



Foundation Student Ownership of Learning

The Theory of 'Ownership of Learning'

The theory behind the game 'We own the school'

***Results of a theoretical study on 'Ownership of Learning'
within primary and secondary education in the Netherlands.***

Utrecht, 12 February 2021.

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1. Introduction

"Ownership of learning" is a concept that has fascinated us from the beginning. This is not surprising because we, the researchers, have our common roots in a group of 'innovative' schools. These are schools where 'ownership of learning' is an important element in the educational vocabulary.

The thinking within the educational innovation movements of the past 90 years has touched all Dutch education. Concepts such as: the child at the centre, becoming who you are, intrinsic motivation, personalized learning, differentiation, and student at the steering wheel, are interrelated and became commonplace. In numerous vision and mission documents of schools you can find these terms and on the websites of the schools the effects are described in a promotional way.

"Ownership of Learning" also fits in with that list of related concepts that are regarded as worth pursuing in most schools. But what exactly is meant by this concept, how is it implemented within different schools, and how can schools use that understanding to improve education? These questions were the starting point of the group involved in this investigation. This document reflects the state of the theoretical results of that research.

Utrecht, 12 February 2021,

Henk van Woudenberg,

On behalf of the SOL Foundation



2. Context

The group of researchers consisted of representatives of four Pleion schools* who formed a Learning Lab together in September 2016.

The learning labs were an initiative of the Schoolinfo Foundation, which works under the Dutch National School Boards Association (VO-raad) and aimed to connect schools at a content level and to generate knowledge & expertise that would benefit the entire field.

The participants of the Pleion schools, the IJburg College in Amsterdam, the Orion Lyceum in Breda, the Werkplaats Kindergemeenschap in Bilthoven and the Hyperion Lyceum in Amsterdam, have worked together in this Leerlab to deepen its understanding of the theme of "ownership of learning".

After an initial exploration of the concept and its meaning in their own schools, the Leerlab participants focused on describing the concept. A definition was formulated, and a taxonomy was developed to characterize different types of schools. To explore this arrangement further, a game was developed that allowed students, teachers, and managers to talk to each other and deepen their thinking on 'ownership of learning'. The game was tested at various schools and on various platforms and was first presented at the ICSEI 2018 in Singapore.

After the end of the term of the Leerlab project, the research group has started as an independent foundation on 24-06-2019. The SOL** Foundation aims to promote "ownership of learning" in Dutch education and beyond and conducts research and develops educational tools to this end.

The foundation helps schools with concerns about 'ownership' and uses the proceeds for its research at the same time. The most important tools are the games 'We Own The School' (WOTS) for secondary education and 'This is my School' for primary education.

The games help to stimulate the discussion about 'ownership of learning'. It can support the players to give ownership a place in the policies and practices of the schools.

The game has now been translated into seven languages and is available worldwide as a download from the internet. There is also an instrument designed to process and make the results of games clearly visible. The data collected during the game sessions is organized in this 'data tool'. In line with the game, a range of analysing and advisory tools have been developed that can be used when schools intend to enter a change process. In this way, the SOL foundation wants to work on developing a "community of ownership".

* Pleion: Platform for Contemporary Education: (<https://www.pleion.nl/>)

** SOL: Foundation for Student Ownership of Learning (<http://www.studentownership.com>)

3. Theoretical framework

The theoretical framework described below has gradually developed from interviews and literature research. The created model has proven to be extremely useful in the practice of guidance, research and development. In the next chapters, we want to take the reader along with us into the construction of the framework.

a. Definition

'Ownership of learning' is a concept with many dimensions. Looking for an appropriate definition for our research, we kept coming up with new perspectives. We eventually designed a hybrid, or more precisely, a layered model that fits the various aspects of the concept. Each perspective has a different description or different characteristics. With the help of this model, we define the concept in such a way that a complex but more complete definition has come into being.

Our model consists of five concentric circles, whereby each circle represents a layer.

