Chapter 11
Student Interdisciplinary Practices in a PBL Study Environment

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11.1 Background

Since the Second World War, the number of students in higher education worldwide has dramatically risen. Education appears to play an important economic role, serving as a commodity in the competition in the global market (Lyotard 1979; Jeffrey and Troman 2011). Nations are investing in education, and in general, the number of students has risen. At the same time, the Bologna Process has encouraged more comparable, compatible, and coherent systems of higher education in Europe. This phenomenon has been conceptualised as *mass education* and has been problematised as a decline in quality (Scott 1997). In Denmark, over the last 60 years, the number of students attending Danish higher education has increased tenfold, and the number of available university places has doubled since 1979 (Thomsen et al. 2013). This increase has been based on efforts toward democratisation and the levelling of class differences. Economic resources should not be a condition of access to education (Thomsen et al. 2013). Accordingly, in Denmark, more students in master's programmes come from different fields of study, thus bringing different disciplines into master-level study programmes.

As a new trend, a large number of profession bachelor graduates (PBs), such as bachelor degrees in nutrition and health,[1] pedagogues,[2] and teachers educated at university colleges, are gaining access to a (limited) number of master programmes.

[1] Nutrition and health is a 3.5-year bachelor's degree programme. In this degree programme, students work with nutrition and health from various perspectives.

[2] The concept *Pedagogue* is specific to Denmark. The Danish *pedagogues* are comparable to "preschool teachers" in other countries.

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Much research demonstrates that parental socioeconomic status, education, cultural assets and social networks are associated with educational outcomes (Bourdieu and Passeron 1990), and that the differences in resources shape an individual's school performance and educational aspirations. Thus, the probability of success is strongly associated with social origin at early, rather than late, transition points (Breen and Jonsson 2005). Danish and EU citizens are not required to pay tuition fees to enrol in degree programmes, as this is covered by the Danish state. In addition, students receive government stipends while they study. When considering processes of social differentiation in access to university, the economic hindrances in accessing higher education in Denmark seem significantly less compared to other countries (Jaeger 2011). Other scholars find that university students in general can be divided into two large groups: (1) a classic non-vocational university group of students from homes where the transmission of academic skills is the primary mechanism of reproduction, and (2) a vocational group of students who are from homes where education is highly valued as it leads to well-paid and well-respected jobs (Thomsen et al. 2013). Whereas students from the first group usually attend liberal arts universities and are more likely to study law or medicine, in the other group students are more likely to study pharmacy or business. Some programmes require medium-high to high grade point averages in order to gain admission, meaning that the relative prestige of university programmes is reflected in the admission criteria.

11.1.1 Theoretical Background: Praxeology

Bourdieu's theory of cultural reproduction (Bourdieu and Passeron 1990) is concerned with the link between original class membership and ultimate class membership, and the ways in which inequalities are mediated by the education system. To understand how individual students act in social practices and the way that they orient their practices, the notion of *strategy* is important. This term is usually used to imply the conscious and rational calculation of risks and/or deployment of resources. Bourdieu (1990a) uses strategy as a term to refer to something that rests on a practical 'feel for the game'. Strategies are the result of combining practical good sense with commonly accepted practices. This is most often done in a semi-automatic manner. The field of education can be viewed as a market where agents competing for their products rule social activity. The structures of the field arise from differentiation, which is grounded in a defining principle of what is of value. Thus, value is assigned by the dominant positions in the field and at a rate determined by the proximity and distance from the present orthodoxy. According to Bourdieu (1977), the primary vehicle for the transmission of the dominant class culture is the education system. Thus, teachers have the authority and the means to assess students, and do so based on a certain set of assumptions, expectations, and values that are not always explicit. The notion of cultural capital is therefore crucial to understanding the experiences of student strategies in higher education. In turn,

cultural capital has been defined as high cultural knowledge that ultimately fortifies the owner's financial and social advantages (Bourdieu 1986). As Bourdieu claims,

> [...] different schools attract pupils of different social classes very unequally, in accordance with their previous academic success and the class-differentiated social definitions of the types of courses and types of schools—it can be seen why the different types of syllabus give very unequal chances of entering higher education. (Bourdieu and Passeron 1990, p. 158)

Hence, understanding the role of a student coming from a different disciplinary background has to do with the student's ability to think what is possible for him or herself as well as in which particular form it is thought (Bourdieu 1971). In other words, an ability to understand the tacit requirements of university staff members and appropriately perform a PBL university student's role impacts interdisciplinarity as well as students' performance, success, and achievements in the specific context of a PBL university.

