MERETE WIBERG AND ANE QVORTRUP

2. PREREQUISITES OF LEARNING FROM VARIOUS MEANS AND AIM PERSPECTIVES

INTRODUCTION

In the previous chapter, we suggested that in institutionalised processes of learning we are dealing with a multiple aim/means structure. Means and aims actualise themselves in concrete practices and can be viewed from a teacher as well as a student perspective. If we delve into this means and aim perspective, trying to tackle the phenomenon of learning, we might sketch out a picture of learning as something that happens because of a means or an aim, such as an instruction given by a teacher or an aim that is explained to the students. This would only be a half-truth. Most teachers know that they must be aware of a variety of prerequisites, which influence how students perceive the means as well as the aim intended and demonstrated by the teacher. Prerequisites for learning can be seen from a broader perspective as conditions, such as socio-economic factors, student mood, interior, culture, etc., which influence how teachers and students deal with learning and teaching. As argued in Chapter 1, in order to understand the complexity of the relationship between learning and teaching, we must avoid simple cause/effect explanations of how learning is brought about. Therefore, we do not understand prerequisites as the cause of learning, but as conditions and important aspects of learning. For example, 'meaningful experience' or 'persistence ability' are aspects of learning, but neither of these are simple causes of learning. In this chapter, we divide prerequisites into three categories; The first category encompasses prerequisites attached to the 'child/student'. Such prerequisites can also be conceptualised as the learning conditions of the child/student. One can identify many such prerequisites, but in this chapter we focus on 'meaningfulness' and 'persistence'. Other important prerequisites, such as personal intelligence or physical and mental disability, are beyond the scope of this book. The second category encompasses prerequisites attached to 'the teacher'. Here we are dealing with conditions of the teacher and important aspects are 'teacher's view on learning and 'teacher's reflection and listening'. The third category gathers conditions of 'the shared context'. Prerequisites that we consider central for analysing the shared context of the student and the teacher are 'meaningful experience' and 'disturbance' and 'interruption'.

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THE CATEGORIES: THE STUDENT/CHILD, THE 'TEACHER' AND THE SHARED CONTEXT

We focus on the categories 'child/student' and 'the teacher' in order to view means and aims from the perspective of the student as well as the teacher. At the same time, we need to focus on the shared context of the teacher and the student and therefore 'the shared context' is the third category. It is in the shared context that the student and the teacher experience and act. In the shared context, the child, as well as the teacher, 'undergo' the consequences of the environment. Also in the shared context, the teacher and the student actively strive from each of their own perspectives to realise their own ideas and projects. The conceptualisation of experience, in terms of a combination of passive undergoing and active trying and experimenting, is taken from the educational philosophy of John Dewey (1985: 146). According to Dewey, experience turns into learning when the combination of 'passive undergoing' and 'active trying' is loaded with significance (Dewey, 1985: 146). Dewey's understanding of the relationship between experience and learning is a point of departure for understanding the context. In the previous chapter, we argued that aims and targets function as support for the teacher as well as the students. In parallel to this, one can say that the context of the teacher and student supports and/or disturbs the teacher-student relationship. We suggest that these ideas of support and disturbance or interruption are important aspects of learning. Actually they are inherent in the concept of learning, since learning is driven by disturbance or interruption. We explore the categories above in selected theories of learning, which cover a spectrum of individual and socially-oriented conceptualisations of learning. Furthermore, we discuss and illuminate the selected theories of learning with reference to didactical theories and empirical research. The guiding question in the chapter is how these obviously categories, 'student/child, 'the teacher' and 'the shared context', might be viewed as prerequisites for learning and how they are to be understood with respect to means as well as aims.

THE CHILD/STUDENT CATEGORY

If we look at education on a micro-level, the child or the student is the reason for dealing with learning in institutional settings. Looking at the student, one can identify a number of prerequisites for learning. We have chosen two points of focus: meaningfulness and persistence. We will start with meaningfulness.