- Layer A: The personal experience
- Layer B: The personal context
- Layer C: The learning context
- Layer D: The school context
- Layer E: The societal context

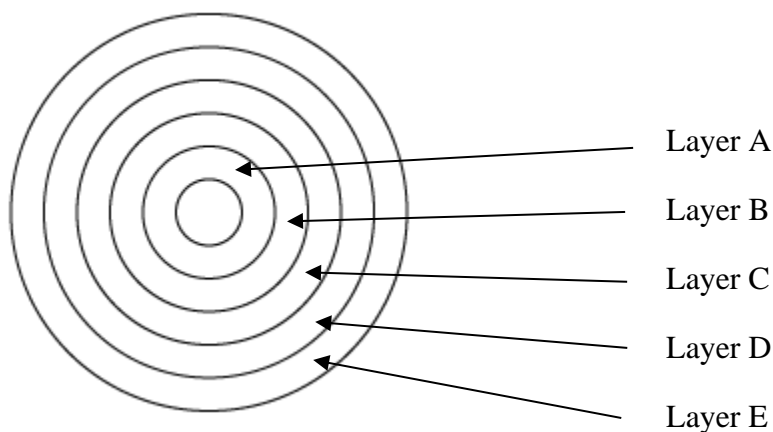


Figure 1: Model of the layers in which 'ownership of learning' has meaning.

The five layers of the definition can be shown in a diagram, whereby the distance of the sequential layers to the student's personal experience increases.

b. The societal context

The societal debate takes place in the outer layer. That is where images and feelings about “ownership” take shape. This is the area where opinions are formed. This is the area where thoughts about “ownership of learning” are articulated and then turned into policies. This is the area where educational, economic, and philosophical principles come together and are ultimately converted into political and administrative decisions. In this way, the outer layer affects the schools, the classroom and ultimately the process of learning itself.

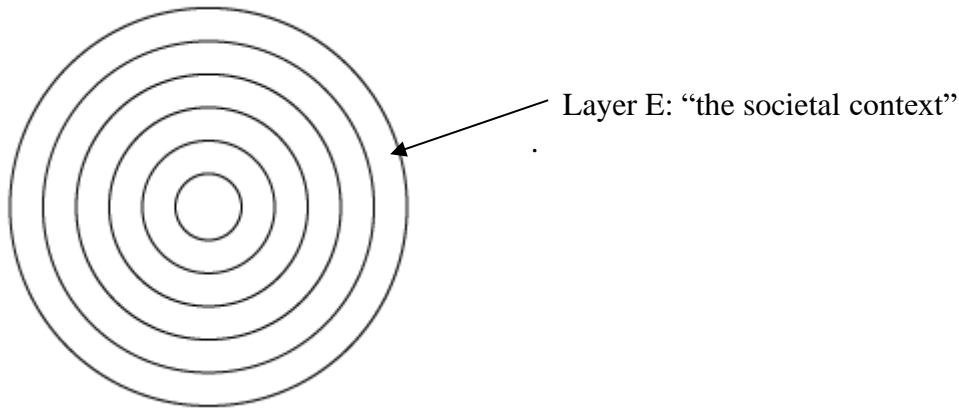


Figure 2: Model of the layers in which ‘ownership of learning’ has meaning. Layer E.

c. The school context

One layer more inward one will find the schools. The schools are the units in which education takes shape. These are the natural entities within which we shape education. However one defines the school, as brin number (school registration number), a building or as a community of learners and teachers, it is the place where the educational initiatives unfold, and where 'learning' is the main theme. It is the environment where the daily encounters are organized to acquire knowledge and skills. A community of learners and their supporters has its own culture. There are intentions and practices, rules and routines, personal interests and social structures that compose the school culture.

In this culture, 'ownership of learning' also takes on meaning. There are many schools where this concept has obtained a place in the educational vocabulary. Both in policy documents and in the conversations in the teacher's room, it is a concept that one often comes across.

This culture ultimately shapes 'ownership of learning' in the day-to-day practice of learning and teaching. This will be elaborated upon in Chapter 7.

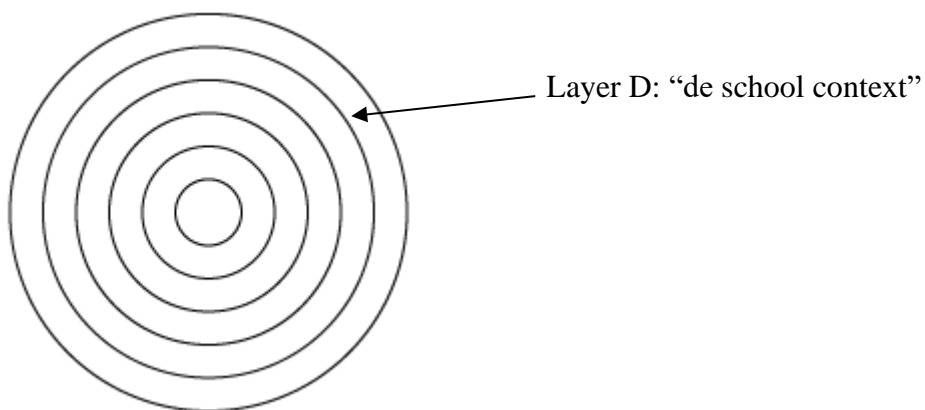


Figure 3: Model of the layers in which 'ownership of learning' has meaning. Layer D.