In this study, our research question analyses what interdisciplinary practices emerge from students' bachelor degree backgrounds and what institutional habitus is formed by their entering a PBL study environment. Hereby, we draw on the work of Reay (1998) and colleagues, who define institutional habitus as 'the impact of a cultural group or social class on an individual's behaviour as it is mediated through an organisation'. Thus, educational institutions may be able to determine what values, language, and knowledge are regarded as legitimate and therefore award qualification and ascribe success on the basis of mastering these skills (Thomas 2002). We question whether in this interdisciplinary environment some students are better than others at understanding the unwritten requirements and are thus more likely to perform in ways that meet them. The university, thus, is the locus of a particular habitus that 'produces patterns of thought which organize reality by directing and organizing thinking about reality and makes what he thinks thinkable for him as such and in the particular form in which it is thought' (Bourdieu 1971, pp. 194–95). Whereas Bourdieu sees habitus as potentially generating a variety of possibilities for action and states that 'the habitus goes hand in hand with vagueness and indeterminacy' (Bourdieu 1990b, p. 77), his emphasis is on how individual agency predisposes people towards certain ways of behaving. This indeterminacy about the concept of habitus is explained by Bourdieu when stating that his concepts are 'open concepts designed to guide empirical work' (Bourdieu (1990b, p. 107).

11.1.2 Student Exposure to Problem-Based Learning: In What Way?

The idea of learning through solving or managing problems is not new. Savin-Baden (2000) argues that disciplines that are less bounded by a distinct pedagogy of their own tend to more easily adopt problem-based learning, whereas other disciplines may be affected by the traditional ways of teaching and the values and distinct views of knowledge held therein. In the syllabus of a specific course, students follow

learning goals that in many ways are aligned with what Savery (2006) calls the generic essentials of PBL in that they are set to promote students' self-directed learning abilities, develop students' reasoning skills, develop skills to work and learn with others in teams, develop presentation skills, learn negotiation and problem-solving abilities, develop research skills, and reflect on what they have learned and on the effectiveness of the strategies employed. An underlying premise of the syllabus is that learning is attuned to the world of work. The syllabus sets a learning goal whereby students can engage with the complexity and diversity of everyday problems. They learn in classes, groups, and workshops where they are confronted with understandings from different professional perspectives. Hereby, the goal is to understand the similarities and differences between a range of perspectives and how professions utilise the same knowledge in different ways (Savin-Baden 2000). In PBL learning environments the students are requested to document their own learning process, identify their own strengths and weaknesses, and undertake appropriate remediation—a way of practicing self-directed learning.

11.1.3 Interdisciplinarity as an Empirical Concept and an Analytical Construction

In this chapter, we approach interdisciplinarity at two levels. At an empirical level, we have selected an interdisciplinary programme at a PBL university. Here, interdisciplinarity is understood as having a group of students from different bachelor degree fields work on a project together. This heterogeneous composition of students represents interdisciplinarity at the empirical level.

At the second level, we approach and perceive interdisciplinarity as a practice and an approach that is inspired by our theoretical foundation; namely Pierre Bourdieu's praxeology. Because of the interdisciplinary group of students whose practices we are studying, our analytical perspective on interdisciplinarity occurs through the practices of different students. From this perspective, interdisciplinarity is not seen as something we can go out and register in the world, but instead as something that receives its character through the way that it is practiced—in our case, by students being part of an interdisciplinary programme. In this way, interdisciplinary practices can have a large scale and various ways of being practiced. We are not interested in how interdisciplinarity can be understood in different theoretical ways, but rather in how the empirical phenomenon of interdisciplinarity is practiced.

