

## **How Concepts Travel in Actual Spaces: The Interdisciplinary Classroom as a Behavior Setting**

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### **ABSTRACT**

*In interdisciplinary education, students find out that even basic concepts such as time, freedom or control mean different things for different disciplines and individuals. Through such encounters, students develop an ever-richer conceptual toolbox for making sense of the world. But, how do concepts travel (Bal, 2002) in an interdisciplinary classroom? I address this question from the perspective of behavior settings theory, which shows how the concrete spatiotemporal characteristics of an environment structure and guide the behavior of its participants. By means of a case study, I analyze the interdisciplinary classroom as a behavior setting and argue that concepts can travel when the setting stimulates students and teachers to spend time and interact with each other in specific ways.*

**Keywords:** behavior settings, interdisciplinarity, traveling concepts

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### **INTRODUCTION**

As outlined in the introduction to this special issue, concepts play a crucial role in interdisciplinary education. In line with the other contributions to this special issue, I use the term concepts to refer to “theoretical tools or “miniature theories” (Bal, 2002, p. 22) that have been developed and used in different disciplinary contexts to name and define themes, problems, and relevant questions” (Diphooorn et al., this issue). What concepts mean is

anything but set in stone: their meaning evolves from how they are ‘appropriated, translated and kept up to date over and over again and always with a difference’ (Neumann & Nünning, 2012, p. 4). Focusing on interdisciplinary research, Bal has argued that their dynamic and fluid character makes concepts, and not methods, the most fruitful ‘carrier’ of interdisciplinary exchange. However, for this to happen, concepts must *travel* (Bal, 2002). In moving between disciplines and between academics, concepts transform and grow and contribute to interdisciplinary understanding. As Van der Tuin and Verhoeff (2022) propose, concepts could be seen as ‘partners in thinking and making’ (p. 6). In this special issue, we argue that the traveling of concepts is not only an important tool for interdisciplinary research but also for interdisciplinary education.

In being confronted with people with divergent disciplinary backgrounds, students find out that even basic concepts such as time, freedom, or control actually mean very different things for different disciplines and individuals. Through such encounters, students learn from one another and develop an ever richer conceptual toolbox for making sense of the world. But, how do concepts travel? By taking the metaphor of traveling concepts too literally, one might come to think that concepts move from person to person, from discipline to discipline all by themselves. However, obviously concepts can travel only insofar as people actually make this happen. In this chapter, I argue that for concepts to travel in interdisciplinary education, teachers and students should actually meet for a certain amount of time in a certain kind of shared concrete space. Moreover, I aim to show that to better understand how this works, it is helpful to analyze the interdisciplinary classroom as a behavior setting (Barker, 1968; Pedersen, 2019; Heft, 2020).

The aim of this paper is to examine how concepts travel in a concrete interdisciplinary teaching environment. In the literature review, I first introduce behavior settings theory and show how it has recently been applied in the context of education (Wright et al., 1951; Pedersen & Bang, 2016; Pedersen, 2019). The crucial contribution of behavior settings theory is the insight that both students and teachers experience the concrete teaching environment not “neutrally” but in terms of its affordances or functional, moral and conventional possibilities (Heft, 2018). In the remainder of the paper, I apply behavior settings theory to an exploratory and informal case study by analyzing the concrete teaching environment of Descartes College, the interdisciplinary honors program for bachelor students at Utrecht University, where I am a teacher and program leader. On the basis of classroom observations and exploratory analysis of students’ reflection reports and evaluations, I argue that the interdisciplinary classroom of Descartes College can be understood as a behavior setting that both constrains and enables certain forms of behavior. Importantly, the temporal, spatial and

social organization of the classroom can both facilitate and hinder the travel of concepts. As I will show, this became especially poignant during the COVID-19 pandemic, when the classroom suddenly needed to be moved to an online behavior setting, with different characteristics and constraints. In the conclusion, I raise the more general question of how one could structure a teaching environment in such a way that it invites the traveling of concepts. I offer some concrete suggestions and map out paths for future exploration in the final section.