d. The learning context

In layer C the learning is organized. Here the division of roles between the learner and the teacher is determined*. This is the domain of pedagogy and didactics. Here we decide how much influence the learner has. Is education 'teacher centred' or does the learner also have a say? Is the timetable decisive or the learning question? Is the evaluation of learning formative or summative? What is the layout of the classroom? What digital resources are being used? What is actually being learned? And above all, how is the relationship between the learners and their teacher. Here there are many choices to be made. And with all these choices, the question arises: how does it affect the 'ownership of learning' of learners?

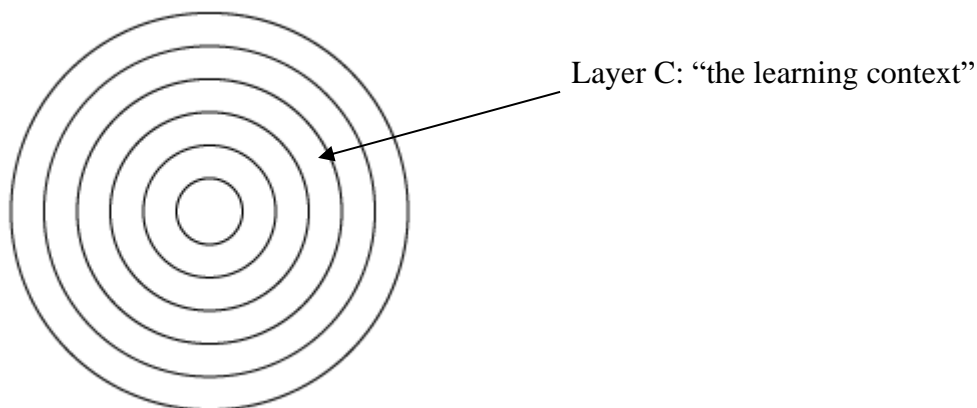


Figure 4: Model of the layers in which 'ownership of learning' has meaning. Layer C.

** Here the word learner is used instead of pupil or student. This is deliberately done because the theory is applicable to all types of education)*

e. The personal context.

The area of the next layer concerns the learner himself. The student creates his own context. What does a learner do, what does he bring, what are the skills he deploys, how much independency does he feel about his environment, how does he relate to other learners and to the teacher? And how does he relate to what he learns? This is all conditional to the final question of whether a student experiences 'ownership of learning'. In fact, this is about what basic needs there are for a learner to experience 'ownership of learning'. What theories are there that help us understand this? This is discussed in chapter 5.

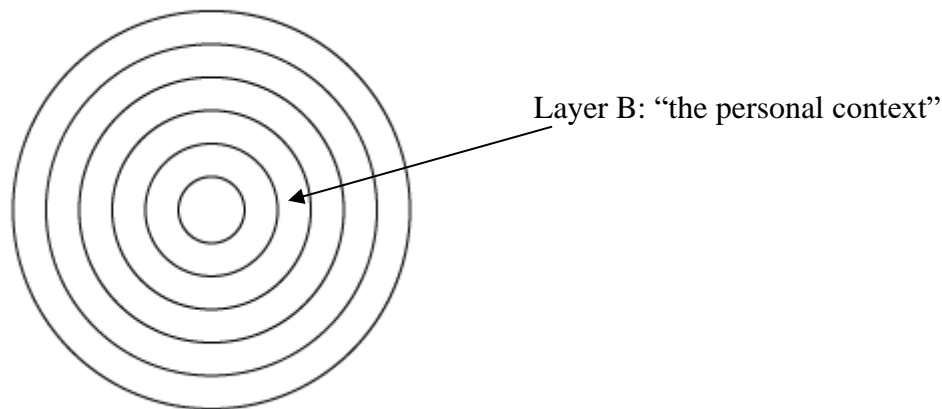


Figure 5: Model of the layers in which 'ownership of learning' has meaning. Layer B.

f. The personal experience.