To grasp these interdisciplinary practices, we construct them analytically by using the concepts of institutional habitus and strategies. Thus, interdisciplinarity is analysed and analytically constructed through student experiences and objective structures—meaning the academic culture in the interdisciplinary and PBL-orientated programme—that make these experiences possible.

11.1.4 Contours of Bachelors' Institutional Habitus as a Starting Point for Interdisciplinary Practices

Before considering the transformative traits of habitus, we must briefly describe the dispositions of the main groups of our students, drawing mainly on the institutional habitus they bring to the PBL university environment. In a typical cohort, one third of the students have a UB degree, while two thirds of them have a PB degree. UB degree holders come from a range of bachelor programmes, such as physical education, communication, sociology, and educational science. Since we lack sufficient data to divide them into subgroups, we divide them in half namely coming from bachelor programmes with or without PBL experience.

The PB degree holders can be divided into three main groups, namely pedagogues, teachers, and nutrition and health studies. In Denmark, the professional history of teachers is longer than that of pedagogues. Teachers have gradually gained almost an occupational monopoly within schools, while unskilled workers do a relatively large part of pedagogues' work. Both teachers and pedagogues are often considered to have extensive practical knowledge, but scarce dispositions for scientific knowledge (Bayer and Brinkkjær 2003). Teachers' forms of knowledge are assumed to be highly context-bound and are often considered almost mosaic-like, sporadic, and private. Neither group can be said to have a professional language, but rather a professional consciousness in the form of a kind of 'culture', which gives both professions status both internally and externally (Bayer and Brinkkjær 2003). Professional consciousness is for teachers, and is to some extent tied to the school's syllabus, while for pedagogues, it is built around the concepts of care, compensation, and development.

As for the third group, the holders of nutrition and health degrees, they also draw upon a practical approach to knowledge. Derived from a housekeeping school established at the turn of the twentieth century to secure high standards of young women's housewifery skills, the education has continuously fought for recognition. Although its professors have been educated at universities from a very early stage and attached to programmes affiliated with the most prestigious sciences (i.e. biomedicine and economics), people from outside the field have considered the core syllabus of nutrition and health degreed to be merely basic knowledge about cooking skills (Overgaard 2005).

11.2 Methods

We draw on mixed methods of social inquiry to answer our research question. Our approach is to engage dialogically with the differences between quantitative and qualitative data in order to place the two in conversation with each other throughout the study, as this will allow for a deeper understanding based on the convergence and dissonance found in the approaches (Greene and Hall 2010).

We used an administrative dataset of students in a specific master's programme who were enrolled at a university that is committed to a PBL pedagogy. This allows us to use individual information related to the pre-enrolment period and also to take into account changes in university attendance decisions year by year. The data were collected over a two-year period and, ultimately, we observed three outcomes: (1) students obtained their master's degrees, (2) they dropped out, or (3) they are still enrolled. The analysis was carried out on 138 incoming students and information about the students' characteristics (gender, age, and pre-enrolment characteristics (type of bachelor degree)) and information about their university careers and performances was collected. The aim of the quantitative analysis is to gain insight into the determinants that affect student strategy in the PBL programme. In an attempt to underline the potential transition between the first and second years in the programme, we follow the evolvement of student grades. A student was considered as having dropped out if she/he had not received any credit or passed an exam for 1 year.

In dialogue with the quantitative data on grades and dropout rates, we draw on qualitative interviews with eight students who were enrolled between 2012 and 2014. The interviews were conducted by two of the authors. These eight students were all in their mid-twenties and were selected to achieve variance in terms of the UBs and PBs degree. We selected UB graduates coming from bachelor programmes with a PBL tradition so that we know that these students have a habit of working in groups.

Verbatim transcripts of interviews were analysed primarily in terms of students' relations to the presented syllabus. We focused on how the dynamics in an interdisciplinary context of students from various bachelor degree backgrounds can be seen as a strategy to meet PBL requirements.

In the interviews, we focused on the students' perception of how they are expected to work with the presented theories and their strategies of doing so. We questioned them about their experiences of working in project groups, about their teachers' responses to their work, and on the extent to which they felt that this university helped them achieve their objectives.

