- Students recognize unease and tension when they arise in interactions, and have practiced dealing with them.

PHASE 3: OPTIMIZING

During phase 3, the focus is on optimizing every student's learning process by capitalizing on different perspectives. 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, and are aware of the assumptions underlying them (phase 1). They have practiced interacting with perspectives and approaches different from their own (phase 2). In phase 3, students actively share their perspectives. Diverging views are invited, encouraged and offered, and students engage with them in enriching ways. By actively combining and integrating diverging approaches and perspectives in phase 3, differences among students are acknowledged and used to enhance problem-solving creativity; provided that the class interaction is guided well (Nakui, Paulus and Van der Zee, 2011). Furthermore, when they not only interact with other perspectives but actively switch between them, students improve their cognitive flexibility (Hong et al., 2000; Benet-Martínez, Lee and Leu, 2006). Interventions during this stage are now explicitly focused on reaching the formulated learning goals for learning in

TEACHER TESTIMONIALS:

"At the moment, my students in Biomedical science work on lab-projects in groups of six. They speak their minds during group discussions, and although it may sometimes get quite intense, we usually find a way to navigate difficult conversations. Their discussions are usually about how they are working together, and what they are expecting from each other. This works to a certain extent. However, I think that we are missing an opportunity for them to deepen their learning. It would be great if they could not only work well together, but also learn from each other's work methods."

"I ask my third-year students to find peer reviewed articles that have different perspectives than what we are reading in our Religious Studies class. This helps them putting the texts we are reading in the syllabus in context. It also helps me confront the blind spots that I have myself after doing research in this field for years. I do notice that it confuses the students sometimes. They ask why this is part of the course, and in the class-evaluation some of them mention this exercise as unnecessary."

diversity, as well as learning from diversity (Radstake, 2017). This does not mean that by reaching this phase, the strategies used for phase 1 and 2 cease to be of importance. Some strategies, especially those that stimulate a safe and inclusive learning environment, require a permanent focus. Although the Mixed Classroom learning goals can be assessed during all three phases, formatively (providing ongoing feedback during the learning process) as well as summatively (providing a final evaluation), in phase 3 summative assessment is an expected part of the programme. Chapter 4 contains suggestions for assessment.

Following phase 2, phase 3 further strengthens students' academic integration. The strategies in this phase contribute to achieving the Dublin Descriptors (Bologna Working Group, 2005); specifically the aims to "have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues" and to "have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements".

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.

PRECONDITION AND OUTCOME: AN INCLUSIVE LEARNING CLIMATE

An inclusive learning climate is an essential component of the VU Mixed Classroom Educational Model. Pedagogy, curriculum, and assessment all shape this climate and ideally are all designed to engage students in learning that is meaningful, relevant, and accessible to all. Individuals are seen as sources of diversity that can enrich the lives and learning of others (Hockings, 2010). While a 'safe learning environment' focuses on students' wellbeing, an 'inclusive learning environment' goes beyond this, and focuses more on their experience of learning in diversity in the classroom.

The learning climate is an important factor in student learning. Climates that are experienced as inclusive have a positive impact on student belonging and therefore on student motivation, academic engagement and success, whereas learning climates that are experienced as less inclusive can negatively influence students' learning outcomes, particularly for students with minority identities (Freeman et al., 2007; Steele and Aronson, 1995; Marchesani and Adams, 1992; Zumbrunn et al., 2014). When negative stereotypes in relation to talent or performance stereotypes are activated, this has been shown to negatively affect the achievements and self-confidence of the individuals concerned; these stereotypical ideas become a self-fulfilling prophecy (see e.g. Spencer, Logel and Davies, 2016). An example of this 'stereotype threat' is that when students are told that women underperform to men on a specific maths test, this lowers the actual performance of female students (Spencer, Steele and Quinn, 1999). Other studies show that mentioning race or class before a test will lower the test results of black students (Steele and Aronson, 1995; Owens and Massey, 2011), and students with lower-class backgrounds respectively (Harrison et al., 2006; Spencer and Castano 2007).

The influence of learning climate goes beyond the effect of negative stereotypes. Feelings of belonging – when students feel accepted, respected, included and supported by others – also influence study success (Hoffman et al., 2002; Johnson et al., 2007; Master, Cheryan and Meltzoff, 2016; Meeuwisse, Severiens and Born, 2010; Thomas, 2002, 2012). Belonging is related to the dominant norms, values, experiences, knowledge, and communication styles, as these are all aspects of the university climate and classroom climate. When the behaviour patterns and preferences of students (their habitus) matches the social climate and learning climate at the university (the institutional habitus), this strengthens both their feelings of belonging and their study success (Meeuwisse et al., 2010; Thomas, 2002). Students who have internalized the university norms and codes may not even be aware of the fact that in this setting specific experiences, knowledge and communication styles are favoured over others. Students with backgrounds and identities that diverge from the norm – who diverge from the (previous) majority on the basis of gender, sexuality, class background, life phase, ethnic or migration background, skin-color, religion, able-bodiedness, etcetera – are often more aware of this. They encounter that their values, codes, styles and experiences are less acknowledged and get less space

than those of the norm group. In the past, ' diversity' interventions had an assimilative character; they focused on these 'minority students' and aimed to familiarize them with the dominant university norms and codes. The Mixed Classroom Educational model aims to make the climate more inclusive, by acknowledging, welcoming, inviting, offering, and combining diverging perspectives and approaches. This not only makes students with minority identities and students who diverge from the norm in personality and communication style (such as introvert students) feel more accepted, respected, included and supported, but strengthens the learning process for all students.

It is important to note that the influence of learning climate is not limited to classrooms where the subject matter is perceived as culturally or socially sensitive, as can be the case in Social sciences, Humanities or Law. An inclusive learning climate is linked to positive learning outcomes in other classes, such as Chemistry (Wenzel, 2002) or Biology (Grunspan et al., 2016). After all, learning processes are not about the impersonal transfer of knowledge, but take place in social settings, with social dynamics and personal interactions amongst students, and between teachers and students. For Teacher Notes on how to stimulate an inclusive learning climate, see chapter 4.

3. STRATEGIES AND LEARNING ACTIVITIES PER PHASE

In this chapter, we describe specific strategies that can be followed in each of the three phases, and learning activities to work towards the Mixed Classroom goals. The transition from one phase to another is not always strictly linear, and it is sometimes necessary to go back to interventions used in earlier phases.