The layer that really matters is that of the experience. Does a learner actually experience 'ownership of learning'? An experience is difficult to measure. It is a personal feeling, a knowing, a sensation. It is hard to describe because it's subjective, because it's personal. But it is the essence. At the end of the day, learning is a personal matter. One may be able to measure the proceeds of learning, but not the experience itself. And this is the reason why it is so interesting. What happens inside the learner's head when he learns, when does he feel that learning is his, and when does he experience "ownership of learning"? Which theories will help to comprehend this more completely? All this is worked out in chapter 4.

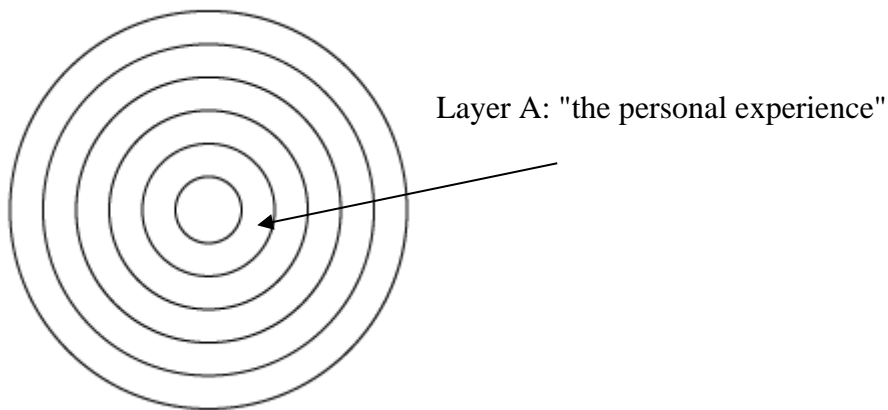


Figure 6: Model of the layers in which 'ownership of learning' has meaning. Layer A.

g. The model of the five layers.

In this way, a first structure appears. We have developed a useful model that distinguishes the various meanings and that manages to relate the experience and contexts of 'ownership of learning'. It consists of five sub-areas, visible in the model as five concentric circles, in which 'ownership of learning' has meaning. The most important is the personal experience of 'ownership of learning'. More outwardly, there are areas: the personal, learning, school and societal context.

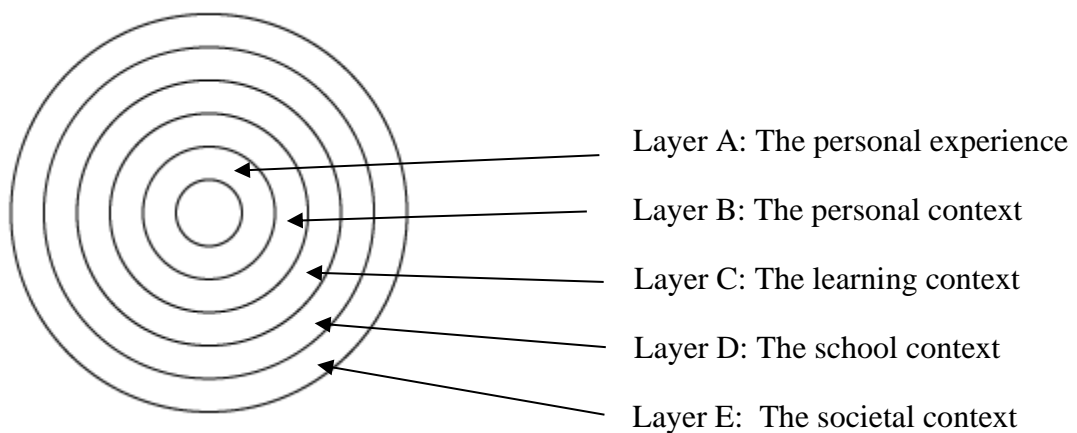


Figure 7: Overview of the model of the five layers in which 'ownership of learning' has meaning.

The question whether the model is complete or whether there may be a better model cannot be answered conclusively. For the research on ownership and guidance in school development, it is a useful model. The strength of the model is, that it distinguishes between the experience of ownership (layer A) and the aspects by which it is affected (layers B to D). This allows us to make the relationship between the experience and the layers by which it is influenced more explicit.

h. And the centerpiece....

Finally, let us have a look at the core of the model. Layer A is where the experience of 'ownership of learning' takes place. This layer is about the experience of 'ownership of learning'.