This project was approved by the Danish Data Protection Agency. No formal ethical clearance was required. In all cases, informed consent was gained prior to the interviews, anonymity was guaranteed, and the participants were informed that they could withdraw from the study at any time. Individual names and other identifying details have been omitted from the data presentation in order to ensure confidentiality.

11.3 Findings

The quantitative data consisted of 121 students who had completed the master's programme; there were 95 female and 26 male students, who had an average age of 29 years (see Table 11.1). Regarding their background, 61% of students had PB degrees and 39% had UB degrees. Among the professional bachelor degree holders,

Table 11.1 Background information on students in relation to gender, age, and educational background

	Professional Bachelor Degree holders	PBL University Bachelor Degree holders	Other University Bachelor Degree holders	Total
Number of students	74	24	23	121
Average age	29.84	26.24	31.52	29.45
Men	17	6	3	26
Women	57	18	20	95

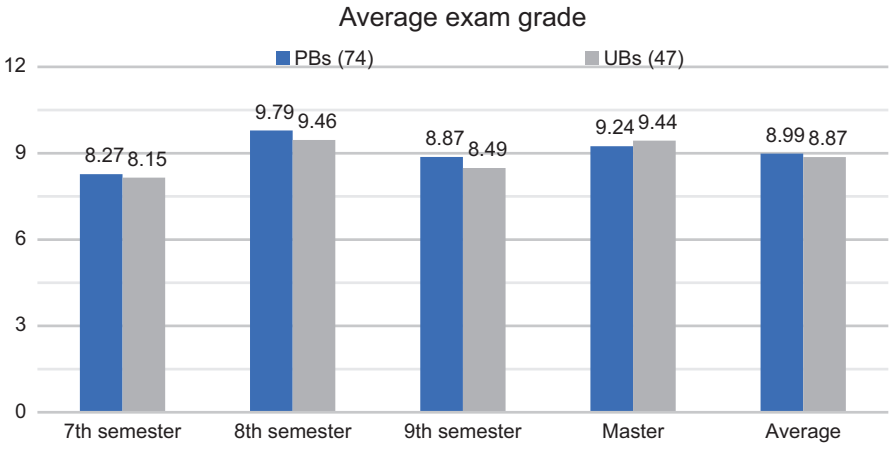

Fig. 11.1 Average exam grades by PB graduates and UB graduates (Total number of observations = 101)

the three main groups came from the field of nutrition and health (24%), while 31% were pedagogues and 27% were teachers.

When considering average exam grades, there was no significant difference between the average grades earned and educational background of the students (see Fig. 11.1). In the 7th semester, PB graduates on average achieved grades that were 0.12 points higher than UB graduates (8.15). This pattern was observed during the 8th and 9th semesters. Only in relation to the thesis did UB graduates achieve grades that were marginally higher than PB graduates. Data were tested for both gender and age (which is considered to play an insignificant role in this model).

When considering the distribution of grades based on the degree programme PB graduates came from (nutrition and health, teachers, and pedagogues), they had uniform average exam grades in the first two semesters. Starting in the 9th semester, however, the data showed that pedagogues performed worse than teachers or nutrition and health graduates. As a result, it can be concluded that teachers or nutrition and health PB graduates bring with them dispositions that seem to contribute to a better match with the institutional habitus (Fig. 11.2).

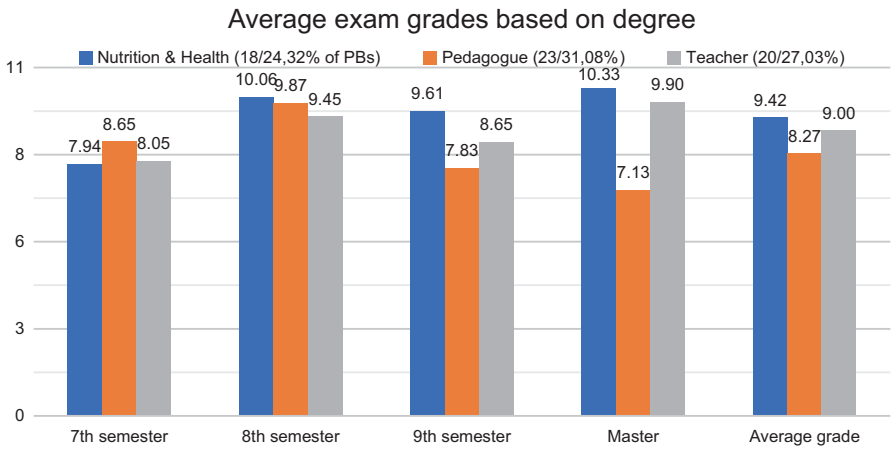

Fig. 11.2 Average exam grades based on type of degree (Total number of observations = 61)

Although both the socioeconomic and academic backgrounds of students are known to influence their overall chances of graduating, the ways in which these factors influence the graduation from a particular institution are less well documented. We considered that completion and dropout rates could best be explained by focusing on the interaction between the individual student and his/her particular university environment in which his/her attributes (dispositions, interests, strategies, skills, etc.) could be exposed to the demands and mutual expectations from the university.

The dropout analysis shows that fewer UB graduates (4) compared to PB graduates (18) dropped out of the programme after one or more years of the programme (see Fig. 11.3).

On the other hand, no significant differences were found regarding finishing the programme in the allotted amount of time (see Fig. 11.4). This finding indicates that the institutional habitus of a PBL university seems to provide an environment that equally values a diverse range study programme backgrounds.

In order to seek broader and deeper portraits of the selected constructs from the quantitative data we will now turn to the qualitative data and the different types of student experience within a PBL-based university environment.

11.3.1 Interdisciplinarity Practice as Segregation

From the qualitative interview material, it became clear that the students related to each other as students either with or without a UB degree. This distinction was reflected in the way that students assessed themselves and other students, and also upheld a certain segregation between the students in their everyday lives at the university. It stereotyped UB graduates as academically strong, as 'appropriate', and as

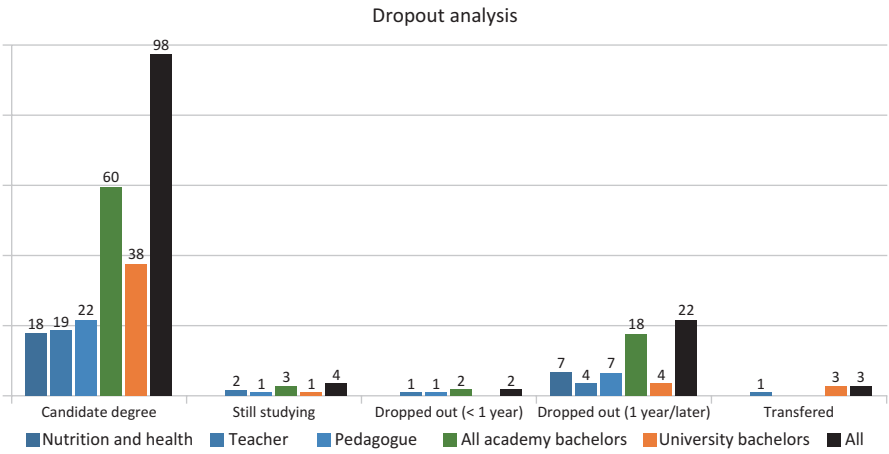

Fig. 11.3 Completion and drop-outs (Total number of observations = 129)

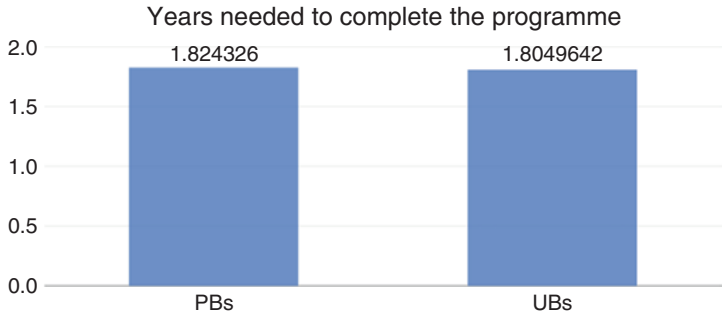

Fig. 11.4 Time needed to complete the programme (Total number of observations = 121 (students who dropped out during the 7th semester were removed))

the resourceful members in group work for their semester projects. In contrast, the PB graduates were seen as academically weak, the 'dead weight', and as disadvantaged in project work. Sarah, a PB graduate, expressed it this way:

> It was really a brutal start when you are not used to […] I had not been to lectures […] I've almost never been to lectures when I was trained as a teacher. To sit on a chair for 18 hours a week for 6 weeks when starting up at the university, and afterwards to go home and reading […] it felt as if there was a big hole, some knowledge, some skills, and some overview missing […]. (Sarah, PB graduate)

Interestingly, the quantitative data did not match the students' own experience of UB graduates performing better when it comes to academic success. Nonetheless, all PB graduates had experienced problems when participating in academic discussions and in thinking 'right' when using theories. They felt like they had to 'unlearn' their more practical perspective as well as their 'evaluating' ways of, for example, analysing empirical data. They came to the PBL university with practical

knowledge, which guided them to evaluate and to find solutions rather than to—academically—describe the empirical situations and analyse them from a certain theoretical point of view. However, during their group work and interdisciplinary contexts, they learned to crack the academic code and ultimately performed well in terms of grades. The following quotation provides good insight into how a student (Abraham, PB graduate) explained this learning process:

> It's been difficult to find your feet, to start with […] there has been a huge difference between how you think and work at the university and the way you think and work at the teacher training programme […] on several occasions in class I was thinking 'That was weird'. Then I just said nothing. I tried to figure out […] how the other students were thinking […] we were talking about something, I think it was Ziehe—then at some point I said that I had read a report from XX and related the theme of the discussion to the report. Then the teacher reacted: 'Yes, that is so true. YES!' […] I really felt that I was recognised and accepted […] since then when I argue or state a point—I always refer to something I read. (Abraham, PB graduate)

Apparently, Abraham was clearly conscious of his strategy. He knew that he lacked skills in terms of acting like a 'proper academic'. However, he observed the institutional habitus carefully and found a way to be successful.

11.3.2 Interdisciplinarity in Organising Project Work

When it came to interdisciplinarity and the division of labour, there was a mutual understanding among students from both groups that the UB graduates had some advantages in academic writing. This point of view was expressed below by Rune (UB graduate):

> I am often the one who writes the introduction and the theory […] the most 'theoretical' group member […] taking responsibility for writing up the theory and the more complex parts […] also shaping the project […]. It comes pretty natural, I think […] but I guess, I also take on these tasks without thinking about it. (Rune, UB graduate)

Rune did not fight for these tasks when the group, consisting of both UBs and PBs, was organising the project work, nor was he 'forced' to take up these specific tasks. Both student groups seem to have incorporated the knowledge of who has the 'necessary' capital and who could contribute the most to getting the best result, which is part of the specific institutional habitus.

Whereas UB graduates who came from a PBL university had a rather ambiguous attitude toward project work (a cornerstone of PBL), PB graduates had a more positive attitude. The ambiguous attitude can be attributed to the UB graduates' experiencing both learning a lot from project work, but at the same time finding it very difficult and hard work, academically, when working in groups. The following quote illuminates the difficulties that a student with a PBL-university background can experience when practicing project work with fellow students with PB backgrounds. His experiences expressed the theme of having different approaches when conducting academic inquiry:

> […] it is difficult in project work to agree upon anything […] I often read a lot in the beginning of a project, and then start writing while I have an idea of what to do. Some of my fellow students do it the opposite way. They […] just start interviewing people, and then afterwards they read about how to conduct an interview. It has probably something to do with the academic practice […] It is difficult (for) one man [referring to himself as a UB graduate] cooperating with three other PB graduate students […] trying to pull the work in a direction that you think is the typical academic way, that is recognised at the university […] and convincing fellow students… without putting people down. (Rune, UB graduate)

Jane, who came from a PBL university background, benefited from her background and her habits of working in groups, which is reflected in her PBL institutional habitus. She stated:

> I've always studied at a PBL university, and I'm really pleased […] [that] you can share ideas and discuss these with your fellow students. You always have someone to discuss things with, and to reach new insights with. It's this sparring [that] I think is cool, and when it goes up to a higher level and you hit a joint point and you start to understand things. That's what I really like about the project work. I cannot imagine being on my own anymore, I'm so used to sparring. (Jane, UB graduate)

However, organising project work could also be quite autocratic. For example, Jane talked about a piece of the project that took a wrong turn due to time pressures and a specific situation with a PB graduate co-student who, according to Jane's perception, lacked academic skills, and the co-student, in some way, was left behind during the project work.

> The third person [fellow PB student] was there too, but drove the project off track. At last, he did not even know what the project was about. He could not write anything because what could he write when he did not know anything about the content or the problem that was to be answered. Moreover, we [Jane and her other fellow UB graduate student] did not have time […] we did not have the capability to sit down and constantly explain everything to him. It was uncomfortable. (Jane, UB graduate)

This experience led Jane to prefer to do projects alone or at least with other UB graduates like herself in the future, whereas none of the PB graduates considered doing project work alone as a future possibility. Rather, they seemed to experience that they learned a lot from project work. An exception is Sarah, a PB graduate, who saw both advantages and disadvantages in being in an interdisciplinary project group. Nevertheless, she ended up saying that in the future she would choose to work only with other PB graduates because then, as she said, they could 'discover things together'.

> There are advantages and disadvantages of both [doing project work with fellow students who have a university background]. I have learned a lot from being in project groups; I have experienced working with people [students with a university background] from whom I have learned a lot. They could really teach me something because they were academically savy, and had a whole different insight and overview of the different theories and the philosophy of science […] It was more fun to be in the other kind of group [project work with PB students] […] you discovered things together […]. (Sarah, PB graduate)

Based on her experience, Sarah—like Jane—preferred to be in project groups consisting of students 'of her own kind'. Thus, interdisciplinarity was practiced in

such a way that a greater segregation between UB graduates and PB graduates was produced not only in distributing tasks during project organising, but also in future group formation. Their habitus seemed to orient them towards 'their own'. Interestingly, these distribution patterns did not support the joint responsibility of the work, which is an important part of PBL.

11.3.2.1 Collaborating with the Outside World

Part of project work is comprised of collaborating with the outside world, where more disciplines are needed. Whereas PB graduates and UB graduates did equally well in terms of grades, the PB graduates expressed the most enthusiasm about this part of the PBL approach to learning. As professional bachelor graduates, both Sarah and Abraham had experienced project work based on collaboration with an external partner—in this case an organisation. In the interview, Sarah showed a great deal of enthusiasm for this kind of project work. The same was true for Abraham. Both believed that this kind of real-world collaboration was more real and authentic since they worked with 'real people'.

In the interview, Abraham described how both the project work and the collaboration with co-students as well as external organisations were difficult, but also very exciting and challenging. When collaborating with an organisation, he learned to think of knowledge as more than only one entity. Instead he began to think of knowledge as something that can be divided into different kinds of types of knowledge. This insight helped him handling the cooperation in a less frustrating and more insightful manner. This is a classic Aristotle-inspired way of thinking (a theory from the syllabus), as stated in the interview;

A: It is difficult […] But we split it up: In the initial cooperation, we tried to build up a problem with the company, a problem relevant for them—as well as for us […] It was very exciting and it was a great way of learning.
I: So you actually collaborated with the company…?
A: Yes, exactly. The preparation and construction of the problem—it was actually participatory. But the […] the study was more descriptive.
I: And you succeeded in doing it?
A: Yes, I succeeded. And I think that I can vouch for it […] Well, this researcher role, or whatever you call it […] where our knowledge is better than the practitioner's […] I think it was really cool that we could say: 'So, we have come to this, but it is not necessarily true. Our knowledge is not more correct than your knowledge, but your knowledge is not more correct than ours […]'
I: You think there are various forms of knowledge?
A: Yes, exactly. And maybe we can bring it together, and then make something more out of it. It was so exciting.

Abraham understands the asymmetrical social relationship between a researcher and a practitioner, and he finds it attractive to be in a position where he can compensate for ones 'lack' of knowledge by judging the other person's knowledge as being equally valuable. This position is new to him now that he is on the other side, so to speak.

Sarah also described the project work in positive terms. She emphasised that they have worked on an authentic problem and with 'real people';

S: Yes, it's been really exciting […] when the project work is based on a real problem in a real company […] I think it's been really cool. It gives much more sense to me to work that way.
I: How did you do it?
S: Well, we had a contact at a company through our supervisor. The company had a problem that they wanted us to deal with: spaces for innovation. It was really motivating that we worked with real people who had something at stake—and had a real problem to be solved […] So, I thought it was really cool.

Both Sarah's and Abraham's habitual dispositions with the practical approach completely meet the PBL requirements from the university. They were at ease with 'real life' people and their problems and they furthermore gained knowledge from their new position as 'researchers', where they now had the upper hand.

11.4 Conclusion and Discussion

When considering the transformative potential of being part of a PBL environment, where the integration of different disciplines is emphasised, our study showed that the habitual dispositions that PB graduates tend to bring with them to the university seem to embrace the idea of collaborating with the outside world. However, we also saw reproduction traits in the practices of interdisciplinarity, since the different bachelor backgrounds, and thus the presence of various disciplines, seemed to contribute to a desire to segregate rather than unite the different disciplines when working in groups during project work. In this way, some students seemed to be more successful and dominant in the academic activities than others. An asymmetric relationship between students from different academic dispositions is not new, as shown by Bourdieu above. Nevertheless, there was no significant differences in performance based on grades. One could argue that differences in disciplinary approaches are not the same as bringing different disciplines of knowledge into play in the students' project work. However, like Bourdieu we argue that when both dispositions meet the field—here the university setting and all the implicit requirements—the strategies for interdisciplinarity are formed.

Thomas (2002, p. 439) investigated the ways in which institutions can support so-called 'non-traditional' students to succeed, and found that students are more likely to persist within an educational institution that does not expect them to deviate radically from their habitus. She argues that 'the willingness of institutions to embrace and value diversity, and thus respond positively to the differing needs of student groups who are traditionally underrepresented' reflects the particular institutional habitus necessary when aiming for student persistence and success.

A gap in our study is the phenomenon most precisely explained by Bourdieu, that the legitimate is never made fully explicit. Thus, many of the rules and principles of what it means to be a competent student and how to bring your discipline and

dispositions into play may be valued differently from teacher to teacher. Likewise, teachers also have different disciplinary backgrounds, which can increase the complexity of the implicit codes of conduct. Within the academic system, grades represent the most conspicuous form of reward. Some students might consider the rewards available within the PBL university to be insufficient and may decide to withdraw. However, it may be more important for those who attended university as a part of their personal development, where 'success' is measured by having attitudes, interests, and personality dispositions that are compatible with the attributes and influences of the university (Spady 1970).

In our mixed methods approach, we incorporated quantitative and qualitative data in dialogue with one another, as the different methods are intended to measure different facets of the same construct. Apparently, there are no clear winners and losers since students from different educational backgrounds had the same grades. However, in terms of project work, the PB graduates profited from their dispositions in relation to cooperation with practitioners, whereas UB graduates were stronger in theory. The two UB graduates interviewed in this study were both from a PBL university. They seem to have dispositions that are loyal to PBL, and thereby protect the PBL idea from external scepticism. Nonetheless, whereas they found the interdisciplinary project work useful for a learning outcome, they nevertheless ended up preferring mono-disciplinarity and carried out project work with fellow students of their 'own kind'—or went solo. The primary reason for this—among both UB graduates and PB graduates—is that it is the easiest and least troublesome, as well as the least unpleasant, way to proceed. What the students refer to as 'unpleasant' is primarily the fact that students from different educational backgrounds speak and write different languages and argue differently, thus creating difficulties in meeting the academic standards or the institutional habitus.

The PB graduates expressed enthusiasm towards PBL educational practices, especially when they cooperated with practitioners. Thus, we see a difference between the two groups of students in their perception and experiences of sources of learning.

This study has shown that interdisciplinarity is not simply a matter of mastering different disciplines when studying and solving problems. Instead, interdisciplinarity is practiced and must be understood and explained as an ongoing, institutional habitus that has both transformative and reproductive traits.

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