We have separated the activities in those that are more suitable for small groups (tutorials, seminars, project groups) and large groups (lectures). This distinction is not a strict one; many activities work in both settings. Furthermore, we have looked at activities that work on the individual level, the dyadic level and the group level. This distinction is also not set in stone. Some learning activities will benefit from starting on the individual level, and progressing to the dyadic level on to the group level.

Some of the learning activities described below are already well-documented, and research has demonstrated their effectiveness. Others are variations of activities that are broadly used by teachers. These have been altered to more explicitly support the Mixed Classroom strategies. Other activities were mentioned as good practices by teachers themselves within the Vrije Universiteit Amsterdam, during focus groups held about the Mixed Classroom.

PHASE 1: SENSITIZING

During phase 1, the emphasis is on two main themes: sensitizing students to their own frame of reference and to the existing diversity in the group, and creating a safe and inclusive learning environment to do so. Central questions teachers can have during this phase are: How do I create an inclusive 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?

WHAT STRATEGIES CAN BE FOCUSED ON DURING THIS PHASE?

Reduce anonymity: Creating a safe and inclusive learning environment starts with a classroom where students know each other to a certain extent, and where the instructor is perceived to be making an effort to know students as well. How feasible this is depends on group size and frequency of meetings. However, when students feel seen and heard they will feel safer to interact in class and contribute by articulating their perspectives. Therefore, allotting time for an introductory exercise is a great help in this phase. In big groups, dividing students into smaller sub-groups for assignments or discussion will also help reducing anonymity (Ambrose et al., 2010; Caroll, 2015).

Explore values and assumptions: Enhancing openness to other perspectives and approaches, requires awareness of and reflection on the own frame of reference. Valuing diverging perspectives starts with the acknowledgement that multiple views exist and are present in the classroom. In order to do this, it can be helpful to have students reflect on their previous educational setting, their personal talents, or their backgrounds. This way, they can examine what assumptions and values they themselves bring to the classroom. However, students should be given the option to refrain from sharing information when this makes them uncomfortable. Only sharing personal information in small groups or dyads also helps maintain a safe climate.

Establish ground rules for interaction and discussion: Establishing ground rules for interaction is not only useful when the material that is going to be discussed during the course can be perceived as sensitive. Discussing expectations as to how everyone in the group expresses their viewpoint, their disagreement or voice an opinion, will support a safe learning climate in all classrooms, since student interaction can be as much about an approach to a maths assignment as about political views. Additionally, a dialogue about what is considered for example 'active participation' will benefit students from all academic backgrounds. Co-creating these ground rules with the group will help to reinforce them later on (Ambrose et al., 2010; Carroll, 2014). Examples of such jointly established ground rules can be: we communicate in respectful ways; we show interest in each other's views; we appreciate it when disagreement is expressed (and we acknowledge that it is not equally easy for everyone); we allow room for mistakes and learning; etc.

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 throughout the course in an early stage. In addition to official evaluations that take place at the end of a course, it is constructive to check at regular intervals if any adjustments are needed (Ambrose et al., 2010). One way is to simply address the topic in class. However, when students for whatever reason do not feel safe enough to express themselves, they will either respond in an agreeable way, or refrain from responding at all. This can be avoided by the use of an exercise that guarantees (a certain amount of) anonymity. Examples are the "Exit slip" exercise (see the table below), or having students converse about what they need, or how they are contributing to a safe learning climate in smaller groups.

Induction of identities: In heterogeneous groups, feelings of cohesion and group identity can be built by focusing on shared similarities, but also by stimulating expressions of individuality (Jans, Postmes and Van der Zee, 2012). Usually when individuals enter a group, they are socialized in the identity and norms of the majority within that group. This can make some group members feel excluded. One solution is to 'induce

identities', for example through asking individuals to share the values and competencies they bring to the group. This shapes a shared identity that incorporates the individual identities. This can be done by using for example the "Personality Rose" exercise (see the table below), where students share what they think which unique skill or resource they bring to the group or team. We know from research that students feel more part of the group when identities are installed that way. Students are also more inclined to share their unique views with the group.

Agi:

"No one is a blank paper, or a blank canvas; everyone already has so many colours and experiences"

EXAMPLES OF LEARNING ACTIVITIES THAT SUPPORT THE STRATEGIES IN PHASE 1

	Small groups	Large groups
Individual	**"What shaped you?":** Students share what shaped them as a person, or changed their perspective. Depending on course content, 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"*) It is important to emphasize that students are asked to share only what they are comfortable with. *Supports: Reducing anonymity, exploring own frame of reference. Good practice from the faculty of Humanities.*	**"Card system":** Every student name in the group is written down on a card. The instructor uses the cards to randomly select someone to answer a question. These questions can be posed by the teacher as well as other students. All students can get called on, 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. *Supports: Reducing anonymity. Good practice from the faculty of Science.*
	"Circle of trust": Students receive a hand-out and are asked to list the five people they trust most besides their relatives; their "circle of trust". They fill in the rest of the hand-out by listing each person's characteristics: gender, age, ethnicity, political views, sexuality, social economic class, etc. What patterns do they notice? Are they missing perspectives in their circle? To maintain a safe space, sharing their conclusions/reflections can be optional. This exercise can also be a good starting point for a conversation about the existence and validity of these categories. *Supports: Exploring of own frame of reference, exploring values and assumptions.*	**"Exit slips"**: Students write down how they experienced class climate on post-it notes before they leave the classroom. They can answer a specific question, for example "Did you feel included?", "How did you contribute to a safe learning climate?" or "What worries you?". Having students stick the post-its to the door as they leave, makes this way of collecting feedback feel anonymous, and therefore safe. For very large groups, an online tool like *Mentimeter* can also be used to this end. *Supports: Monitoring class climate.*