But there is even another layer in the model. That is the layer in which we can describe who experiences ownership. That layer, the centre of the circles, forms the core of the model and represents the learner.

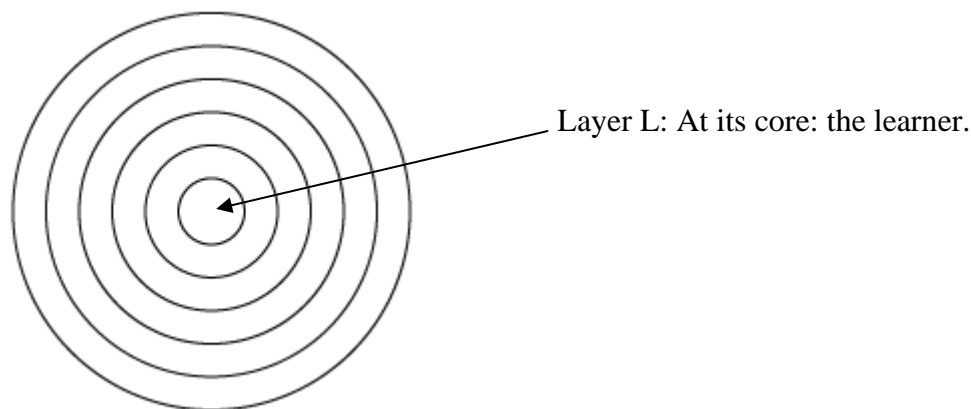


Figure 8: Model of the layers in which 'ownership of learning' has meaning. Layer L.

In this document we do not elaborate further on layer L. This will be discussed in a separate article.

4. The personal experience

Now let us take a closer look at the experience of "ownership of learning". In this chapter, we will substantiate layer A in the model. The description we will use here is: 'ownership of learning' is the experience that learning belongs to the learner in an intimate way.

We make an important distinction between the 'experience' and other elements. This chapter is not about conditions, methods or skills that promote 'ownership'. We examine the experience of 'ownership of learning' itself. For a good understanding of this concept, it is important to get to know and describe the experience of this phenomenon well. It is necessary to describe this in such a way because existing theories of ownership often use the experience and its promoting elements interchangeably. That might create confusion. By describing the experience as precisely as possible, we get closer to denoting the concept.

So, we are going to look for that experience of 'ownership of learning'. But what kind of experience is that? It is difficult to find a good description. Many concepts that help to indicate the experience are in themselves quite 'stretchy'. There is a danger that a spongy conglomerate of words and concepts will emerge. It is therefore important that the concepts used are described as clearly as possible and that their coherence is evidently expressed.

We explore current notions of 'ownership of learning', examine the existing literature on this topic and then reason out as sharply as possible a list of elements that describes aspects of our concept. This should ultimately give us a string of elements that in conjunction define the experience in which 'learning belongs to the learner in an intimate way'.

a. Sense of responsibility

"Ownership is taking responsibility". This is a statement that one regularly encounters in the world of education and beyond.

In Hintze, Burke, & Beyerlei's theory (2013) on 'ownership of learning', this notion is the central concept. "Ownership is the extent to which the student takes responsibility for his own learning process" these three authors say.

Is that actually true? And is that the whole story? Does taking responsibility define or is it a synonym for ownership? These are the very first set of question that need to be answered.

The second matter to look into is the distinction between the activity 'taking responsibility' and the experience that goes with it: 'the sense of responsibility'. It is the distinction between 'doing' and 'experiencing'.

Many definitions of a sense of responsibility are in fact about a sense of duty. For example: A frequently visited website states: "Sense of responsibility is the awareness that one must carry out one's duty properly" (Wij-leren.nl, 2020). In the context of school and learning, a sense of responsibility is often used as a description for what pupils must to do. We also read on this website: "Students need to learn that they themselves are responsible for their own learning process". Voiced in this way, it does not seem like an experience but an assignment or an obligation, it does not correspond properly with 'ownership of

learning'. When we focus on the real experience and want to use 'the sense of responsibility' as an element of 'ownership of learning', we will formulate it slightly differently. In this context, a sense of responsibility is about 'the inner acceptance of the (learning) assignment'. Whether the task is intrinsically or extrinsically presented is of no importance. The degree of acceptance makes it something of one's own, contributes to the experience that learning belongs to the learner in an intimate way, and makes it a characteristic of 'ownership of learning'. In this way, a sense of responsibility is certainly an element of 'ownership of learning' but is certainly not a synonym. More is required to experience ownership.

b. The flow experience.