Meaningfulness as a Prerequisite for Learning

Carl Rogers, one of the founders of the humanistic approach to psychology, advocates the idea of meaningfulness as a prerequisite for learning. Rogers uses the term 'significant learning' to coin meaningfulness in processes of learning. According to Rogers, significant learning includes the experience of freedom,

autonomy, self-actualisation, self-directed learning, self-discovery learning and experimental learning (Rogers, 1969:157–165). Rogers focuses on the human self and the personal intentional striving of a person. Rogers' fundamental premise is that only significant learning changes and transforms the self and therefore significant learning should be preferred, rather than what Rogers describes as 'the nonsense syllable type' (1969: 5). In this sense, Rogers is critical towards defining learning as a bare change of behaviour in terms of, for example, achieved skills and competences. Whether Rogers is right depends on what kind of criterion we use for defining something as learning. Rogers' understanding of learning is inspired by existential philosophy, such as the philosophy of Søren Kierkegaard, who deals with how and why a human self develops (Rogers, 1969: 151), but we may ask whether personal existential change is too much to ask for in every learning situation.

We will argue that learning concerns personal change, but we need to differentiate between various levels of personal change. For example, it might change a student's attitude to life to grasp a subject in a new way. It means that to come to an understanding of, for example, historical events might change the perspective of a person. Furthermore, achieving competences, such as mathematical problem solving or bricklaying, might add something to personal development in terms of being a person in the world who can master this or that. Therefore, we will argue that Rogers is right in combining learning with meaningfulness of the individual. But we must be aware that to achieve new skills and competences, which from the perspective of the child in the first place did not seem meaningful or relevant, in the long run might perhaps add meaningfulness to the life of the student. If we view meaningfulness in terms of initiation into a culture, we must understand meaningfulness not just from the perspective of the individual, but also from the culture. 'Meaningfulness' might be seen as an 'empty' concept, but in this context, inspired by Rogers, it means focus on the human self, that a prerequisite for learning is a personal intentional striving towards something meaningful – it might be in the short-term or long-term. Seen from the perspective of the teacher, according to Rogers, significant learning requires a personal relationship between the student and the teacher (Rogers, 1969:106). Also, in the educational thinking of John Dewey, significance, as mentioned earlier, is a prerequisite for learning.

In other theories of learning, meaningfulness can be identified as a prerequisite in various ways. If we understand learning as adaptation to the environment, like for example Piaget and Bateson (Piaget, 1954; Bateson, 1999), meaningfulness is understood as a state of equilibrium. In Rogers' approach to learning, meaningfulness is related to a personal feeling of meaningfulness. And from Lave and Wenger's socio-cultural view of learning, meaningfulness relates to the ability to participate in a community in a meaningful way (Lave & Wenger, 1991).

In the next paragraph, we will focus on how persistence as a kind of personal striving is essential in the development and formation of character.

Persistence as a Prerequisite for Learning

During recent years, the idea of persistence as a prerequisite for learning has captured attention. Persistence and, in continuation thereof, the amount of learning time, is significantly and positively related to reduction in dropout rates (Renaud-Dubé, Guay, Talbot, Taylor, & Koestner, 2015), to students' achievement (Huang, 2015; Meyer, 2005), to students' coping experience (Frederici, Caspersen, & Wendelborg, 2016) and to student expectations for education (Weihua & Wolters, 2014). In the context of persistence as a prerequisite for learning, we take a primary interest in the two last-mentioned aspects, which most directly take the perspective of the student and relates to persistence as a kind of personal striving that is essential in the development and formation of character. One may argue that these aspects to some degree replace the psychological concept of intrinsic motivation that has taken up a lot of attention over a period of years since the nineties. Persistence refers to the ability to be motivated (Larson, 2000) and is about students' behaviour when encountering difficult tasks and about to what degree students give priority to schoolwork (Frederici, Caspersen, & Wendelborg, 2016:4). It is related to such things as engagement (Green et al., 2006; Patrick, Kaplan, & Ryan, 2011), effort (Goodenow & Grady, 1993), autonomous academic initiative and action (Danielsen, Wiium, Wilhelmsen, & Wold, 2010; Larson, 2000), resilience (Henderson & Milstein, 2003) and self-regulation (Black & Wiliam, 1998a, b).