In line with the general approach taken in this special issue, what I provide in the article is neither an abstract theoretical analysis nor a full-fledged empirical study. Instead, I report on both the classroom observations I made as a teacher in the program and on written and oral comments received from students in reflection reports and evaluations. By analyzing these observations and students' responses from the perspective of the behavior setting framework, I aim to contribute to a better understanding of how concepts travel in interdisciplinary classrooms.

## LITERATURE REVIEW

The notion of behavior setting has its origin in the work of psychologists Roger Barker and Herbert Wright. In the 1960s, they created the Midwest Psychological Field Station, a research station devoted to collecting data about the daily behavior of a group of children living in the village of Oskaloosa, Kansas. During this project, Barker & Wright realized that they “could predict many aspects of children’s behavior more adequately from knowledge of the behavior characteristics of the drugstores, arithmetic classes, and basketball games that they inhabited than from knowledge of the behavior tendencies of the particular children” (Barker, 1978, p. 42). Starting from this insight, they developed a framework (influenced by, among others, Kurt Lewin's field theory, see Popov & Chompalov (2012)) that aimed to show how the spatiotemporal characteristics of different environments (a classroom, a drugstore, a library, a baseball game) structure and guide the behavior of the participants in that environment. They define a behavior setting as a space–time ecological unit, or a dynamic, quasistable pattern of “joint activities of two or more individuals that endure for some length of time” (Heft, 2018, p. 109). Their work has given rise to a broader theoretical framework labeled 'behavior settings theory' (Wicker, 1984; Heft, 2001; Popov & Chompalov, 2012), which aims to analyze human behavior by means of a holistic approach. Its main tenet is that to explain what individuals do, one needs to take the whole environmental context (both material and social) into account. The behavior settings framework has not truly become 'mainstream' in psychology, possibly because its main claims deviate from psychology's general focus on explaining the features of individuals and from

its commitment to the experimental method (Scott, 2005). Nevertheless, it has given rise to various long-term research programmes in ecological psychology (Perkins et al., 1988; Heft, 2001). Later versions of the approach have made an attempt to show that behavior settings theory should (and can) also take personality factors and subjective experiences of individual agents into account (Wicker, 1984; Fuhrer, 1990).

A core feature of behavior settings is that they are identified in terms of what agents can do and think in them. Thus, to describe a situation as a behavior setting is to describe it in terms of the possibilities that the situation offers to particular individuals. As Harry Heft (2018, 2020) shows, here, Barker & Wright's understanding of behavior settings leans close to the tradition of ecological psychology, which emphasizes that individuals perceive their environment in terms of what it affords doing (Chemero, 2003; Gibson, 1977). In ecological psychology, affordances are understood as relational features: they describe the possibilities for action a certain environment has to offer for creatures with specific features and skills. A book affords reading (next to other actions, such as burning it in a fire) but only for beings that know how to read. Understood in this way, behavior settings offer different affordances to the individuals taking part in them. As Heft (2018) illustrates, "Children in a language lesson most probably would be sitting, reading, listening, writing, speaking when called on to do so, and so on, with these actions supported by the affordances of the classroom. At the same time, the possibility that any individual child would be running, shouting, or tossing a ball is vanishingly small". (p. 108)

This quote points toward an important aspect. Behavior settings not only offer possibilities but also impose normative constraints: "the actions of individuals are appropriate, within a range of normative possibilities, with respect to the place where they occur" (Heft, 2020). The norms imposed in behavior settings can be widely varied in nature. Many of them are conventional, while others are moral (behaviors such as hitting a teacher in the classroom are usually considered morally wrong) or legal (in many places, smoking is legally prohibited). Sometimes the norms at stake are explicit (think of a sign in the classroom listing rules for acceptable behavior), but often they are not. We know that people are not supposed to play loud music or give dinner parties in libraries, even if no one has ever explicitly told us so.

Whereas the framework of analyzing environments as behavior settings is a general one, it has been shown to be especially fruitful for understanding how educational settings contribute to (or hinder) the development of students. This should not come as a surprise, given that the Midwest Psychological Field Station was created with the aim of studying the everyday behavior of children. Both Barker and Wright themselves and later psychologists inspired by their work (such as Heft) provide many specific insights into how classrooms as behavior settings structure children's

behavior (Wright et al., 1951; Heft, 2018). Building on this potential, recent work in developmental psychology has brought forward behavior setting theory as a valuable ‘ecological’ counterpart to more individualist, cognitivist understandings of how children develop, with a specific focus on development in education (Bang, 2012; Pedersen & Bang, 2016; Pedersen, 2019).