The concept of 'flow' is perhaps the most obvious characteristic of 'ownership of learning'. We associate the shiny eyes of someone who is in flow with a person who experiences 'ownership of learning'. And the concept of 'flow' is unambiguously about personal experience. It is explicitly about the intimate experience of the learner, which we investigate.

In Mihaly Csikszentmihalyi's research (1997, 2008) on the subjects of 'happiness' and 'creativity', he stated that there are two factors that make one happy while performing a task or activity. He concluded that the factors of "challenge" and "skill" that are plotted against each other are decisive. He identified eight states of mind that can be distinguished by the degree of challenge and the degree of skill.

A person experiences the highest level of happiness when their skills are addressed when performing a task or activity at a high level. Csikszentmihaly describes this state of mind as 'Flow'.

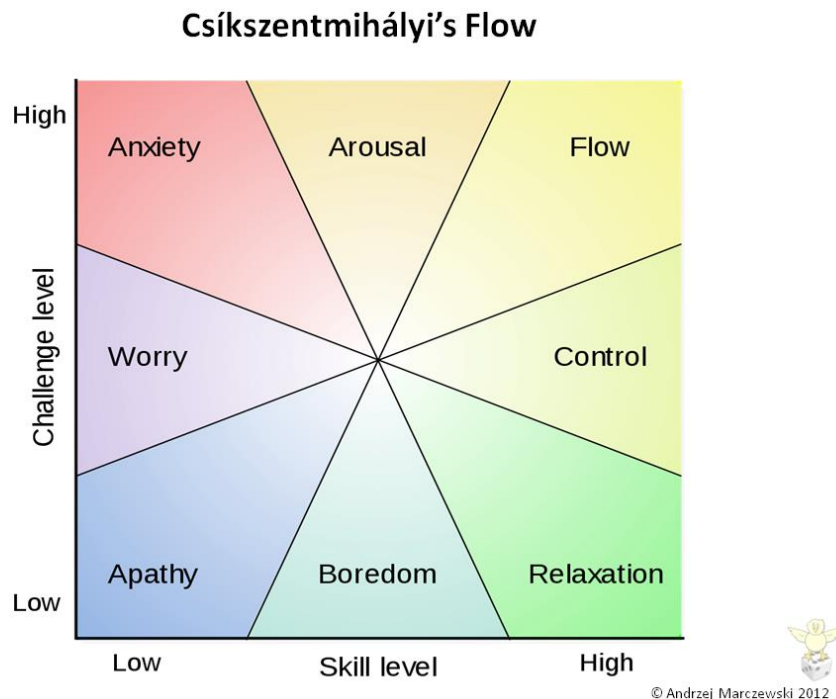


Figure 9 The eight states of mind and the relationship with the level of challenge and skill level.

According to Csikszentmihaly, the feeling of flow is characterized by at least some of the following eight characteristics:

- There is complete concentration on the task
- There is clarity about the goals and the reward
- There is a different experience of time (speeding/slowing down)
- The experience is intrinsically worthwhile
- The task is effortless and easy
- There is a balance between challenge and skills
- Actions and self-awareness are combined
- There is a sense of control over the task

Csikszentmihaly describes flow as "a state in which one is so involved in an activity that one forgets everything around one". This condition is experienced as very pleasant and motivates to get into this flow again. When attention is paid to the match between the topic in which investment is made and the strengths and intrinsic motivation of the person who invests, it is more likely that someone will end up in a state of flow. Given Csikszentmihalyi's description of flow, noticing he is describing the intimacy that belongs to this type of experience, we can say that flow is a characteristic of 'ownership of learning'.

c. **Intrinsic motivation**

There are two interesting sources about intrinsic motivation. Let us start with the work of Conley and French. David T. Conley and Elizabeth French (2014) have developed a conceptual framework in which the concept of student 'ownership of learning' has been given a place. The 'ownership of learning' component from that framework includes several subcomponents that they have further developed in a separate model. See figure 10.