A fundamental idea behind the concept is that learning is self-learning, which must relate positively to school-related factors (Danielsen, Wiium, Wilhelmsen, & Wold, 2010) and the purpose or aims of education. In that regard, it is a concept that does not erase or level the duality between teaching and learning, but insists on keeping this dualism alive. Furthermore, it is a fundamental idea behind the concept that in a rapidly changing world, it may be particularly important to stimulate students' self-determination and their capacity for autonomous action factors (Danielsen, Wiium, Wilhelmsen, & Wold, 2010). Based on this, it can be argued that it might replace – or is a specific ability that might satisfy (a part of) – the concept of 'learning to learn', which in itself is vacuous if taken to mean that we need to acquire a capacity to learn, since we necessarily have this if we are to learn anything (Winch, 2008). 'Learning (how) to learn' is discussed by Kauffmann, Wiberg and Winch in Chapter 3 of this book.

TEACHER CATEGORY

Teachers have a major influence on student experience and classroom practice. Their influence is formed by such things as expertise, proficiency and knowledge about subjects, about pedagogical approaches and about student learning – that is, one may say, the explicit resources that teachers bring (Kelly, Hochmann, Pratt, & Dorf, 2013). Furthermore, as Kelly, Hochmann, Pratt and Dorf (2013) noticed, it is formed by less explicit resources, such as teachers' philosophies, values and

disciplinary understandings (Shulman, 1986, 1987; Summers, 1994; Osborne & Simon, 1996; Harlen, 1997; Marshall, 2000; Turner-Bissett, 2001). To this, one may add, for example, teachers' habits of teaching (Hoban, 2002; Lindhart, 2007; Skott, 2001, 2009; Lortie, 1975), resources provided by the school and classroom, i.e. whether the latter lends itself to individual or collaborative group work (Troelsen, 2016), the pressures from particular interested parties, such as parents, students, colleagues, school inspectors, etc. (Kelly, Hochmann, Pratt, & Dorf, 2013), and the like. There is good reason to identify and illuminate the prerequisites for learning from the perspective of the teachers, and there are a lot of aspects to deal with. At present, we have chosen to point out the dynamics between the teachers' view of learning and how teachers' reflect on their view of learning by listening to the students.

From the Teachers' View of Learning to Reflection as a Prerequisite for Teachers' Learning

Teachers' understanding and interpretation of learning play a fundamental role in the teachers' choices when teaching (Fang, 1996; Prawat, 1992). Such understandings and interpretations put some parts of learning and the entire educational situation in the foreground and inevitably push other parts into the background (Walker & Soltis, 1997: 33). Teachers' understanding and interpretation of learning is shaped by personal attributes, including values, goals, skills and abilities (Deemer, 2004), but also learning taxonomies seem to have an influence. Learning taxonomies classify learning into systematic hierarchies of objectives and thereby describe ways that teachers might think about and promote learning as they guide students through learning processes (Muehleck, Smith, & Allen, 2014; Harðarson, 2013). As Schiro (2008: 9) puts it, they function as magnets that tug on teachers, pulling them in certain directions. In the article "Relations between Teachers' Classroom Goals and Values", Pudelko and Boon (2014) demonstrate how learning goals and values are potentially key drivers of teachers' pedagogy. Teachers make pedagogical choices according to the values and goals they aim to develop in students (Ames & Ames, 1984; Holland & Verplanken, 2002), teachers communicate what counts as achievement through expectations and rewards (McClelland, Atkinson, Clark, & Lowell, 1976) and teachers thereby impart values and goals on students (Ames, 1992; Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006; Martin & Dowson, 2009; Wentzel, Baker, & Russell, 2012).

Teachers' way of teaching might be related to their view on learning. But on the other hand, their habits of teaching might not be informed or changed by this view and knowledge of learning. Therefore, in order to address how teachers eventually change their view of learning, we must deal with how teachers reflect on learning and eventually learn from their practice. An interesting means to help teachers reflect on their own teaching is to listen to the students' experience. In the following, we will firstly refer to Hoban's studies, where he suggests that listening to student

interviews could be a catalyst for teacher reflection. Secondly, we will address English's theoretical discussion of listening as an educational category.