What is particularly interesting about these recent contributions is that they show how the norms that guide the behavior of students in a classroom are usually deeply ingrained in its spatiotemporal organization. With regard to temporal organization, many types of classrooms work according to the idea that specific activities happen at specific times in the day and in the week. As such a temporal structure is maintained over an extensive period of time, students come to know what to expect (in a primary school setting, this could be something like ‘we do arithmetic before lunch, and after lunch we read and then play outside’). Regarding spatial organization, an obvious feature is the way the teacher and the students are seated in a classroom. However, Bang (2008) also emphasizes the importance of artifacts in providing normative guidance. The presence of books in a classroom suggests that reading is one of the activities that is encouraged, and the absence of fried snacks in the school cafeteria indicates that eating unhealthy food is discouraged.

Of particular relevance for interdisciplinary education is Bang’s claim that certain forms of spatiotemporal organization and artifacts offer potential for what she calls developmental novelty. A classroom space that is supportive of development is a space that allows the student “to expand her activities, interact in new ways and/or with new people; and when [she] begins to experience herself and her life in new ways” (p. 163). As an example, Bang describes the presence in some primary school classrooms of carpets “spread out like small ‘islands’ with a relative freedom from the teacher’s control—but only relative, he wants to be able to see them all, probably to be able to help as well as to keep in control” (p. 179). In a similar vein, Pedersen shows that some behavior settings are much more restrictive than others, even in cases where they happen to take place in the same physical space:

“During math class, students sit at their desks all facing the teacher, who is using the whiteboard to go through mathematical proofs. The students take notes on their computers (and some are on Facebook or playing online games!). [...] Then when the bell rings, and recess begins, the same room is immediately used in new ways; new rules and standards apply. This means that people are now sitting on the tables, playing loud music from their computers, shouting, eating, laughing, and playing. Finally, when there is a Friday bar at the school, the classroom often serves as a private room to sneak into,

for a private conversation or for a secret kiss. Then the otherwise public room suddenly is perceived as a private place that allows for intimacy” (2019, p. 218).

This example shows that even though behavior settings are partly constituted by a specific physical environment, they cannot be reduced to it. A math class is a math class because it takes place in a certain space, with certain people and artifacts present that all interact with the physical space in specific ways.

In the next sections, I build on the behavior settings framework and the way it has been brought to bear on educational settings in the recent work of Bang and Pedersen. By introducing a concrete case study, I aim to show how the interdisciplinary classroom can be understood as a behavior setting that offers specific possibilities for developmental novelty and, more specifically, how the structure of a behavior setting can either encourage or discourage students from making concepts travel. To offer the necessary background, the next section will provide a general description of the main features of the Descartes College; in the subsequent section, I will proceed to analyze this concrete teaching environment in terms of the behavior setting framework.

## **THE DESCARTES COLLEGE**

The Descartes College is the interdisciplinary honors programme for bachelor students of Utrecht University (The Netherlands). The program aims to enable students from all over the university “to see how your own discipline relates to others” (<https://students.uu.nl/en/academics/honours/programs/descartes-college>). Students are selected not so much on grounds of past performance but on the basis of a motivation letter where the selection committee specifically looks at their interest in interdisciplinary exchange. It is a two-year program consisting of four courses (each guided by a broad theme) in which students attend weekly guest lectures, organize discussions after the lecture, and work on interdisciplinary assignments, both individually and in small groups. Students enroll in the second year of their usually 3-year bachelor’s programme, which means that when they start in Descartes College, they already have some basic disciplinary grounding. What the program offers is a wide range of insights from other academic fields (providing opportunities for perspective taking) and tools for addressing broad questions and problems by collaborating in multidisciplinary teams (helping them to find common ground and achieve integration, see Repko and Szostak (2021)).