This model describes five clusters of components (or nine subcomponents) related to 'ownership of learning'. The five components are: motivation & engagement, goal orientation & self-direction, self-efficacy & self-confidence, metacognition & self-monitoring, and persistence. These five components are not strictly sequentially, but they reinforce each other. Here is a description:

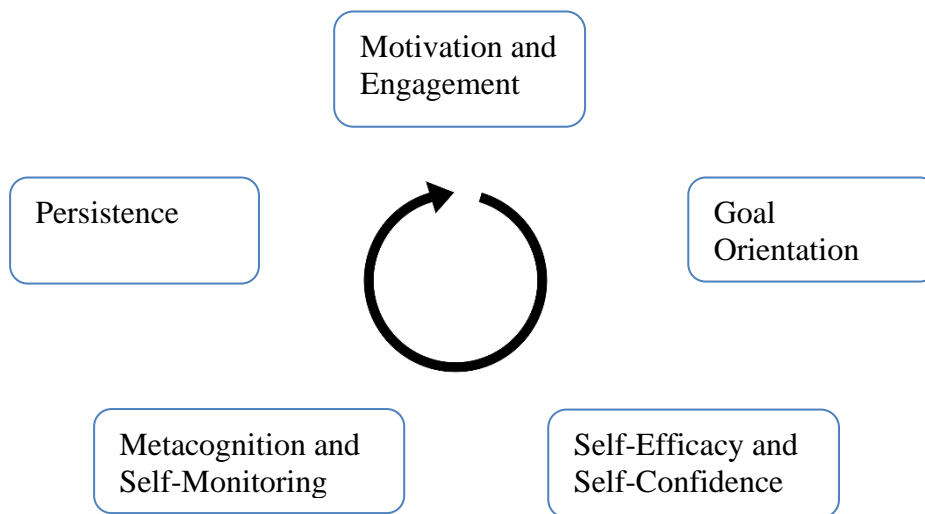


Figure 10: model: 'ownership of learning' by Conley & French (Conley & French 2014, p.1021).

- i. The starting point is that 'ownership of learning' begins with intrinsic or extrinsic motivation of learners and commitment to learning.
- ii. This creates the need to set learning goals. Once learning goals are set, there is a tension between the current state and a desired state of being. This tension stimulates learners to become 'owners' of their learning process.
- iii. Setting learning goals also helps learners understand that they can control their own learning process, leading to a stronger sense of self-efficacy and self-confidence, enabling them to set and persevere additional and more challenging learning goals (Zimmerman, Bandura, & Martinez-Pons, 1992).
- iv. Once these learners have set goals and developed a sense of control over the learning process, they use metacognitive and self-monitor skills, which allows them to determine how well they are using specific learning skills needed to achieve their goals. They consciously monitor the use of a wide range of learning strategies and use these strategies to perform the tasks needed to achieve their goals.
- v. This heightened sense of self-awareness and effectiveness, combined with a comprehensive and growing repertoire of learning strategies that are used in a conscious, controlled manner, enables students to take on and sustain more challenges when learning tasks are not easy or quick to achieve. Now that they have managed to learn something meaningful and valuable to them, they are then more motivated and engaged and ready to set new goals and start all over again.

According to the model of Conley and French, motivation and involvement of the student can be considered as the starting point of ownership of one's own learning. Motivation, they argue is an internal state of the student, while involvement is more the

visible expression of motivation. The degree of motivation of people can vary, in little or much motivation and in the type of motivation.

The second important source is the work of Deci and Ryan. Edward Deci and Richard Ryan distinguish intrinsic and extrinsic motivation: when students are curious to learn something or are enthusiastic about a subject, they are intrinsically motivated. If pupils learn especially hard to achieve high grades and thus seek approval from the teacher or parents, then there is more of an extrinsic motivation. Intrinsic motivation turns out to be a stronger stimulator for learning than extrinsic motivation (Ryan & Deci, 2000). In later work, different forms of extrinsic motivation are distinguished. In the image below we see an overview of the different forms of motivation. For us especially the column intrinsic motivation is of importance.