Gary Hoban did a study of high school teachers, which involves teachers listening to audiotaped interviews of students' experiences of their teaching. The interviews were conducted by the researcher:

> Listening to the student tapes in this study informed the teachers that here are multiple perspectives on classroom practices, which David and Craig [The teachers (ed.)] were not aware of before the programme started, as they taught students in their classes in the same way. If teachers seriously consider a variety of student views on class experiences, they may realise that teaching is more than a simplistic delivery of knowledge and that there may be a range of interpretations from students, based on their social and cultural stories. (Hoban, 2000: 144)

The result of the study was that listening to the students' experiences changes the teachers' understanding of their practice. This study is interesting because it addresses how to bring about teacher learning and reflection outside the context of the classroom. Because the students are free to tell their experiences of the teaching, it might bring to light something else than the teacher would have the opportunity to discover in the context together with the students. In this sense, it is different than for example Donald Schön's studies of practitioners' reflection in practice (Schön, 1987), where reflection is strongly connected to the context.

Based on Hoban's studies, 'listening' can be seen as a pedagogical and didactical category. This is in line with the view of Andrea English. She deals with listening in terms of 'educative listening'. She draws on Herbart's concept of 'tact' and understands listening as an educative means of the teacher as well as the student. The concept of 'tact' can be understood as orchestration in the classroom. The teacher needs to listen to the students in order to understand what they are struggling with, and the students must listen to the teacher in order to establish a dialogue. English describes educative listening in the following way:

> The teacher's listening is educative when the teacher is engaged in listening for signs that a productive struggle is taking place in the learners' experiences, and simultaneously, for ways to support learners' transformation of this struggle into aspects of reflective learning processes. (English, 2014:134)

Listening is only one aspect of teacher reflection and learning, but as it appears, it is fundamental for teachers' understanding, receptivity and ability to respond to the students.

THE SHARED CONTEXT CATEGORY

'Context' is a central concept in various theories of learning, such as situated learning (Lave & Wenger, 1991), social cultural theories of learning (Vygotsky, 1978)

and pragmatic theories of learning (Dewey, 1985). The concept of context in these theories points out that learning is not only something that goes on 'in' the individual, but is always also a social and distributed phenomenon. The concept of 'situation', which is central in all the theories mentioned above, refers to learning as a phenomenon that happens somewhere between individuals. In the following, we focus on meaningful experience and disturbance/interruption as important aspects of learning in a shared context.

Meaningful Experience as a Prerequisite for Learning

In *Democracy and Education*, John Dewey suggests a conceptual framework for understanding the phenomenon of learning. This conceptual framework has its outset in an analysis of what kind of structure of experience might lead to learning. The analysis is not based on systematic empirical studies, but could be characterised as a phenomenological analysis of human experience. Dewey's suggestion is that learning requires a reflective structure of experience that combines passive and active elements with meaningfulness, in terms of understanding the consequences of an action. Dewey describes the active and passive dimensions as 'trying' or 'action' and 'undergoing' respectively. When the individual acts, they undergo the consequences of the action. If learning is about to happen, the result of the process must be experience of significance or meaning, in terms of understanding how actions and consequences of actions are linked together:

> When an activity is continued into the undergoing of consequences, when the change made by action is reflected back into a change made in us, the mere flux is reflected back into a change made in us, the mere flux is loaded with significance. We learn something. (Dewey, 1916/1985:146)

The very structure of experience is decisive for learning, according to Dewey. Dewey's description of how experience turns into learning has some affinities with, for example, how Gadamer conceptualises the concept of 'understanding' in his hermeneutical philosophy. According to Gadamer, understanding is a dialectical movement between individual projections and the things themselves. Understanding is a back and forth movement between individual projections and striking back from the 'things themselves':

> A person who is trying to understand is exposed to distraction from fore-meanings that are not borne out by the things themselves. Working out appropriate projections, anticipatory in nature to be confirmed "by the things" themselves, is the constant task of understanding. (Gadamer, 2013:280)

It is relevant to compare Dewey's concept of learning and Gadamer's concept of understanding, because learning can be seen as an ongoing and circular process of understanding. This can be illustrated by the child's ongoing explorative approach to the world, in order to get a full picture. According to Dewey as well as Gadamer,

this quest for meaningfulness is a condition for human beings, and experience of significance and coming to understanding are essential signposts in the life of human beings. Gadamer uses the concept of 'horizon' or "To have a horizon" (Gadamer, 2013:313) as a way to describe how experience of meaningfulness is embedded in a context. In order to understand, we should be aware of the interplay between an individual who experiences and tries to cope with what is going on in a given context, on the one hand, and the context which strikes back with consequences that the individual undergoes, on the other hand.

Looking at this structure, the concepts of 'cause' and 'effect' would not be suitable for analysing what is happening. A means and aim structure might be more helpful. If we assume that the aim is to bring about learning, the means for learning is the very complex structure of experience. Nobody would ever be able to understand or experience another person's experience. But in educational contexts, it is essential to be aware of the very complex flux of experience, which takes place in the interaction between and amongst the individuals in the situation.

Disturbance and Interruption as Prerequisites for Learning

Because change is essential for understanding the phenomenon of learning, most theories of learning describe triggers of change. Some theories of learning describe triggers of change with concepts such as disturbance, interruption, uncertainty or lack of balance. If we look at learning from the perspective that learning happens because of a problematic situation, something which must be coped with, we might understand learning in terms of a striving for balance. Piaget and Bateson, both inspired by biology, would explain learning as a question of adaptation.

If we look at learning from a means and aim perspective, we can understand phenomena such as disturbance and interruption as means for learning. Andrea English addresses interruption as a means for learning for the teacher as well as for the learner. "On this account, when teachers are engaged in educative listening, they are particularly attuned to interruptions in their own experience that can be indications of interruptions in the learner's experience (English, 2014:134). In the shared context, teaching and learning happen as a result of an interplay between the persons in the context. The role of the teacher is to help the student to learn, while the role of the student is to be subject to change. In the shared context, the agents disturb each other in various ways. Teaching might be seen as organised disturbance and interruption, while learning might be the result of disturbance and interruption from the teacher and the other students. Disturbance and interruption might be seen as being productive for reflective learning.

CONCLUSION

The guiding question in the chapter is how the categories 'student/child', 'the teacher' and 'the shared context' might be viewed as prerequisites for learning and how they

are to be understood with respect to means as well as aims. The categories we have pointed out cover the various perspectives from which processes of learning must be seen. If we go deeper into what might be seen as prerequisites, if viewed from these categories, we understand that the event of learning in an educational context requires (1) meaningfulness, which in the short-term or long-term helps the student to understand the bigger picture of life, (2) the student's ability to persist in order to keep going on, with what hopefully might turn into something meaningful, (3) teachers' understanding and reflection on learning by listening to the students, (4) meaningfulness experience in a shared context, which combines active as well as passive learning and becomes significant, and (5) triggers of change such as disturbance and disruption.

Looking at these prerequisites, we might discuss how to extract or distinguish clearly between means and aims. Our conclusion is that we cannot make a sharp distinction, because means and aims are intertwined in processes of learning. In order to bring about learning, the teacher must support meaningfulness in the situation, but at the same time meaningfulness is an aim for human beings in general. Disturbance and disruption do not initially appear as aims for learning, but it turns out that they are necessary ingredients for change, and change is an aim for learning. Reflection is a means, but it is also an aim that teachers and students learn to become reflective human beings. All of the prerequisites we have sketched out in this chapter might be problematic if the content of learning is problematic. For example, the ability of persistence is problematic, if for example the student is about to learn something that should be rejected from a moral standpoint. The same applies to meaningfulness. What we have addressed in this chapter is the phenomenon of learning, and to a certain extent, learning is blind when it comes to whether the content of learning is good or bad. It does not mean that values do not play an important role in learning, but that learning in itself is not a moral concept.

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