	Small groups	Large groups
	"Personality Tree": Students are asked to map their identity according to the different parts of a tree. Roots depict beliefs and values, the trunk depicts life structure and pattern, branches are used to describe interests, the leaves depict sources of energy. Flowers are be added to depict strengths, whereas thorns can be added to depict weaknesses and challenges. Students can then either share their tree with other students in the form of a gallery walk, or discuss them in small groups, depending on what they are comfortable with. **"Personality Rose":** In addition, the exercise can be scaled down and simplified using a different metaphor (for example a rose), having students add what they perceive as their strengths (i.e. planning, creativity, punctuality) as the petals and their challenges (i.e. stubbornness, procrastination etc) as the thorns. This activity can be used to start of any group project where students are asked to collaborate on something, and can be used as a starting point for a conversation about how the group is going to collaborate, what rules and agreements they will follow during the project (for example; "Now we know that some of us have the tendency to procrastinate, we will have daily WhatsApp contact to update each other on our work"). *Supports: Induction of identities, exploring own frame of reference, starting point for conversation about ground rules for collaboration.*	**"Tiles":** Students think of a saying, proverb or phrase that summarizes their youth and upbringing, for example, "Actions speak louder than words" or "Keeping up appearances". After writing down their proverb, they discuss in pairs what they have chosen and why, before they (possibly) share their proverb with the rest of the group. Doing this exercise may reveal deep rooted beliefs and values, that can then be discussed. Note: the proverb does not have to be in English, as long as the gist of it can be translated. *Supports: Exploring own frame of reference. Good practice from the faculty of Social Science.*
Dyadic	**"Fifty seconds"**: The teacher randomly divides students in pairs, and they get fifty seconds to write down as many things in common as they can (avoiding physical traits). By adding the element of time pressure, students are forced to think outside the box. After the timer goes, new pairs are formed. Another game-element can be added by having the different duos compete: which duo can find most similarities? *Supports: Reducing anonymity. Good practice from LEARN!Academy.*	**"Buddy system":** Buddy systems are well documented to lead to more inclusive learning environments. Students are paired up, and function as each other's safety net, first contact, mentor, and guide. The way students are paired up depends on the goal. Second year students can pair up with first-years, or mobile students with Dutch students, or a complete mix. Students report more sense of belonging and a general feeling of inclusion. This is not technically a classroom activity. The existence of such a system, however, can be used in classroom activities, for example asking students to do a certain assignment with their buddy. *Supports: Reducing anonymity. Good practice International Office and Social Science.*
Group	**"Getting to know you":** Students are divided in subgroups and draw overlapping circles for the equal number of participants in their group on flip-over sheets. They write down what they all have in common in the centre where the circles overlap. Each member then fills in their own circle with something they bring to the group that is unique to them avoiding physical traits (Office of Human Resources, 2019). Students can focus on experience, knowledge, skill or perspective; depending on the context and learning goals for the course. This exercise can be useful to do at the start of any group collaboration. *Supports: Induction of identities, reducing anonymity.*	

Both small groups and big groups

"Contract": Using a tool like *Mentimeter*, Google doc or a flip-over chart, have students come up with their own ground rules for interaction. The discussion can be guided with questions like: "What do you need from the group to participate in 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 ground rules for interaction and collaboration, or for big groups to establish ground rules for discussion during lectures or tutorials. (Examples of such ground rules can be: All statements/questions must be stated respectfully; we address sensitive remarks; we allow room for mistakes and learning, etc.)

Supports: Establish ground rules for interaction, setting up processes to get feedback on class climate.

"Dotmocracy": This learning activity is a technique for voting and recognizing levels of agreement among a group of people in an open and non-threatening way. Example: a number of statements/strategies to deal with something are placed on flip-over sheets around the room (possibly the result of a group brainstorm in smaller sub-groups). Students receive a number of round stickers that they can stick to the option they prefer. After every student has placed a sticker, the "votes" are counted. This activity can also be used to establish ground rules for interaction, making sure all students are heard, or it can be a shorter exercise half way the course to determine what students still need in order to feel safe and included.

Supports: Establish ground rules for interaction, monitoring learning climate.

"From judgement to question": This activity can be part of the ground rules, or a separate exercise. Students are asked to rephrase any judging statement as a question. For example, the statement "I don't think diversity adds value to the learning process", could be rephrased as "Could you explain why you think diversity adds value to the learning process?"

Supports: Establish ground rules for interaction. Good practice VUMC.

"Three-step-interview": Students work in groups of three, an interviewer, an interviewee and a notetaker. The teacher assigns a topic, for example class climate, and students interview each other about what they want and need from the teacher and the group. After five minutes, roles are switched. When all students have been interviewed, the notes are condensed and become input for a class discussion (Raudys, 2018). This exercise can also be repeated (or initiated) halfway the course, to check how students feel about class climate, and what they would like to adjust.

Supports: Establish ground rules for interaction, monitoring learning climate.

PHASE 2: ENGAGING

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 to exploring one's own view and approach, in phase 2 we focus on how to interact with others constructively. This involves keeping an open mind for other points of view, approaches to learning, or experiences. Questions central to this phase for teachers can be: How do I get my students to collaborate constructively? How can they deal with unease and tension? How do I teach my students to keep an open mind for other approaches and perspectives? How do I keep the learning environment safe and inclusive while interaction takes place?

WHAT STRATEGIES CAN BE FOCUSED ON DURING THIS PHASE?

Structuring interaction with other perspectives: Simply asking students to take another point of view will not yield the same learning outcome as having students actively experience it. Structuring interaction by using learning activities that will help students take different perspectives or use different approaches in order to complete an assignment can be helpful. Furthermore, practicing interaction with other perspectives on content level instead of personal experience or identity level can feel safer to students. Examples of learning activities to do this can be found below.

Creating "in between" spaces for interaction: To have meaningful interactions in the classroom, it is necessary to stimulate students to not just 'tolerate' each other – which can lead to indifference and ultimately exclusion of students who have a different and unique outlook on things – but to create spaces where true interaction can take place. In order to achieve this, students must practice to actively make space for other perspectives or approaches, to invite them and be curious about them, especially when their own is a dominant one (Ghorashi, 2009).

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 other perspectives, which we can use in the classroom to stimulate students to come to new insights. An example is: asking students to take a stand in relation to a theory, approach or statement and explain their position, followed by an activity in which they explore another side. This will stimulate critical evaluation of their first stance, leading to a more open mind to other viewpoints in other contexts.

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 can also be structured into a preventive learning activity (for example a brainstorm before the actual assignment).

Reinforcing ground rules for interaction and discussion/monitoring learning climate: In phase 2, these strategies from phase 1 may need reinforcement. Reminding students of the formulated ground rules for interaction sometimes is enough to steer a discussion in a more inclusive direction. Checking in on how students perceive the learning climate during this phase, can provide ideas for adjustments.
A simple example is the use of an online tool to collect anonymous feedback about whether students think the formulated ground rules are being followed.

Aalt:
"To feel part of a group really adds value to the learning process"

EXAMPLES OF LEARNING ACTIVITIES THAT SUPPORT THE STRATEGIES IN PHASE 2:

<table>
<tr><th></th><th>Small groups</th><th>Large groups</th></tr>
<tr><td>Individual</td><td colspan="2">“Speech writing”: Students write a speech for someone who does not necessarily hold the same view points as they do. They research this view point. What would this person say, and why? What arguments would this person use?
A variation of “Speech writing” is “Letter writing” where students write a letter as a historical figure/scientist/thinker/researcher to another historical figure (for example someone with an opposing opinion; judges and lawyers in historical cases, or letters between Darwin and Hawking). Other variations could include a twitter or email conversation.