Amotivation	Extrinsic Motivation				Intrinsic Motivation	
No regulation	External regulation	Introjection	Identification	Integration	Intrinsic regulation	
The intention to get started is hardly present	Avoiding punishment or obtaining reward	Avoid feeling guilt or shame or maintaining self-esteem	Personal value to the learning activity	The learning activity fits seamlessly with one's own values pattern	The learning activity itself gives satisfaction and pleasure	
	Controlled Motivation		Autonomous Motivation			
Low quality of motivation						High quality of Motivation

Figure 15: Overview of different forms of motivation (Deci and Ryan)

The 'self-determination theory' of Edward Deci and Richard Ryan (1985, 2000) is a theoretical model based on the proposition that there are three basic natural needs that, when fulfilled, ensure optimal functioning, well-being, and growth. It is about the needs of autonomy, competence, and relatedness. Intrinsic motivation depends partly on the satisfaction of these three needs. Deci and Ryan describe the three basic needs of a human being as the starting point to build a learning process. Intrinsic motivation can therefore be seen as a state of being. Autonomy, competence, and relatedness are in the model of Deci and Ryan the conditions that can lead to intrinsic motivation. That state of being, in which novelty and enthusiasm are so characteristic, is in line with the experience that learning belongs to the learner in an intimate way. Intrinsic motivation can therefore be seen as an important element of ownership of learning. Moreover, as we said, it is an experience and therefore belongs in layer A.

d. Creativity

Creativity is an important concept in the theory of Bloom's revised taxonomy (Anderson et al. 2001). Benjamin Bloom developed a model in which different levels of knowledge are organized (Bloom 1956). The higher levels in the original pyramid, analysis,

synthesis, and evaluation, are often referred to as belonging to 'deep learning'. But the question is whether this deep learning also has some connection to 'ownership of learning'. This is not necessarily so. One can imagine analysing, synthesizing or evaluating something without experiencing ownership. They do not seem to be real indicators of 'ownership of learning'.

In the revised classification (Anderson et al. 2000) a new concept has been added. This concept, creating, is situated at the top of the pyramid.

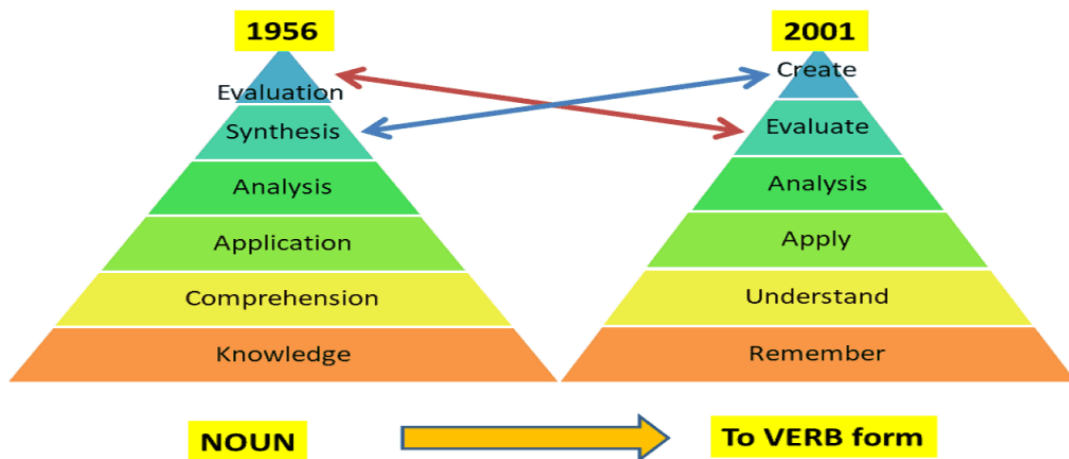


Figure 16: Bloom's classic and revised taxonomy

Creating is described as follows: "Creating involves merging elements to form a coherent or functional new whole". And it adds, "this can mean reorganizing an element so that it becomes something new, through generation, planning or producing." (Krathwohl D.R., 2002). At the website of the Foundation for Curriculum Development in the Netherlands (SLO, 2020) we come across the following description: "Creativity is the creative capacity to find new and/or unusual but applicable solutions to existing problems".

Csikszentmihaly (2009) also wrote a lot about creativity. He sees creativity as a central source of meaning in everyone's life. Most of the things that we find important and interesting stem from our human creativity. "What makes us different from monkeys – our language, values, artistic expression, science and technology – is the result of human inventiveness," says Csikszentmihaly.

Creativity is a concept that is not easily described and does not allow itself to be quantified or measured. Reading the previous descriptions of creativity, one can imagine, unlike analysing or evaluating, that this cannot be done in an executive way. One must use his whole personality, his entire subject for it. Creating always has something personal, has something of its own, is intimate to a person. The creative power is close to the

subject. It is more a quality of a learner than a skill that is being developed. That justifies the addition of creativity to layer A of 'ownership of learning'..

e. