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Student Motivation in Cross-Disciplinary Bildung Education: Learnings from a Case Study in the Netherlands

ABSTRACT

There is a growing interest in cross-disciplinary education aimed at instilling an open mindset in students in order to help them navigate complex societal issues. Since this requires commitment to learning, self-reflection, and venturing out of the "known," it is essential to understand student motivation for this type of learning that goes beyond traditional academic pursuits. This article explores first-year students' motivation in the Broader Mind Course (BMC) at Vrije Universiteit Amsterdam (VU Amsterdam). By drawing on qualitative interview data (n=23) of all actors involved—students, teachers, course designers, and management—we explore what elements support or impede participation, using self-determination theory as a lens. The results show that a balance between organisational guidance and freedom of choice should be ensured (autonomy), traditional external incentives and scaffolding are needed (competence), and educators should create a safe atmosphere (relatedness). The results of this study provide useful insights for the development of innovative and engaging cross-disciplinary courses for students' personal, social, and academic development.

KEYWORDS

Bildung, cross-disciplinarity education, self-determination theory, student motivation, course design considerations

INTRODUCTION

In plural and fast changing societies, critical thinking and reflection are perceived as essential requirements for dealing with change (Illeris 2019). They enable individuals to make sense of and interact with the complex world, to understand challenging experiences, and to actively participate in processes of change (Pachner 2019). Consequently, course designers of higher education institutes (HEIs) are adapting their pedagogical strategies to adequately prepare students for a society where mere occupation-specific skills are no longer sufficient (Drake and Reid 2020). Different types of approaches, such as transformative learning (Mezirow 2009), Bildung (Biesta 2002), character education (Pattaro 2016), (global) citizenship education (Shultz, Abdi, and Richardson 2011), community service learning (Bringle and Clayton 2012), and cross-disciplinary education (Klein 2022) may achieve this. Although different in their philosophies and methodologies, these pedagogies are all concerned with the development of individuals beyond mere academic knowledge (Zuurmond et al. 2023). Whereas transformative learning aims for personal and cognitive shifts, Bildung emphasizes holistic development; character education focuses on virtues and ethical values; global citizenship

education prepares responsible citizens; community service learning integrates service with learning; and cross-disciplinary education promotes collaboration across disciplines. Central to these endeavours is fostering a reflective mindset, personal growth, and societal awareness amongst students.

Student motivation is often viewed as highly important in relation to any type of learning since it is the main driving force for students to actively participate and engage with fellow students and the materials (Niemiec and Ryan 2009). However, it can be argued that it is even more crucial in relation to more profound learning aimed at expanding one's understanding of self, societal roles, interactions with others, and different ways of thinking (Horn et al. 2022). Gaining a broader, more inclusive, and open-minded worldview requires a commitment to learning, self-reflection, and active engagement with the diverse world. Furthermore, it requires venturing out of the "known," letting go of previously held assumptions and "frames of reference," and developing the ability to deal with uncertainty (Formenti and Hoggan-Kloubert 2023). This may be especially challenging to achieve in a higher education system that is dominated by extrinsic motivators, such as exams, grades, and deadlines (Kahu 2013). Therefore, if HEIs want to provide students with opportunities for comprehensive academic, personal, and social growth, equipping them for success and significance in the contemporary world, it is essential to understand how to nurture the required intrinsic motivation in students for this type of learning.

In this article, we aim to gain a better understanding of how to foster student motivation in courses focused on developing a more inclusive and open-minded worldview whilst stimulating personal growth. We do so through in-depth interviews with different stakeholders—students, teachers, course designers, and management—of the Broader Mind Course (BMC) at Vrije Universiteit Amsterdam (VU Amsterdam). This cross-disciplinary course aims to develop a deeper awareness of complex societal issues, such as sustainability, digitization, and poverty, that cannot be addressed from the perspective of a single discipline by engaging students with both a personal and a societal question related to different complex problems (https://vu.nl/en/about-vu/more-about/a-broader-mind). As such, this course finds itself at the intersection of cross-disciplinary and Bildung education. With Bildung, we mean the holistic development of an individual, emphasizing self-cultivation and personal growth. It encompasses not only intellectual development but also the formation of character, cultural awareness, and ethical values. Bildung aims for individuals to achieve a well-rounded, enlightened, and autonomous self, capable of contributing positively to society (Horlacher 2015). The course is cross-disciplinary, since students are deliberately mixed into different disciplinary groups, and it has elements of Bildung, since it aims to transcend the mere acquisition of disciplinary knowledge and skills, making students aware of who they are by focusing on "becoming and being somebody" (Biesta 2002, 343). This aligns with the mission of VU Amsterdam, which states that students should not only study "something," and hence learn different kinds of professional qualifications, but also become "someone" that can contribute to the lives of others and to society (Buijs 2020).

Purpose

Prior research on the BMC showed that some students experienced indications of emergent transformative learning by participating in the course. However, student motivation is one of the crucial elements to ensure this (Demeijer et al. 2024). Since the initial idea of the BMC was to make it a mandatory course for all first-year students, it is important to explore to what extent students are motivated to actively participate in this course and how student motivation may be supported. Therefore, this article explores which elements support or impede first-year student motivation to

actively participate in such a course. By drawing on qualitative interview data gathered from all actors involved in the course, we can obtain a 360-degree angle, such as participating first-year students who obtained a certificate (n=10), drop-out students (n=2), course coaches (n=6), and course management and -designers (n=5). Through this 360-degree angle and by using self-determination theory (SDT), this article answers the research question: "How can first-year student motivation to participate actively in a cross-disciplinary course focused on acquiring a broader mind be fostered?"

Motivation and self-determination theory

Contemporary research on motivation underscores that educational motivation is not a dispositional trait of the learner, but a complex, dynamic, and individualized phenomenon (Maehr and Zusho 2009). Self-determination theory (SDT), developed by Deci and Ryan (1985; 2008) is widely used to understand human motivation. According to SDT, three psychological needs support intrinsic motivation: autonomy, competence, and relatedness.

Autonomy is the sense of control that students experience during the learning process. This can be supported by design choices through alignment of activities with students' interest and integrating student perspectives into activities (Deci and Ryan 2008; Niemiec and Ryan 2009). According to Núñez and León (2015), the five most widely used characteristics that support student autonomy are: providing meaningful rationale, acknowledging negative feelings, using noncontrolling language, offering meaningful choices, and nurturing inner motivational resources (Deci and Ryan 2008).

Competence is the confidence students experience about their ability to do a certain task. Course designers can support competence by creating optimally challenging educational activities tailored to students' capabilities and by providing the right tools. Educators can support competence by providing useful feedback, creating structure, giving explicit information, and clarifying expectations (Niemiec and Ryan 2009).

Relatedness is about the feelings of belonging that students experience in a classroom setting, and about the ability to make a valuable connection with others (e.g., peers and teachers). Deci et al. (1991) describe that a pleasant atmosphere and promoting peer acceptance by an instructor supports students' relatedness. Also, if a teacher "genuinely likes, respects, and values" students, this supports their feeling of relatedness (Niemiec and Ryan 2009, 139). In theory, the satisfaction of these three needs in a course may facilitate students to internalise their motivation (Niemiec and Ryan 2009).

SDT states that motivation can range from a-motivation (not doing the activity at all) to extrinsic motivation (doing the activity due to external incentives) to intrinsic motivation (enjoying the activity itself). Whereas extrinsically motivated students need external regulation, like grades, certificates, deadlines, or enthusiastic teachers to be motivated for a certain task, intrinsically motivated students are active and engaged, tend to perform better in the classroom, and have more positive learning outcomes (Niemiec and Ryan 2009). Whether students are intrinsically or extrinsically motivated is not "set in stone": students can move along the motivational continuum as their basic personal needs are fulfilled (Deci and Ryan 1985, 2008; Niemiec and Ryan 2009). Therefore, students should be supported in their sense of autonomy, competence, and relatedness to ensure student motivation (Deci and Ryan 1985, 2008; Niemiec and Ryan 2009). This is particularly relevant when students are participating in a course aimed at gaining a broader, more inclusive worldview. Since this requires venturing out of the "known" and dealing with both personal and societal issues in a cross-disciplinary setting, it is important to understand how to nurture the essential intrinsic motivation of students.

For a better understanding of student motivation in relation to the BMC, the next section focuses on the course itself, as well as the methods employed to capture the perspectives of all stakeholders involved—students, teachers, course managers, and course designers.

Case study: The broader mind course

This study describes the 2019 pilot of the Broader Mind Course (BMC). Nowadays, this cross-disciplinary course is offered to all undergraduates from all faculties of VU Amsterdam as an extracurricular course, but during the pilot year, only first-year students of five study programmes could enrol in order to manage practicalities and logistics. It is a 40-hour course (equivalent to one European Credit Transfer and Accumulation System [ECTS]) spread out over four months (February–May) followed in parallel to students' undergraduate programme. Its principal aim is to stimulate personal growth while developing a deeper awareness of complex societal issues; the course's learning goals of the course can be found in Table 1.

Table 1. Learning goals of the Broader Mind Course

Learning goals	After completing the programme, students are able to:
Explore perspectives	Defend a well-considered viewpoint on social and academic problems covering different disciplines and perspectives
Reflect on responsibilities	Demonstrate an openness to the world, based on an understanding and appreciation of social and cultural diversity and respect for human rights and dignity
Reflect on qualities	Collaborate successfully in groups on academic topics
Reflect on study	Reflect on their development as a student, academic and citizen

The course was designed bottom-up by students, lecturers, researchers, and university support staff at VU Amsterdam in response to VU's aim to achieve its third mission—which is broadly defined as "a contribution to society" (Abreu et al. 2016)—and equip students with a broad perspective (VU 2021). It offers two different tracks (A and B) that both discuss four different themes based on the Sustainable Development Goals (SDGs) and contain a personal and societal question that are discussed for two weeks each (see Table 2 for the different themes per track). Nowadays, students can choose their track of preference, but this was not yet the case during the pilot. After enrolment, students are mixed into interdisciplinary groups of approximately 20 students that are facilitated by guides: third-year undergraduate or postgraduate students who receive training prior to and during the course.

Table 2. The different themes per track

Track	A	B
	Success and failure	Health and happiness
	Poverty	Digital world
	Human body	Viewpoints and worldview
	Rebellion	Sustainability

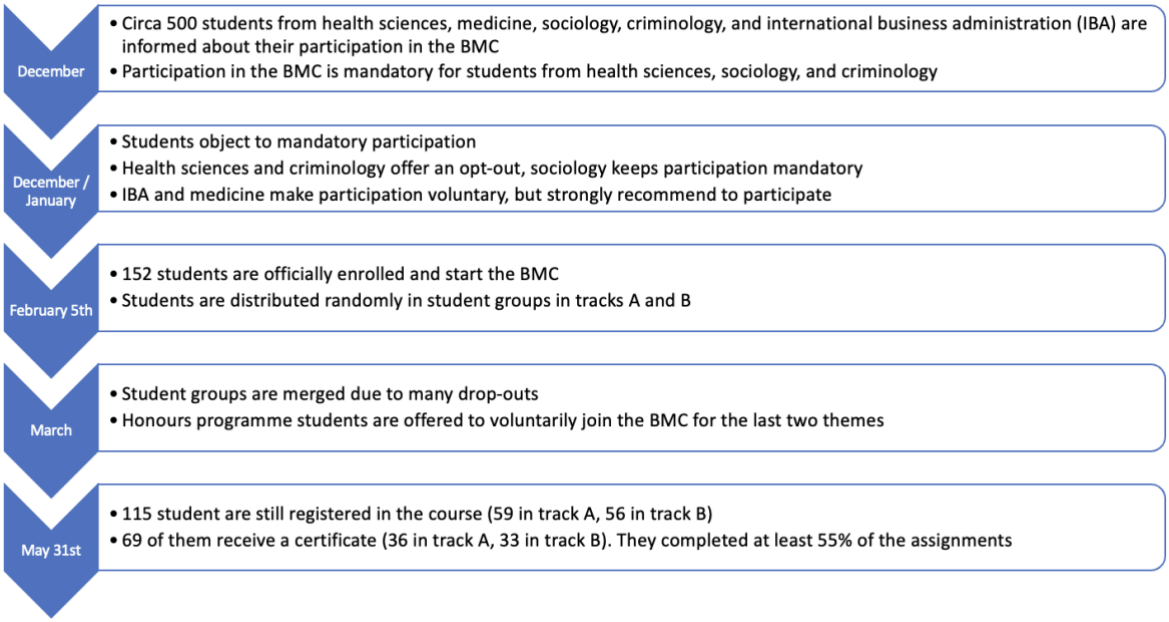
BMC uses a blended course design, combining face-to-face meetings and activities with online assignments. Exercises differ per theme. Examples include: for the theme digital world, students do a

"digital detox" by practicing being offline for a few hours to a week; for sustainability, students collect and photograph their waste during one week; for success and failure, students interview someone they consider successful; for health and happiness, students can chose practicing meditation for a week or keeping a gratitude journal. Afterwards, students reflect, share, and discuss their experiences together during offline meetings.

Students do not receive grades, but if they complete at least 55% of the assignments they receive a course certificate and an indication on their diploma of successful completion.

During the pilot, the BMC was initially mandatory for first-year students from three study programmes and highly recommended for two other programmes, aiming at a total of 500 students. However, in February, only 152 students started the course: health Sciences (n=60), sociology (n=30), criminology (n=28), medicine (n=27), and international business administration (n=7). Because of the large dropouts during the first half of the course, groups were re-distributed after two months (after finishing two of the four themes of the course). Additionally, honours students could join in for the last two themes. At the end of the course, 115 students were still enrolled, and 69 students (45%) received a certificate. On average, students completed 66.2% of the assignments for their respective track (see Figure 1).

Figure 1. Flowchart illustrating student numbers throughout pilot



METHODS

Semi-structured interviews

We used a two-step flexible and reflexive approach to explore which elements support or impede first-year student motivation in the BMC. To create an optimal understanding, we interviewed all actors involved in the course (students, guides, course management, and course designers), thereby creating a 360-degree angle. First, we conducted semi-structured interviews with pre-formulated, open-ended, and follow-up questions with students. Second, based on thematic analysis of the student interviews, interview guides, course designers, and the management team participated in semi-structured interviews about elements influencing first-year student motivation.

Students

The student interview guide focused on which contextual factors in the BMC positively or negatively influenced the satisfaction of students' needs based on SDT. It contained four sections: general impression of the course, autonomy, competence, and relatedness. The questions regarding the concepts of "autonomy," "competence," and "relatedness" were based on Niemiec and Ryan (2009). Autonomy questions focused on how students experienced the received guidance, their sense of autonomy (e.g., "How much freedom did you experience in the course?"), and the alignment of their interest with the course's learning goals. Questions exploring competence discussed the level of complexity, guides' feedback, and the alignment of assignments (e.g., "How were you supported during this course?"). Relatedness included questions about contact with peers, how students felt during discussions, and how they experienced working with peers from different disciplines (e.g., "What type of contact did you have with fellow students?"). Student quotes are marked by S.

Guides, management, and course designers

These interview guides consisted of the same four sections as student interviews. In each section, supporting and impeding elements mentioned in the student interviews were explored with the interviewee. The interviewees reflected on their own perspective of the themes and how they, from their role, could have affected (positively/negatively) this specific element in an open and reflexive manner. In Table 3, it becomes apparent how the interview guides of students, guides, course designers, and the management team are connected. Guides quotes are marked by G and course designers and management by D.

Table 3. Example questions from the interview guides for the three different stakeholders

Concepts	Students (S)	Guides (G)	Management / Course designers (D)
General impression	Could you describe two things you liked about the course?	Could you list three things you liked and three things you didn't like about being a guide?	What do you think is the added value of BMC for a student?
Autonomy	How much freedom did you feel you had in the course to explore your interests?	Could you describe your guiding style? → How much freedom did you give students?	What type of students did you have in mind when developing the course? → How does the course in its current form align with this type of students?
Competence	How challenging was the course for you?	What do you think about the complexity of the course for first year students? → How did you guide students when they experienced difficulties, both online and/or offline?	To what extent does the course design connect with the capacities of first year students? → Who was responsible for this connection and how?

Relatedness	Could you describe the group dynamics both online and/or offline?	How would you describe the contact among students both online and/or offline? → What was your role in the contact among students?	What attention is paid to facilitate students to connect with each other in the course? → What was the intended role of guides in this?

Sampling strategy

The research team and/or course coordinator recruited students via an announcement online and face-to-face before and after offline activities. We also recruited guides via an online announcement and during their training. Interviewees from the management team included the course coordinator, the course design coordinator, two programme managers, and the programme initiator. In total, we conducted 23 semi-structured interviews with students (n=12), guides (n=6, three per track), and course designers and the management team (n=5). Of the twelve interviewed students, ten received a certificate at the end of the course, and two made use of the opt-out option at the start of the course. The students had diverse study backgrounds, and all study programmes that participated in the pilot of this course were represented.

Data collection

All interviews took place between March and May 2019 by the second author and Naresh Manoura, mentioned in the acknowledgments. They had no specific relation to the course, nor to the interviewees, which allowed them to speak freely. We conducted interviews in Dutch or English and on campus in a private meeting room. Each took approximately 45–60 minutes. Data collection continued until we reached data saturation (i.e., no new information or themes were observed in the data). All interviews were audio recorded and transcribed verbatim.

Data analysis

We analysed data in MAXQDA and Atlas.ti by using an inductive-deductive coding approach using the three stages “noticing,” “collecting,” and “thinking,” as described by Friese (2019) in an iterative manner to find the most important contextual factors that influenced student motivation in the BMC. The analysis started with data familiarization via the extensive reading of the transcripts, writing down initial thoughts, followed by an initial coding of transcripts and searching for themes. We created a rough coding structure by comparing patterns and themes that inductively emerged from the data, reflecting the supporting and impeding elements for student motivation in cross-disciplinary courses and the perspectives of stakeholders thereon, with the deductive concepts of autonomy, competence, and relatedness of SDT. This coding book served as a continuously reviewed resource when exploring potential emerging themes. Throughout the analysis, authors met regularly to ensure the quality of the coding procedure, increasing the internal validity and reducing research bias.

Research ethics

All participants gave their informed consent verbally on tape at the start of the interview. The interviewer informed them about the use of their data for scientific research and told them they could withdraw from the study at any time. In exchange for participating, participants received a book voucher for the university’s bookshop but were not informed about this gift beforehand. Audio recordings and transcripts were stored on a safe drive that is password-protected and can only be accessed by the researchers. We anonymized all data transcripts. In accordance with the regulations

of VU Amsterdam, the anonymized transcripts are stored for five years. In adherence to the ethical standards established at VU Amsterdam, our research aligns with the prescribed conditions for human subjects, which encompass:

- Provision of comprehensive and accurate information regarding the research prior to participants' involvement.
- Obtaining explicit consent from adults, who are cognizant of potential burdens or harm, and ensuring their voluntary engagement before the commencement of the research.
- Ensuring the confidentiality of acquired information through robust security measures and encryption.
- Conducting thorough risk assessments on data disclosure before making it accessible to others.

Moreover, our research adhered to the following guidelines:

- No envisaged harm to participants or the population from which we selected participants.
- Provision of detailed and accurate information to participants about the research objectives before their participation.
- Obtaining active consent from participants for their involvement in the research.
- Inclusion of healthy adults who are not in a vulnerable position as participants.
- Maintenance of confidentiality and secure storage of personal and sensitive data in a protected environment.

The study also adheres to the code of ethics for the social and behavioural sciences of VU Amsterdam (2016). As a research undertaking classified as "standard" and compliant with the established guidelines, the research ethics review committee deemed further scrutiny unnecessary.

RESULTS

We present reflections on student motivation during the BMC organised into a) autonomy, b) competence, and c) relatedness; thereby going into how all involved parties (students, guides, and the course designers and management) reflect on these three psychological needs to support intrinsic motivation.

A. Student autonomy

Students

During the pilot, three of the five participating programmes required mandatory participation in the BMC—until the opt-out was offered prior to the start of the course—and strongly recommended by the other two programmes. Therefore, most students experienced restricted autonomy in their choice to participate which may—at least partially—explain the high drop-out. Interviewees expressed that choosing between one of the two tracks would increase their sense of autonomy. Many felt that the communication about participation was unclear, as illustrated in the following quote:

> People were told: "well, there is this pilot programme [. . .], it is very interesting, it is compulsory." As a result, everyone immediately jumped to their feet and thought, no, I don't want that. And yes, it was set up by students and then on Canvas [the online

> environment] there was more information about the fact that you could unsubscribe if you wanted to. [. . .] [But]. . . it was all a bit vague, [. . .] I felt.—S3

Although the course was pitched as "interesting," it either lacked a compelling rationale or the requirement for mandatory participation overshadowed interest. The additional "vagueness" did not increase autonomy. Not all students knew what to expect beforehand, and some "can't really describe a goal" (S10) afterwards either. The ones who expressed understanding of the course's goal valued it much more. For example, when asked about the general aim of the course, one student commented:

> S2: Actually, as the name suggests, to get a broader perspective on society and get more insight into different life situations of other people. [. . .] Like now, we had the theme "poverty" that gives insight into what it's like to be poor.
> I: What exactly do you learn then?
>
> A2: Well, changing insights [. . .]. I come from a very small village, so I was raised quite sheltered among such a small circle of people. And then, especially coming here to Amsterdam and then also this . . . it does really help to see how the world is bigger than what happens in my village, so to speak.

Some students did not "opt-out," either "because they were interest in the themes" (S7; S1), in doing extra-curricular courses to enrich their CV (S1), or because they wanted to engage with broader topics than provided by their own study programme (S6). Others mentioned being interested in meeting people from other programmes (S3, S7), and some simply continued since they had already started (S4).

Guides

Most guides valued the course content and saw it as "a really good way to look a bit outside of your own bubble" (G4). The guides considered working in groups of students from different disciplines and focusing on societal issues to be especially relevant:

> Integrating people from different disciplines [. . .] doesn't happen that often [. . .] and it is really cool. I really think that is how life works. You don't only work with people from your own programme. [. . .] Even the words you use don't mean the same in other programmes. So, I think that was one of the really nice things. And the second one is that it is the first time I heard about a course that is thinking about how to solve or how to think about social problems. And that is amazing! Because we have social problems, but nobody in the university really prepares us to do something about that.— G5

Understanding the value of the course and knowing what their role was, helped guides to give students a meaningful rationale for participation in the course. As one guide commented: "I need to understand the purpose of what I am doing really well so I can transmit that to other people" (G3). Some guides experienced difficulties engaging their mandatory students. One guide tried to check in with students to understand how they could become more engaged, but this did not yield the desired result:

> When I asked them why they were joining they gave me reasons like personal motivation like "it is just a mandatory course I have to take", and when I asked them what would be interesting to do in the course and what won't be interesting in the course, they kind of didn't take the time. . . [. . .] They weren't really willing to participate.—G5

Course designers

Course designers tried to ensure autonomy by having students co-design the course so it would "connect to students' lives as much as possible, so that students can relate to the course topics" (D5).

> The starting point by the design of the course was student ownership [. . .] which means that it is basically of and for students. And of course, teachers and staff also helped build it, and of course, there has been quite robust supervision on the building process. [. . .]. But at its core, the course is there for the students.—D4

Even though all interviewed members of the management team believe that the course is valuable for first-year students' personal and academic development, some doubt whether students share that view. Since first-year students are still trying to gain a foothold in a new world, some feel—in hindsight—that the course might be more suitable for second-year students:

> First-year students may be much more concerned with themselves, with just surviving as a human being in a group in a situation that is new and so on. [. . .] You also have to be ready to be able to turn the gaze outwards a bit. [. . .] So maybe, if I look at the whole thing now, it might make more sense that the second year is a natural place for the BMC than the first year.—D5

If instructors provide a meaningful rationale to students, they may better understand why the course is useful (Niemiec and Ryan 2009). If the course, or the reasons if and why they need to participate become less vague, it may enhance student autonomy.

B. Student competence

Students

All interviewed students mentioned that they did not feel academically challenged by the assignments or sufficiently competent to deal with the "creative" (S7) and "open" (S6) elements of the assignments, which was considered "eye opening," "mind broadening," and "fun" (S3). However, this varied per theme. As one student commented, the first theme triggered her self-expression more than the second theme:

> That first theme ["Success and Failure"] I found the personal stories of the people who have overcome something interesting and instructive [. . .] and kind of motivating. [. . .] There, I felt more like I could use [. . .] my own creativity and really put my views into it. In "Poverty", [. . .] there were also a lot of questions that were a bit more fact-based, like "how many did you think lived in poverty in the [removed for review]?" [. . .] It's good to know those absolute numbers, but not so very relevant to me as a person and my growth in it.—S4

We noted differences in students' appreciation of assignments. While some students leaned towards the more creative assignments, others expressed a preference for exercises grounded in factual content. Within some themes, assignments were not challenging enough or "too vague to get excited about" (S7). Assignments with no clearly defined purpose demotivated students, as did instances where students did not know what to do. Students said to rely on guides for structure, logistics, and deadlines. If guides did not provide the desired support, students could feel uncomfortable, unsure about what to do, and, as a result, some took the course less seriously. Students also mentioned the importance of receiving feedback (S4, S6, S10), since this gave them a sense of acknowledgement and purpose. As one student commented:

> If you get feedback, that's actually a kind of incentive to do your best for the next assignment. Because if you don't receive feedback, you feel like "well, I think it's okay like this and it doesn't really matter anyway," except that you hand it in, that's all.—S10

While some students appreciated not receiving credits or grades, saying that this helped them to freely express themselves without getting it "wrong" (i.e., not complying with requirements), others struggled with the lack of external incentives. Some mentioned that the certificate at the end motivated them to keep going and said that receiving credits would increase their motivation.

Guides

According to the guides, the difficulty of the course varied per theme and per disciplinary background of the student. For example, the theme "human body" was not as challenging for medicine students as for the others (G6). Several guides recognized that students strongly depended on their efforts to give structure and direction. Guides employed different strategies to accommodate these wishes: whereas some gave students freedom "to really do what they wanted" (G2), others explicated expectations or created additional deadlines to ensure enough incentive:

> I had to go above and beyond to get students aboard and not to get them to think "well, whatever" and get behind schedule. So, that is the reason I was very clear on deadlines [. . .]. I thought, if I make everything very clear, that is the best way I can motivate them.—G4

Others tried "to give some positive reinforcements" (G1), even if they felt like it was not the most useful way to give feedback:

> They did like getting feedback. So, towards the end [. . .] I did say more often like: "well done this, I notice you put a lot of time into this." So, not asking a question, but more motivational feedback. [. . .] It's a little less interesting because it doesn't necessarily relate to the content [. . .]. But it is a sign for them that I really read those assignments, which [. . .] also encourages them to do those assignments well. I personally find it kind of useless feedback, but it does help.—G4

Course designers

Although course designers anticipated that this course would differ from their regular courses, they mentioned that they overlooked some challenges—particularly with first-year students—when

designing the course. For example, first-year students still need additional guidance and clarity. As one designer comments:

> It is a different kind of learning than students are used to [. . .] It's not like: "here's the books, you have to learn that and then we're going to learn an exam about it and there's only one right answer." So, it's much more about reflection and learning to learn, checking with yourself how you think about things. Students do find that complicated. [. . .] They always want some kind of judgement or at least a reaction to something like: "did I do well or not?" or "did I get a pass or not?" "what grade did I get?" [. . .] Especially first-year students [. . .] are like: "just tell me what I have to do, and then I'll do it and I'll do my best for it and then I want to hear how I did it." —D2

One course designer mentioned that students were given too much freedom in organisational aspects (such as expectations, deadlines, etc.) and too little freedom in choice of topics:

> On the one hand, I think first-year students shouldn't have so much freedom, because then they don't really know what to do with it. [. . .] They really wanted to know when things had to be finished, what they had to comply with in order to [. . .] eventually pass the course. But on the other hand, I think they would have liked to have had more freedom in choosing the theme or track.—D1

Course designers had not anticipated that receiving grades or a certificate would be such an important motivator. As one course designer commented: "It struck me that students do find such a certificate important after all, apparently, that is a motivation" (D2). To accommodate for these wishes, both course designers and management think that more structure and guidance is needed, and that guides should play a bigger role in providing feedback and supervision.

C. Student relatedness

Students

Students mentioned interaction with peers as important for their motivation (S3, S4, S9). Most interviewed students expected guides to provide social comfort during online and offline activities, e.g., by taking initiative in discussions. As one student commented:

> Well, I found that they [the guides] created a really open atmosphere. [. . .] I had the idea that I couldn't say anything wrong, you know. They were all really friendly. [. . .] I think that was really good.—S1.

However, the course designers initially constructed a substantial part of the interaction of this course to be online, where connectedness and trust are more challenging to establish. Most students think that it is up to the management and the guides to create a sense of trust and belonging within the group. There was quite some variety in how guides gave shape to this in the pilot year, and not all students felt like that happened enough. As one student commented:

> You want to have the idea that you are not doing it alone. You want everyone to participate because that also motivates you to keep going. [. . .] I don't think that they encourage enough communication and cooperation within the different groups. [. . .]

> This is really a course that I think is best done together. Because that's where you learn the most, because that's also the goal, that you learn from each other. So, I do miss that.—S4

Guides

Most guides struggled with the blended design of the course and with establishing and stimulating group engagement in an online environment. In some cases, guides were also demotivated to engage online (G4). To create more connection, some scheduled additional in-person meetings or set-up a WhatsApp group to facilitate communication. Not all attempts were equally successful:

> My attempt of motivating them by once-a-week messages on Canvas [the online environment] and trying to schedule in-person meetings did not work. I tried that a few times, but nobody showed up. [. . .] I know some guides that created WhatsApp groups and they were very close to the students; they were communicating every day. I would send a message reminding them "you have a deadline next week" or whatever. I guess that just wasn't enough.—G1

All interviewed guides preferred the face-to-face meetings since they created a bond among students and a safe atmosphere within the group over time. Some guides reported that they managed to create a safe atmosphere due to the face-to-face meetings with students:

> You noticed that students were a bit uncomfortable at first because they didn't know each other. But [. . .] at the last meet-up, students really [. . .] dared to express their opinions. So that did improve as they had seen each other a few times and knew each other's faces.—G4

Course designers

Course designers paid most attention to the formal design elements related to (cognitive) learning and logistics when designing the course rather than to the relational aspects, both between guides and their students and between guides and course coordinators. Interviewed course designers acknowledged that they had not foreseen the importance of relatedness for student motivation, and therefore did not pay sufficient attention to this in the training of the guides. As one course coordinator mentioned:

> I think we should have aimed to support the guides more [. . .] in, well, how do I motivate students, how do I deal with group dynamics? How do you communicate with students online?—D1

Additionally, the choice to make the course blended led to unexpected results. The motivation to do so was primarily a logistical one, since this allowed "all faculties can naturally be involved" and course content could be scaled up (D4):

> From a practical point of view with the idea that the course should eventually be for all our students or undergraduates, it's nice to have an online course, so you can manage it organisationally. [. . .] But at the same time, it is important to keep the combination

> with offline, so that people do have real contact with each other and don't just sit at home in an attic behind their screens and expand their minds. That's a bit of a contradiction.—D1

In hindsight, offline meetings were crucial for establishing a sense of connection and safety necessary for the type of learning envisioned in this course. As one course designer noticed: "I think that if you want to get students to think in this way, with a lot more reflection and a lot more experience, then you also have to create a safe environment in which they dare and can do that." (D2)

DISCUSSION

This study sought to better understand how to enhance student motivation in cross-disciplinary courses that promote a more inclusive, open-minded worldview while supporting personal growth. We predicted that student motivation would be crucial in this type of course for positive learning outcomes since it requires students to let go of previously held assumptions and demands the capacity to effectively handle uncertainty. Therefore, we investigated the concepts of autonomy, competence, and relatedness, as stipulated by SDT.

First, with respect to autonomy, it is important to highlight that the majority of the students—circa 55%—chose to opt-out of the BMC. Therefore, our findings mainly focus on those who decided to finish the course. Those who continued wanted organisational guidance and structure, as well as freedom of choice. This might be especially the case for first-year students, who are still getting used to the new university environment. Most interviewed students expressed a desire to receive credits, which deviates from the assumption that student autonomy can be supported by minimizing evaluative pressure and a sense of coercion (Niemiec and Ryan 2009). Not receiving credits or grades might differ too much from what students are used to and, therefore, feel uncomfortable. This relates to the concept of competence, which is particularly relevant in this type of course since students are presented with different topics, assignments, and assessments and interact with students from other disciplines. This requires students to venture out of their comfort zone. Pereira (2012) refers to this as didactic discomfort, which she defines as "intellectual and/or emotional discomfort felt by students" (129). The materials or methods covered in a course can trigger this and any discomfort can be perceived, both by teachers and students "as an experience that can enable or generate learning" (129). Didactic discomfort can help question previously held assumptions, reassess the taken-for-granted, trigger critical thinking, and potentially lead to individual and social change (Mezirow 2009). This relates to the third concept of SDT: relatedness. It became evident that feelings of belonging and group cohesion are crucial in this type of course, where students are invited to share personal opinions, values, and feelings. To open up and be vulnerable, students need to know each other and feel safe. Just like creating didactic discomfort, this demands time, energy, and emotional investment from both students and teachers, which can be difficult to establish in many neo-liberal European universities (Loorbach and Wittmayer 2023; Pereira 2012). This should be given careful consideration when designing such a course.

Apart from student motivation, acquiring a broader mind also depends on students' personal "readiness" to embark on this type of learning. We noticed a variety of responses in students' willingness to venture out of their comfort zone, to revise their assumptions, and to accept feelings of uncertainty. Therefore, these types of courses should strike a balance between different degrees of comfort as stipulated by Senninger's (2000) learning zone model. This states that when students are in their comfort zone, they experience feelings of familiarity and safety, which often gives little incentive to challenge one's own assumptions. On the opposite end of the spectrum, when students experience

high levels of discomfort, they may feel overwhelmed, which can hinder the reflective examination of the sources of discomfort. Between the comfort zone and high discomfort zone exists the potential to establish a learning zone, in which a certain degree of discomfort can serve as fertile ground for learning, so long as it remains within manageable coping thresholds. The learning zone acknowledges that a moderate level of discomfort can stimulate growth, prompting individuals to stretch their capabilities without overwhelming their ability to cope (Pereira 2012).

To get students into this learning zone, instructors can provide scaffolding to ease students into this type of course, e.g. by adjusting teacher guidance based on students' needs and reducing this over time. The four levels of inquiry—confirmation, structured, guided, and open—as stipulated by Banchi and Bell (2008) can be helpful in decreasing teacher guidance. Zweekhorst et al. (2015) argue that students should be eased into open inquiry through a gradual process. The role of the teacher is hereby crucial in keeping a balance between appropriately guiding and simultaneously challenging students (Zweekhorst et al. 2015). Another way to provide scaffolding is to prepare first year students with preparatory courses solely focused on cross-disciplinarity before adding a Bildung component. This way, students can slowly become more familiar with all the new and different components of these course types. Therefore, this course might be more suitable for second or even third-year students (Kahu, Nelson, and Picton 2017).

Lastly, both motivation and readiness for change also apply to teachers. In our study, the concepts of autonomy, competence, and relatedness were not satisfactorily fulfilled for some of the guides themselves. It also became evident that not all guides could equally strike a balance between challenge and guidance and adequately guide their students through the learning process. Apart from motivation, this also depends on other important antecedents such as personality, academic skills, and expectations (Kahu 2013). The training that guides receive prior to the start of the course has been continuously improved based on guides' experiences, but even when careful instruction is provided through scaffolding—both in terms of teacher support and preparatory courses—these differences will remain and must be accommodated for.

Strength, limitations, and future studies

By interviewing all involved parties of the BMC, this study takes a multi-stakeholder approach, providing a 360-degree perspective and an in-depth understanding of processes and situational factors that play a role in student motivation in these types of courses. Second, the reflexive and inductive-deductive data collection approach ensured that new (sub) themes could emerge, while also drawing on a theoretical framework. The research yielded clear themes, and data saturation was reached.

One important limitation lies in the limited number of students sampled for this study. Since it was our aim to get an understanding of all involved parties of the course, we interviewed a small number of students, which has implications for the generalisability of the findings. Another limitation is selection bias in the interview participants. Most students used the opt-out prior to the start of the course, and most of the interviews were conducted with students who finished the course (n=10). These students represented most of the participating disciplines, but we conducted fewer interviews with students who dropped out (n=2). Therefore, these results do not include insight from the least motivated students. Possibly, more drop-out students could have led to new elements in the study. Future studies could try to include more dropouts, possibly by combining qualitative and quantitative research methods to generalize findings on first-year student motivation in cross-disciplinary courses with a Bildung component. This would shed relevant additional information on the overall motivation for this type of course. It could be that students do not want to do a course without credits that runs

alongside their regular programme since it increases their workload. If this is indeed the case, then this could be a result of the current university system, which requires students to study for credits. Consequently, if students are not obliged to take a particular course, they drop out more quickly. However, it could also be that the general interest in this particular type of course is somewhat low, which would be worthwhile to explore in future studies. Future studies could research other confounding factors like the training of the guides, promotion of an extracurricular programme, and personal student and teacher characteristics such as personality, academic skills, and expectations.

CONCLUSION

There is a growing interest from HEIs to design cross-disciplinary courses aimed at gaining a more open-minded worldview whilst stimulating personal growth and introducing students to complex societal issues. These types of courses aim to instil "soft skills" such as collaboration, communication, problem-solving, critical thinking, reflection, creativity, and productivity that are deemed essential to deal with these societal issues. As such, these courses are inherently different from regular courses in their set-up, assignments, and assessment. Since student motivation is essential for learning, especially in courses that require students to venture out of their comfort zone and actively engage in discussions, this qualitative study explored how first-year student motivation can foster active participation, taking a cross-disciplinary course focused on acquiring a broader mind from VU Amsterdam as a case. By analysing the perspectives of first-year students, drop-out students, guides, course management, and course designers, we saw that most students dropped out because they did not receive credits for this course. Those who continued the course were motivated to work on contemporary interdisciplinary societal subjects outside of their own curriculum, to work in a "new" format with creative assignments, and to meet peers from other faculties. It became clear from our data that most students need to be "taken by the hand" to optimize motivation (and hence, positive learning outcomes). Furthermore, relatedness appears to be the one of the main drivers of learning in cross-disciplinary (discomforting) learning experiences. Also, not all students are equally ready to embark on this different type of learning. Therefore, course designers should ensure sufficient scaffolding to ease students into these kinds of courses. This should be done both by adjusting teacher guidance based on students' needs and reducing guidance over time, as well as preparing students for these types of courses, e.g., by providing preparatory courses in their first year solely focused on cross-disciplinarity before adding a Bildung component. The results of this study provide useful insights for the further development of cross-disciplinary courses in HEIs that wish to develop modern, innovative, and engaging courses for students' personal, social, and academic development.

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