Supports: Structuring interaction with other perspectives, dispelling illusion of explanatory depth.

“Affective response”: Students think of and write down how a certain aspect of the material or learning process made them feel (Paulson and Faust, 2019). 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 necessarily have to share, but giving them a moment to focus on their affective response gives them the opportunity to examine what underlies their perspective.

Supports: Integrative conflict management.</td></tr>
<tr><td rowspan="3">Dyadic</td><td>“Devil’s advocate”: Students roleplay in duo’s taking different viewpoints. This activity can be prompted by a triggering statement. Students take some time to research both viewpoints (Raudys, 2018).

Supports: Dispelling illusion of explanatory depth, structuring interaction with other perspectives.</td><td rowspan="3">“Buzz duos”: Students explore each other’s viewpoint on a statement or dilemma. This activity can be used at the start of a lecture. At the end of the lecture students can be asked if, based on new insights and information received during the lecture, their viewpoints have been adjusted in some way. They can either discuss this with the same student as in the beginning of the lecture, or write it down individually.

Supports: Dispelling illusion of explanatory depth.</td></tr>
<tr><td>“Predict, Observe, Explain”: This activity is especially useful in settings where students perform tests or experiments. Students are asked to predict what they think will happen, observe the actual experiment and explain the difference 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).

Supports: Dispelling illusion of explanatory depth.</td></tr>
<tr><td>“Pro/Con grids”: Students try to think of as much pros or cons to a statement, procedure, approach or intervention they can think of, then swap with a neighbour and discuss each other’s grids, asking each other questions like “What did you think before making this grid? What do you think now? What specifically, if anything, changed your mind?”

Supports: Structuring interaction with other perspectives.</td></tr>
</table>

	Small groups	Large groups
Group	**"Speed date":** This activity can be used in different scenarios where it is useful for students to acquaint themselves with a lot of perspectives in a short timeframe. An example would be having students exchange their approaches to a math problem in duos. Like in speed dating, they have to finish explaining their solutions within a few minutes. After the allotted time, an alarm goes off, and students exchange partners. This process repeats itself a couple of times, allowing students to hear many approaches to the same problem. This exercise can also be used to exchange opinions on a statement, or personal experiences. *Supports: Structuring interaction with other perspectives, creating "in between" spaces for interaction.*	**"Questions only"**: Building upon the learning activity "**From judgement to question"** from phase 1, this activity is a discussion where only questions are allowed (also called a **Quescussion**). Students correct each other when a statement is given by yelling out "statement" (Wenham, 2019). Exploring a theme in this way will force students to refrain from judgement. This is especially useful for controversial subjects that can have a polarizing effect in groups. *Supports: Creating "in between" spaces for interaction.*
	"Idea line up": Students visually line up (they can also stand in a "U" shape, with the middle of the U being neutral and the ends the extremes) themselves according to their opinion on a statement, for example from "I agree fully" to "I don't agree at all", or "I have experienced this in some form", or "I have never heard of this". They then have the opportunity to have a dialogue with a student who is standing across the room from them. *Supports: Structuring interaction with other perspectives, creating "in between" spaces for interaction.*	
	"Debate": Student groups get assigned a side in a debate that does not necessarily match with their own point of view. Together, they research their allotted side of the debate. This exercise can be preceded by having students creating a **"Pro/Con grid"**. When organising a debate, it can also be useful to go over the agreed ground rules for interaction again with the group. *Supports: Structuring interaction with other perspectives, dispelling the illusion of explanatory depth.*	
	"Rotating chair": Contrary to what the name suggests, students actually stay in their seats during this discussion activity, making the exercise suitable for large groups. When a student wishes to participate in the discussion, they must raise their hand. The student who is speaking calls on the next speaker. It cannot be the same speaker as three turns before. The student who has been called upon briefly summarizes what the previous student has said before developing the idea further (Raudys, 2018). *Supports: Structuring interaction with other perspectives.*	

PHASE 3: OPTIMIZING

During phase 3, the focus is on the integration and combination of different perspectives or approaches to stimulate critical thinking, cognitive flexibility and creative problem solving. Central questions during this phase are: How do I make sure all students learn from different perspectives? How do I guide group collaborations in such a way that students truly capitalize on their differences? How can I help my students to make explicit what they learn from each other?

WHAT STRATEGIES CAN BE FOCUSED ON DURING THIS PHASE?

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 have to 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.

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; 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 cognitive flexibility amongst all students. In phase 1, students have placed their own perspective in context. In phase 2, they have practiced interaction and collaboration with students with other perspectives.
Now, during phase 3, they practice combining differ-

David:
"Interacting with people from different backgrounds enriches your own learning experience"

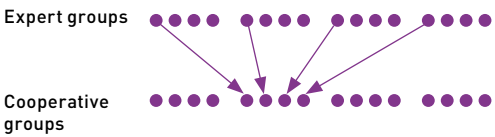
ent perspectives. The process of switching between them will help stimulate cognitive flexibility.

Reflecting on learning process: Actively reflecting on the learning process concerning the Mixed Classroom will help student-learning in this area. Activities that ask them to make their learning explicit are especially helpful. 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, and 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.

Rewarding students for capitalizing on perspectives: In a good educational design, learning goals, learning activities and assessment are aligned. 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, for example by including an evaluation of the group process in the assessment of assignments. In phase 3, when students are aware that the Mixed Classroom goals are part of the curriculum, and when they are familiar with the learning goals, the students' ability to combine and integrate perspectives can be assessed explicitly in summative, formal ways. For examples for assessment, see Chapter 4.

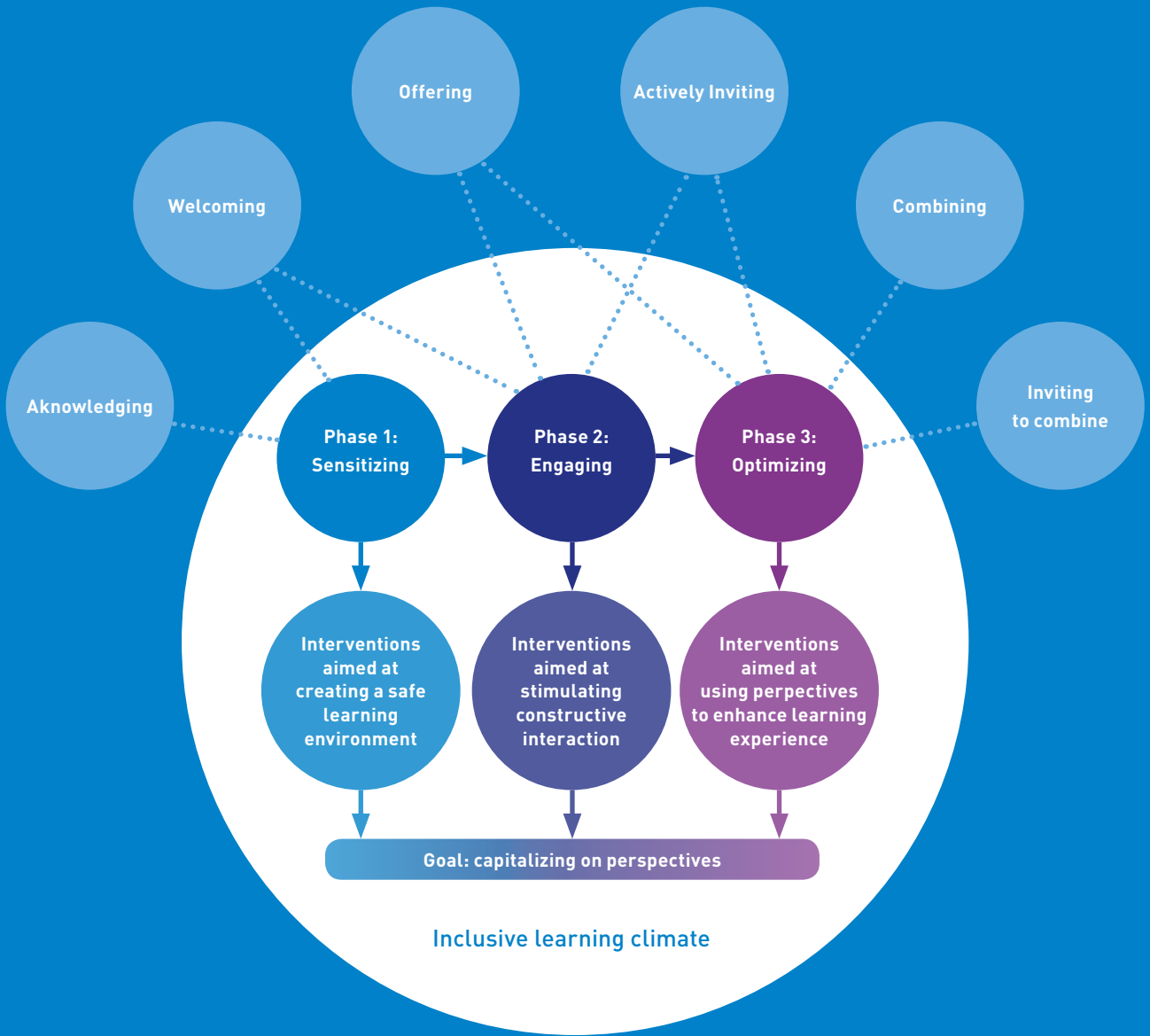
EXAMPLES OF LEARNING ACTIVITIES THAT SUPPORT THE STRATEGIES IN PHASE 3:

	Small groups	Large groups
Individual	**"One-minute paper":** The one-minute paper is an exercise that can be used to ask students to reflect on their learning. After a 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 from the discussion or the group exercise. 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). *Supports: Reflecting on learning process.*	
Dyadic	**"Big paper":** This 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. They read the material in silence, and proceed interacting with the material by writing down questions/remarks about it on the 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. A variation to make this a group exercise: after a certain amount of time students walk around the room, and look at the big papers of other duos. They add questions/ remarks of their own, still in silence. When they return to their own "Big paper", they integrate the comments/notes/ questions that other students wrote down into their own answer (Facing History and Ourselves, 2019) *Supports: Combining perspectives in a structured way, switching between perspectives to stimulate cognitive flexibility.*	**"Think aloud":** Students each get a different text or math problem, and reads it to the other student while pausing every few sentences to "think aloud", giving their partner insight in their individual thought process. Students then switch. When both students have each solved a math problem this way, or (close) read a text, they reflect on both approaches. What was helpful? What would you not have thought to do? What would you have done differently? Together students reflect on what elements of both approaches they will integrate into their own individual approach. *Supports: Combining perspectives in a structured way, reflecting on learning process.*

	Small groups	Large groups
Group	**"Jig Saw" or "Expert" exercise:** In this exercise, student groups each get a different 'piece of the puzzle': a different part of information that is necessary to solve a problem/ tackle a case. They look at this piece of information in depth. New groups are made, consisting of students that each have a different bit of information. Students then try combine all information available to them to solve the problem (Doymus, 2010).  *Supports: Combining perspectives in a structured way, switching between perspectives to stimulate cognitive flexibility.*	
	"Student-led sessions": Students rotate leading (part of) the tutorials, preparing their own input and questions. Doing this will bring their own perspective on the material into the course. To stimulate this, the teacher can explicitly ask them to add a source (article or video) to the session that they think is missing from the course. *Supports: Combining perspectives in a structured way. Good practice from the faculty of Religion and Theology.*	**"Chain notes":** Students are divided in sub-groups. One student gives a concise answer to a complex question or problem on a piece of paper and passes the paper on to another student to add to their answer. Students then build on each other's answers, and actively try to fill in missing pieces of information or calculations, elaborating by adding new and fresh perspectives and approaches when possible. This exercise can also be done in a collaborative Google document. *Supports: Structuring combining perspectives in learning activities.*

Small groups	Large groups
"Solving the problem": In this variation from the **"Jig Saw"** or **"Expert"** exercise, tudents are divided in subgroups. Each group gets the same problem/case/question, but each group is assigned a different perspective. An example could be a legal case that students analyse from the point of view of the defendant, a lawyer, a prosecutor and a judge. After each group spends some time working out the problem/case/question, they present their findings to the rest of the class, who then can question/challenge/debate them from their own assigned perspectives. During this discussion, the big picture of the case emerges and can be analysed further. *Supports: Structuring combining perspectives in learning activities.*	**"Index card pass":** Students get an index card. They write down a question about the material for the entire group. They then pass on their card to another student, who passes it to another student. Students then make groups of three or four, and pick one question on the index cards they have as a group (it cannot be a question of one of the group members) and collaboratively try to come up with answers to it, 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 student whose card was discussed, including the notes about how the answer was constructed by the group. *Supports: Combining perspectives in a structured way.*
"Tag team discussion": In this discussion exercise, students are randomly divided in an inner circle and an outer circle. Students sitting in the inner circle are part of a discussion. The rest listens carefully, as they can be "tagged" by the teacher to swap chairs with a student from the inner circle, and contribute the discussion. The teacher especially tags a student when the discussion benefits from new input/new perspectives. Knowing this, students will actively try to think of fresh/unique perspectives on the subject of discussion. By the end of the discussion, all students have participated. *Supports: Combining perspectives in a structured way, switching between perspectives to stimulate cognitive flexibility.*	
"World Café exercise": Students are given a question, problem or statement, and divided in subgroups to discuss it, writing/doodling their talking points or calculations on a flip-over sheet. One student then remains at the table as an ambassador. Other students spread across the other tables bringing with them the insights they had at their own tables. After a few rounds, the outcomes of the conversations or calculations can be summarized per table and discussed with the entire group. Students can then be asked to actively combine each other's perspectives to come up with creative solutions. *Supports: Combining perspectives in a structured way.*	

TEACHER ACTIONS (IN GREEN) IN RELATION TO THE VU MIXED CLASSROOM EDUCATIONAL MODEL



4. TEACHER NOTES AND SUGGESTIONS FOR ASSESSMENT

ON STIMULATING AN INCLUSIVE LEARNING CLIMATE

As mentioned in chapter 2, an inclusive learning climate is a precondition for students to share their perspectives and be open to divergent perspectives, and to progress through the three stages. Teachers and instructors play an important role in stimulating an inclusive learning climate in the classroom (Ambrose et al., 2010). How this can be done differs, and depends on context (i.e. method of instruction, group size etc.) and on the particular phase the students and teacher find themselves in.

The figure on the previous page displays the actions of the teacher (in light blue) in relation the phases of the Mixed Classroom model. These actions are explained in more detail on the next page.

Acknowledging approaches and perspectives: Sometimes students will bring an unexpected perspective into a class discussion. However, by simply acknowledging the comment or idea ("That is an interesting point" instead of "That is not relevant at the moment") an instructor already conveys that it is appreciated when students introduce a diverging view, thus stimulating an inclusive learning climate.

Welcoming approaches and perspectives**:** By welcoming approaches and perspectives the instructor goes a step further than just positively acknowledging the comment. The student's input is elaborated on, or linked to an example. By doing so, the instructor not only conveys that it is accepted to bring in an alternative perspective, but actively welcomes it as part of the learning process, possibly integrating it into the course content.

Offering approaches and perspectives**:** By offering other perspectives by, for example, including literature (or other kinds of knowledge) of authors with minority identities (e.g. female, non-Western), or by playing the devil's advocate and challenging a majority opinion, the instructor widens the spectrum and goes beyond a single perspective. A combination activity in which the instructor offers perspectives, and subsequently invites students to bring in other perspectives is also a possibility (see the next action).

Actively inviting approaches and perspectives**:** In this instance, the teacher actively invites diverging perspectives. The presence of different perspectives and approaches in the classroom no longer only depends on the willingness or courage of students to share. This can be reached through the learning activities that stimulate students to bring in diverging perspectives or explore those of others. The presence of different or 'other' perspectives or approaches is taken as a given.

Combining approaches and perspectives**:** When different perspectives have arisen in the classroom, the teacher can use students' input by demonstrating how combining them can lead to a new perspective or answer on an existing question, a more creative solution to a problem, or a new question to proceed with. By modelling this behaviour, teachers do not only stimulate students' critical thinking skills, but show how students' perspectives can add value to the learning process, thus stimulating an inclusive classroom environment.

Inviting to combine approaches and perspectives: Building on 'combining perspectives', teachers can also invite students to combine the different perspectives that have arisen in class; or perhaps to combine their own view with that of a neighbour, or a dominant school of thought. In addition, by integrating perspectives to create new points of view, students are stimulated in their cognitive flexibility.

ADDITIONAL TEACHER NOTES AND SUGGESTIONS FOR ASSESSMENT PER PHASE

In this section, we present additional notes to help teachers implement the strategies and learning activities for each phase. Furthermore, we offer suggestions for assessment per phase.

For most teachers, using Mixed Classroom strategies in their teaching will very likely be a process of trial and error, one that also involves self-reflection. This is not always easy. One point of reassurance is that when we as teachers are explicit about our own learning process – with regard to our own views, identities and positions – we set examples for our students how to approach this learning process. Furthermore, any discomfort we experience when we, as teachers, but also as people, are confronted with diverging views, can be a source of learning. When we find ways to deal with this discomfort, by for example starting a dialogue about the situation, this exemplifies ways to interact with different perspectives and to talk about different positionalities. Finding ways to feel comfortable in moments of discomfort is a valuable (Mixed Classroom) skill.

Phase 1: Sensitizing	
Teacher notes:	• If we want to make students aware of their own assumptions, blind spots and implicit associations, this requires us, teachers, to know – and thus explore – our own. It works best if we set the example and acknowledge our own blind spots as teachers. • Establishing an inclusive climate requires the active and vocal resistance of stereotyping and categorisation. • It is not enough to merely invite students to address simplistic, inexact, or insulting assumptions or uninclusive language. As teachers, we should make explicit that it is encouraged that students speak up, and even correct the teacher. When this actually happens, this only confirms that there is a learning process for everyone, including the teacher. • Since the processes described above are not without challenges, it can be helpful to set up peer feedback within faculties, to discuss these challenges with colleagues in a safe setting. These groups can for example be supervised by an expert. • When teachers want to examine their own 'openness' or implicit associations they can use a questionnaire on cultural competence, such as the Multicultural Personality Questionnaire (Van der Zee et al. 2013) or an Implicit Association test (i.e. https://implicit.harvard.edu/implicit/).
Suggestions for assessment or evaluation:	In this phase, assessment will be formative and mostly meant for both students and teachers to gain insight in the learning process towards the goals described above. Some examples of evaluation or formative assessment could be: • Evaluation of learning climate by using student's feedback (i.e. 'What do you need more of? What less? What are you doing to contribute to a safe learning environment?') • Asking students to answer a question on a test from another point of view, or give one another approach to a problem.
Example questions to evaluate phase 1[1]	• 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?

[1] Source of these questions (in slightly adapted form): "Mixed Classroom in course- and curriculum questionnaires", 2019

Phase 2: Engaging	
Teacher notes:	• To stimulate integration, having an active role in the composition of groups is necessary for interaction between different perspectives to take place; especially when using a learning activity that asks students to bring a personal point of view. However, just composing diverse groups is not enough. It is important to monitor the group process, and build in moments of feedback and reflection. Using a learning activity such as "Personality Rose" or "Contract" will help in making explicit what students are expected to learn from each other in a collaborative process. • During this phase, where students are asked to interact with each other, so called "hot moments" can occur: "Hot moments occur when people's feelings – often conflictual – rise to a point that threatens teaching and learning. They can occur during the discussion of issues people feel deeply about, or as a result of classroom dynamics in any field." Warren, in Carroll (2014). Dealing with these moments can be challenging, as emotions sometimes run high. Helpful strategies are examining one's own reaction and thoughts; helping students to think and reflect on the moment, or deferring to a later moment (Warren in Caroll, 2015). • Having knowledge of group dynamic processes (see e.g. Lewin, 1948; Tuckman, 1965) and student development can also be useful in phase 2 , as well as knowledge of student behaviour and reactions, for example: Jolles (2010) on neuro-psychological development, Chickering (1971) and Chickering and McCormick (1973) on emotional development, and Perry (1968) on intellectual development.
Suggestions for assessment:	In this phase, assessment can be both formative and summative, since the learning goals can, to a certain extent, be measured. Some examples could be: • Formative or summative assessment of the use of diverging views. "What did you regard as the most useful approach/plausible perspective at the beginning of the class? And now?" "How has your knowledge/views developed and what (who) made you change your mind?". • Formative or summative assessment of group collaboration. Students can be asked to reflect on the group process, by answering the question "Did someone change your mind during the process? How?" or "How did you make sure everyone was heard?". A digital tool like ***Buddy Check*** can be helpful. • Students can keep a log describing the group process. What challenges did they meet? How did they overcome them? • Students' grading includes a grade for how well they worked as a team. Having students decide on the criteria themselves beforehand will help student commitment.
Example questions to evaluate phase 2[2]:	• What did you learn from students or teachers with different backgrounds and/or approaches than your own? • Did you feel like everyone in class/your subgroup was heard?

[2] Questions adapted from "Mixed Classroom in course- and curriculum questionnaires", 2019

Phase 3: Optimizing	
Teacher notes:	• When summatively assessing the learning-goals formulated for this phase, it can be useful to be as explicit and transparent as possible as to why and how these goals are assessed. For example, when rubrics and/or assessment forms are used, they can be discussed with students in the beginning of the course. This way, students know what is expected of them, and why. • A discussion about the assessment can also be an opportunity for a conversation about different ways of assessment in various academic contexts. • When asking students to reflect on their learning process, we must consider that not all students reflect in the same way. In addition, for some students, 'reflection' can become an obligatory dance that they can perform without actual reflection. Useful strategies include allowing different forms of reflection, or starting a dialogue about reflection (De la Croix and Veen, 2018).
Suggestions for assessment:	Assessment and or evaluation in this phase can be focused on the ability that students demonstrate to combine and integrate perspective. A useful approach is to reward those students that actually display these skills, by for example: • Adding a category describing students' ability to combine perspectives in a rubric or assessment form. This formalises learning in this area, but leaves room as how heavy this component will weigh in assessment. • Asking students to build a portfolio to prove their skills in this area (since this is often a time-consuming exercise, the use of this method of assessment depends greatly on course content. If students are building a portfolio anyway, evidence that support the Mixed Classroom learning goals can simply be added). • Adding a sub question on an exam to explain how a problem/case could be solved combining two or more perspectives or approaches.
Example questions to evaluate phase 3[3]:	• How did the Mixed Classroom concept contribute to your understanding of the following? - Understanding of the complexities of global issues - Ability to apply (inter)disciplinary knowledge in a global context - Ability and comfort to work with people from other cultural or educational contexts

[3] Questions adapted from "Mixed Classroom in course- and curriculum questionnaires", 2019

5. ADDENDUM VU MIXED CLASSROOM EDUCATIONAL MODEL - OVERVIEW

Phase	Learning goals	Strategies	Learning activities
1. Sensitizing	• Students are able to reflect on their own frame of reference, and demonstrate awareness of their own perspective being not necessarily a universal perspective; • Students are aware of, and can articulate the importance of "openness" towards other perspectives and approaches; • Students know what a safe learning environment entails and how they can contribute to it.	• Reduce anonymity • Explore values and assumptions • Establish ground rules for interaction and discussion • Monitoring learning climate • Induction of identities	• What shaped you? • Card system • Circle of trust • Exit slips • Personality tree/rose • Tiles • Fifty seconds • Buddy system • Getting to know you • Contract • Dotmocracy • From judgement to question • Three-step-interview
2. Engaging	• Students recognize and are willing to explore perspectives and approaches that differ from their own; • Students are able to interact with these perspectives in a constructive way; • Students recognize unease and tension when they arise in interactions, and have practiced dealing with them.	• Structuring interaction with other perspectives • Creating "in between" spaces for interaction • Dispelling the illusion of explanatory depth • Integrative conflict management • Reinforcing ground rules for interaction and discussion/ monitoring learning climate	• Speech writing/letter writing • Affective response • Devil's advocate • Buzz duo's • Predict, Observe, Explain • Pro/Con grids • Speed date • Questions only/Quescussion • Idea line up • Debate • Rotating Chair
3. Optimizing	• 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 on individual and group level.	• Combining perspectives in a structured way • Switching between perspectives to stimulate cognitive flexibility • Reflecting on learning process • Rewarding students for capitalizing on perspectives	• One-minute-paper • Big paper • Think aloud • Jig Saw/Expert exercise • Student-led sessions • Chain notes • Solving the problem • Index card pass • Tag team discussion • World Café exercise

6. REFERENCES

Ambrose, S., Lovett, M., Bridges, M., DiPietro, M., & Norman, M. (2010). *How learning works: Seven research-based principles for smart teaching* (First ed., The jossey-bass higher and adult education series). San Francisco, CA: Jossey-Bass.

Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001). *A taxonomy for Learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Addison Wesley Longman.

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.

Bennett, M.J. (1986). A Developmental Approach to Training for Intercultural Sensitivity. *International Journal of Intercultural Relations*, 10, 179-196.

Bennett, M. J. (2004). Becoming interculturally competent. In J.S. Wurzel (Ed.) *Toward multiculturalism: A reader in multicultural education*. Newton, MA: Intercultural Resource Corporation.

Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of educational objectives: Handbook I: Cognitive domain.* New York: David McKay

Bologna Working Group. (2005) A Framework for Qualifications of the European Higher Education Area. *Bologna Working Group Report on Qualifications Frameworks* (Copenhagen, Danish Ministry of Science, Technology and Innovation).

Centre for Teaching Excellence. (n.d) Activities for Large Classes, University of Waterloo, retrieved December 8, 2019, from: https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/educational-technologies/all/activities-large-classes.

Chickering, A. (1969). *Education and identity* (First ed., The jossey-bass series in higher education). San Francisco: Jossey-Bass.

Chickering, A., & McCormick, J. (1973). Personality development and the college experience. *Research in Higher Education*, 1(1), 43-70.

Cinici, A., Sozbilir, 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.

Carroll, J. (2015). *Tools for teaching in an educationally mobile world* (Internationalization in higher education). Oxfordshire, England: Routledge. (2014).

De la Croix, A., & Veen, M. (2018). The reflective zombie: Problematizing the conceptual framework of reflection in medical education. *Perspectives on Medical Education, 7(6),* 394-400.

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.

Facing History and Ourselves., (n.d.). Big Paper: Building a Silent Conversation, retrieved December 8, 2019, from: https://www.facinghistory.org/resource-library/teaching-strategies/big-paper-silent-conversation

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.

Ghorashi, H. (2006). Paradoxen van culturele erkenning: Management van diversiteit in nieuw Nederland. Amsterdam: Vrije Universiteit.

Grunspan, D., Eddy, S., Brownell, S., Wiggins, B., Crowe, A., Goodreau, S., & Rosenfeld, C., Editor. (2016). Males under-estimate academic performance of their female peers in undergraduate biology classrooms. *Plos One, 11(2).* Doi: 10.1371/journal.pone.0148405.

Harrison, L. A., Stevens, C. M., Monty, A. N., & Coakley, C. A. (2006). The consequences of stereotype threat on the academic performance of White and non-White lower income college students. *Social Psychology of Education, 9(3)*, 341-357.

Hockings, C. (2010). Inclusive learning and teaching in higher education: a synthesis of research. York: The Higher Education Academy, retrieved December 8, 2019, from: https://www.advance-he.ac.uk/knowledge-hub/inclusive-learning-and-teaching-higher-education-synthesis-research

Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating "sense of belonging" in first-year college students. *Journal of College Student Retention: Research, Theory & Practice, 4(3)*, 227-256.

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.

Johnson, D. R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H. T., & Longerbeam, S. D. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development, 48(5)*, 525-542.

Jolles, J. (2010). *Thinking about the future: Developmental changes in temporal discounting during adolescence.* Frontiers in Neuroscience, 4. Doi: 10.3389/conf.fnins.2010.11.00049

Kahneman, D. (2012). *Ons feilbare denken: thinking, fast and slow.* Business Contact.

Lewin, K., Lewin, G., Lewin, K., & University of Michigan. Research Center for Group Dynamics (Ann Arbor). (1948). *Resolving social conflicts: Selected papers on group dynamics.* New York etc.: Harper.

Marchesani, L., & Adams, M. (1992). Dynamics of diversity in the teaching-learning process: A faculty development model for analysis and action. *New Directions for Teaching and Learning, 52(52),* 9-20.

Master, A., Cheryan, S., & Meltzoff, A. N. (2016). Computing whether she belongs: Stereotypes undermine girls' interest and sense of belonging in computer science. *Journal of Educational Psychology, 108(3)*, 424-437.

Meeuwisse, M., Severiens, S.E., & Born, M. (2010). Learning environment, interaction, sense of belonging and study success in ethnically diverse student groups. *Research in Higher Education* 51.6: 528-545.

Nakui, T., Paulus, P., & Van der Zee, K. (2011). The role of attitudes in reactions toward diversity in workgroups. *Journal of Applied Social Psychology*, 41(10), 2327-2351.

Office of Human Resources, (n.d.). Diversity and Inclusion Activities, West Virginia University, retrieved December 8, 2019, from: https://www.uh.edu/cdi/diversity_education/resources/activities/pdf/Inclusion_Activities_Book.pdf

Owens, J., & Massey, D. (2011). Stereotype threat and college academic performance: A latent variables approach. *Social Science Research,* 40(1), 150-166. Doi: 10.1016/j.ssresearch.2010.09.010

Perry, W. (1968). *Forms of Intellectual and ethical development in the college years: A scheme.* New York: Holt, Rinehart & Winston

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 Bewegen, VU. Available from: http://www.handbookdiversity.nl/story_html5.html

Raudys, J., (2018). 8 Active Learning Strategies and Examples, Prodigy, retrieved December 8, 2019, from: https://www.prodigygame.com/blog/active-learning-strategies-examples/

Rhodes, C., & Nevill, A. (2004). Academic and social integration in higher education: A survey of satisfaction and dissatisfaction within a first-year education studies cohort at a new university. *Journal of Further and Higher Education, 28(2)*, 179-193. Doi: 10.1080/0309877042000206741

Rognes, J., & Schei, V. (2010). Understanding the integrative approach to conflict management. *Journal of Managerial Psychology, 25(1)*, 82-97. Doi: 10.1108/02683941011013885

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

Spencer, B., & Castano, E. (2007). Social class is dead. Long live social class! Stereotype threat among low socioeconomic status individuals. *Social Justice Research, 20(4)*, 418–432.

Spencer, S. J., Logel, C., & Davies, P. G. (2016). Stereotype threat. *Annual Review of Psychology, 67(1)*, 415–437.

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology, 35(1),* 4–28.

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

Steele, C., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69(5),* 797-811.

Thomas, L. (2002). Student retention in higher education: the role of institutional habitus. *Journal of Education Policy, 17(4)*, 423-442.

Thomas, L. (2012). Building student engagement and belonging in Higher Education at a time of change. *Paul Hamlyn Foundation, 100.*

Tuckman, B. (1965). Developmental sequence in small groups. *Psychological Bulletin, 63(6)*, 384-399. Doi: 10.1037/h0022100

Van der Zee, K., & Van Oudenhoven, J. (2013). Culture shock or challenge? the role of personality as a determinant of intercultural competence. *Journal of Cross-Cultural Psychology 44(6)*, 928–940.

Van der Zee, K., van Oudenhoven, J. P., Ponterotto, J. G., & Fietzer, A. W. (2013). Multicultural Personality Questionnaire: Development of a Short Form. *Journal of Personality Assessment, 95(1),* 118-124. https://doi.org/(...)00223891.2012.718302.

Voogt, J., Pareja Roblin, N. (2010). 21st Century Skills: Discussienota, Universiteit Twente

Wenham, T., 15 active learning activities to energize your next college class, Nureva, retrieved December 8, 2019, from: https://www.nureva.com/blog/education/15-active-learning-activities-to-energize-your-next-college-class

Wenzel, T.J. (2002). Controlling the climate in your classroom. *Analytical Chemistry 75*, 311A-314A.

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.