The Descartes College is an interesting case study for the topic at hand, as various elements of the program can be understood as being directed at the travel of concepts, even when this is usually not explicitly described in these terms. The travel of concepts is stimulated at

various levels: both in individual lectures and discussion sessions and on a more abstract level in the development of the final course of the program. To give an example of individual sessions, guest speakers in the program (usually academics from various fields, and sometimes nonacademic experts) often use concepts that do not traditionally belong to their own discipline to explain certain disciplinary ideas. For example, to explain how different kinds of numbers behave differently under mathematical operations, a professor of mathematics stated that ‘some numbers can bounce, whereas others cannot’. By giving the concept of bouncing a nonstandard application (to numbers), the teacher made this concept travel. By doing so, he made it possible for students to develop a glimpse of mathematical understanding by nonmathematical means.

After such lectures, student-led discussions often lead to questions for clarification of core concepts of the discipline under discussion. Students are expected to provide statements for discussion, but these often refer to concepts (such as ‘equality’ or ‘force’) that are ambivalent and/or have context-dependent meaning. This often leads to questions and comments from the other students, asking them to make hidden assumptions explicit. These discussions frequently reveal the fact that concepts are used differently in different disciplines.

On a more abstract level, the program aims to facilitate the travel of concepts by giving students themselves the responsibility for developing the final course of the program. To structure this course, students should decide on an overarching theme, a concept that should be specific enough to be actually guiding but broad enough to allow for a variety of disciplinary angles. Examples of chosen themes are ‘boundaries’ (cohort 2017-2019) or ‘metamorphosis’ (cohort 2018-2020). In preparing this course, the students thus need to let these concepts travel by reflecting on and discussing different possible perspectives on these themes within their group.

At the end of each course, students in Descartes College write an assignment in which they are invited to reflect on their experiences in the program. In addition to these assignments, we regularly hold individual meetings with each student in which we ask their feedback on the course and discuss their interdisciplinary development by asking reflective questions (see Keestra, 2017). In the next section, I will take a closer look at the concrete spatiotemporal and material organization of the classroom of Descartes College and at students’ experiences and feedback. I will analyze this material from the perspective of behavior settings theory to clarify the role of the concrete spatiotemporal teaching environment in the traveling of concepts. After that, I will compare this teaching environment with the spatiotemporal and material organization of the classroom during the COVID-19 pandemic.

## THE INTERDISCIPLINARY CLASSROOM AS BEHAVIOR SETTING

In this section, I look at the Descartes College as being organized in a specific behavior setting or a closely intertwined duo of behavior settings. As mentioned in the introduction, this exploratory and informal analysis makes use of two kinds of sources: first, I build on my own classroom observations (which took place over a period of five years, 2017-2022) as a teacher in the programme. Second, I use insights provided by students in their reflection assignments and in their evaluations of the programme. By analyzing these personal reports from the perspective of the behavior settings framework, I hope to provide some insight into how concepts travel in this concrete teaching environment.

The core behavior setting that constitutes the Descartes College is the weekly classroom meeting, and this is combined with the informal meeting with pizza and drinks in the university cafeteria afterwards. I analyze these two settings and students' experiences in them first in terms of their temporal structure and then in terms of their spatial and material organization. The most remarkable temporal feature of the way Descartes College is organized is its duration. The program lasts two years, thus spanning two-thirds of students' bachelor's programs. During these two years, they meet on a weekly basis in (usually) the same physical classroom for a lecture, with a discussion session and informal pizza and drinks in the university cafeteria afterwards. In both reflection assignments and evaluations, students indicate that both the duration and continuity of the program play a crucial role in enabling the travel of concepts between students and between teachers and students. For example, in their reflection assignments, several students emphasized that the duration of the program gave them time to determine 'how to get out of their own bubble' and to learn how to engage in critical but also open and unbiased conversations with others that do not share their basic assumptions. The standard duration of regular courses within Utrecht University (usually seven or eight weeks of teaching per course) is in most cases way too short for bringing about such a process. In their second year, several students independently reported that they had come to see their academic environment as a (quite privileged) closed circle and asked for the inclusion of more nonacademic experts in the program to help them obtain a better grasp of societal challenges such as climate change and social inequality. The discussions with such nonacademic speakers that followed also led to novel understandings of concepts such as responsibility, justice and respect: in, for example, 'activist' contexts, such concepts have different connotations than in an academic environment.

Students also report that during their two years in the program, they develop a strong feeling of belonging within the group and explain that in this



sense, it is like “being in high school again.” Additionally, the extended timespan makes it possible to establish the normative and social structure that constitutes a behavior setting in which expectations and standards are gradually developed. For example, as teachers, we emphasize from the start that it is important that students speak their minds and participate in discussions: such participation plays a crucial role in making concepts travel. However, many students need quite a bit of time before they “get the feel” of the program and feel comfortable and secure enough to participate. Whereas the learning curve of students is steep for some students, it is more gradual for others, and the timespan of two years allows students to develop within the structure of the program according to their own pace. In a traditional seven-week course, there is just not enough time to allow for such diverging developmental trajectories. Another relevant temporal feature is the fact that the weekly lectures and discussions are directly followed by drinks and pizza in the university cafeteria. This temporal order is important because it facilitates students and teachers to follow up and exchange reflections and experiences on the class that just took place.

In addition to these temporal features, the spatial and material organization of both the classroom meetings and the pizza sessions are also structured in a way that encourages the travel of concepts. The class is held in a wide room (approximately 30 feet wide and 13 feet deep) with only four rows of tables, which means that all students (a group has approximately thirty participants) sit relatively close to those who speak at the front. A very simple but powerful artifact is the namebadge. Students acquire a namebadge at the beginning of the program that they put in front of them in every session. In this way, everyone learns each other's names quickly, and guest speakers who join the program for only one session can easily address students by their names.

Additionally, in discussions, students are often encouraged to move around. For example, they must form small groups for discussion or take a certain position in the room while engaging in a debate. Every week, one group of three or four students is responsible for introducing the guest speaker and chairing the discussion, and this requires them to take a different position in the classroom. They need to relocate to the front of the classroom to engage with the guest speaker and to address the group. By enabling students to group and regroup easily within the room, informal and dynamic exchange is stimulated, and students are encouraged to take on different roles with different responsibilities. Especially during the discussion session that follows the lecture, the behavior setting subtly adapts in that now the students are in charge. Thus, the classroom is flipped, enabling active learning (Roehl et al., 2013; Reyna, 2015). In this part of the session, the physical space acquires more degrees of freedom, encouraging an increased level of what Bang (2008) refers to as developmental novelty.

Apart from the classroom sessions, the spatial and material organization of the pizza sessions plays a similar facilitating role. These sessions are held in the university cafeteria housed in the same building, but which forms a very different environment. During the pizza sessions, the cafeteria is not staffed, and the space is reserved more or less exclusively for the students of Descartes College. Students sit at very large rectangular tables, they can take drinks from a cart and share the pizzas that are delivered from a nearby restaurant. This creates a space that is still clearly a university setting but with no supervision and a very high level of freedom. Even though the teachers often join them for a drink, this is not necessarily the case, and the meetings are generally experienced as being first ‘for and by’ the students. This very informal setting encourages students to exchange their experiences. Many students reported that during discussions over pizza, it is much easier to bring up speculative ideas and questions about the classroom meeting than in the meeting itself. Many students report feeling ‘out of their depth’ while discussing topics in class that go beyond their disciplinary expertise. Addressing such feelings of uncertainty and vulnerability might be crucial for making concepts travel. Students need to take the leap to let go of their ‘disciplinary anchors’ to be able to work with concepts from various disciplinary perspectives.

Additionally, the characteristics of the pizza and drinks setting make it easier for students to get to know each other personally and to make friends. Many students reported that their participation in the Descartes College made them grow as persons and as academics and that these changes mostly took place because they got to know and befriend people with views and backgrounds that differed from their own (for the importance of personal relations in interdisciplinary education, see Haynes & Leonard, 2010; Fortuin & Van Koppen, 2016). For example, a group of three students who had to make a podcast together reported that before getting to work, they chatted for hours, had drinks and got to know each other (they did not have many opportunities to meet before due to COVID restrictions). When they met again the next day, making the actual podcast went smoothly. Because they already knew where each of them stood and how they could talk together, making something together was now an easy step to take. As one of them said, ‘in order to make something together you first need to get how the other person is thinking’ (for similar experiences see Diphooorn & McGonigle Leyh, this issue).

In general, assignments are also structured in a way that encourages students to get together and explore how their perspectives differ and could (or could not) be integrated. Each group of students responsible for that week’s discussion is instructed to meet beforehand and develop 1) a format for the discussion and 2) an assignment for all students that has the aim of preparing them for the discussion session. The teachers give feedback on their

proposal and encourage students to experiment with different formats and media for organizing the discussions. This is the part of the program students struggle with most. They find it difficult to develop formats for discussion that are original and that contribute to valuable exchange. Especially when they advance propositions for group discussion (propositions such as ‘It is wrong to sell one’s organs’), these propositions are often criticized by the rest of the group as being ambiguous or impossible to evaluate due to a lack of background information. An example where this led to much debate was a set of propositions brought forward in a discussion about the naturalness or unnaturalness of different forms of sexual behavior. The students that prepared the session had developed propositions such as “it is natural to be sexually attracted to objects.” The group found it very difficult and even frustrating to discuss propositions related to this topic because they turned out to have widely divergent understandings of the concept ‘natural’. Some took this to mean ‘given at birth’, whereas others argued that everything that is found in nature can be considered ‘natural’. Afterwards, some students concluded that a discussion about a concept without first agreeing on a shared definition is useless; some wrote that talking past each other in this way had been a waste of time. On the other hand, others reported that these disagreements had given them insight into how one’s interpretation of a simple word can make a huge difference for how one thinks. While challenging for students, precisely the discovery of such ambiguity and divergence in interpretation seems crucial to the understanding of concepts and whether and how they travel. Even if at points the process is frustrating (see also Leonard, 2012; Augsburg, 2014; Huysmans, this issue), it seems an important step to bring about the kind of experiences students most appreciate in the program: the ‘broadening of their horizons’ and ‘getting out of their bubble’. Even though it is obvious that these kinds of experiences can in principle occur in different settings, the temporal and spatial characteristics of the behavior settings of Descartes College discussed above play an important role in facilitating precisely this kind of exchange.

By applying the behavior settings framework to Descartes College as a case study, I have tried to show how a concrete interdisciplinary classroom is organized in space and in time in such a way that it supports the travel of concepts. In the next section, I will examine what happens if one takes such an interdisciplinary classroom online.

## **A COMPARISON: THE ONLINE INTERDISCIPLINARY CLASSROOM**

In the period March-July 2020, all teaching had to move online due to the COVID-19 pandemic. During this time, the weekly meetings of the Descartes College were held via MS Teams, and even after this period, the meetings

were held in a hybrid format. In this way, students or teachers suffering symptoms or quarantine restrictions could attend online, while the rest of the group was present on campus, although in a much bigger room due to social distancing rules. This situation could be seen as a 'forced experiment' that gave much insight into what happens when a behavioral structure is suddenly moved to a fully or partially online setting.

In the regularly held individual meetings with students, it became obvious that almost all students experienced this change as a loss, even if they were grateful that this arrangement allowed the program to be continued during lockdowns. The most important changes students reported were first a decrease in motivation and concentration when listening to an online lecture or participating in an online discussion and second a feeling of being socially isolated from the other students in the program. Meeting online made it more difficult to get to know each other and led to students reporting that they did not truly feel they were part of a group. As one student reported when comparing the online meetings to the meetings on location during his first year in the program, "That what makes the Descartes College unique, the social interaction between students with very different backgrounds, was completely absent in the online classroom". This corresponds to similar observations found in studies on 'regular' online teaching (Kebritchi et al., 2017).

Additionally, students seemed much more reluctant to contribute to a discussion in an online classroom, and as a teacher, I found motivating them much more difficult. In an online environment, it turned out to be almost impossible to bring about the kind of 'frustrating but illuminating' discussions about the meaning of concepts that were described in the previous section. However, the online teaching environment also offered certain advantages: when students discuss in small groups in online breakout rooms, they found it easier to speak up and were not distracted in the way they can be when students work in groups in the same physical classroom (for discussion of advantages and disadvantages of online discussion see Baglione & Nastanski, 2007; Dumford & Miller, 2018).

Whereas these insights are general and hardly systematic, they provide some insight into how online behavior settings change the prospects for concepts to travel in interdisciplinary education. At least some features of the offline behavior setting that are experienced as fundamental (the fact that it invites informal exchange, the physical closeness of people with different perspectives) seem to be lost in the transformation to an online space. As such, it is at least plausible to think that this change has hindered the travel of concepts in Descartes College. This is not to say that it is impossible to design forms of online interdisciplinary teaching that foster the travel of concepts. For example, online spaces enable exchange between people from different backgrounds who live all over the world and thus would never come together

in the same classroom. However, when an interdisciplinary program is structured in such a way that being able to move around in the classroom in flexible ways and ample opportunities for informal exchange are crucial features, then a transition of this same structure to an online environment seems to lead to a decrease in valuable exchanges across disciplines.

## DISCUSSION AND CONCLUSIONS

In this final section, I take a step back from the Descartes College and raise the general question of how the spaces in which interdisciplinary education takes place could be organized in such a way that they invite the traveling of concepts. Pedersen and Bang (2016) emphasize that behavior settings should certainly not be seen as structures that only constrain or even causally determine the behavior of individuals. As already mentioned in an earlier section of the paper, throughout the history of behavior settings theory, several contributors (most notably Wicker (1984) and Heft (2001), but see also Pedersen (2019)) have emphasized that students and teachers are active and meaning-making individuals who relate to the behavior settings in which they participate in active and not always predictable ways. As the researchers in the Midwest Psychological Field Station reported, “In any setting anything can happen – as a teacher facing a classroom full of children knows well” (Wright et al., 1951, p. 190). The aim of structuring an interdisciplinary teaching environment should thus not be to make students think or act in specific ways but to support and stimulate the development of students’ autonomy and competences (see Van der Lecq (2016); for more general arguments on the relation between teaching and autonomy, see Ryle (1971), Bakhurst (2011) and Rödl (2016)). Therefore, what we want to determine is how to structure the relevant behavior settings in such a way that they offer functional and normative possibilities for the traveling of concepts and increase their potential for developmental novelty.

The experiences of students and teachers in Descartes College described above offer suggestions for some concrete features of behavior settings that seem to contribute to this. The first is the temporal aspect: the amount of time spent together seems to be a very important factor. As said, in organizing a two-year program, Descartes College has adopted a highly unusual format in Dutch academic education. As I have tried to show, for traveling concepts, duration is crucial. The normative patterns characterizing behavior settings (‘how we do things here’) that enable this kind of exchange and development cannot be established overnight. Second, the availability of spatial and material resources for specific forms of exchange also seems to play a crucial role (Chawla & Heft, 2002; Heft, 2018). This can be as simple as using nametags or as using a classroom that allows students to move around, group and regroup in flexible ways. However, even the pizzas could

be seen as important artifacts that enable students to talk together, work together and make new friends that broaden their understanding of the world.

These suggestions are mere starting points, and they should not be seen as guidelines but as experiments that have proven their value over time. Room for experimentation might turn out to be the crucial feature of behavior settings that facilitate the travel of concepts. As Bang argues, developmental novelty occurs when the student “begins to experience herself and her life in new ways” (2008, p. 163). However, developmental novelty as a long-term process in the student (which she refers to as ‘great novelty’) is actually brought about by an extensive pattern of ‘small novelties’ or everyday experiences in which the student “may find her way in not so well-known surroundings. She may develop new actions, relate to new people or to well-known people in new ways. She may experience herself as a participant in new ways, etc.” (p. 163). The challenge thus is to determine how specific settings could invite these kinds of small novelties on an everyday basis. As seen in the section about online teaching, putting students from different backgrounds in the same space does not automatically lead to the travel of concepts. Both the teachers and the students need to make an effort and think creatively on how to bring this about. This means that both teachers and students should have space and time to experiment with the structure of their environment.

To conclude, in this paper, I hope to have contributed to our understanding of how concepts travel in interdisciplinary education. The perspective of behavior settings theory helps to explain how the concrete spatiotemporal characteristics of a classroom structure and guide the behavior of both students and teachers. By describing the behavior settings of Descartes College as a case study, I have tried to show that the interdisciplinary classroom is more than an abstract notion: it is an actual place in which students and teachers spend time, move around and interact with each other and with the objects that surround them. It is in these actual places that concepts travel: not in an ethereal abstract sense, but very concretely—from one student to the next, while they sit at a table and share a slice of pizza.

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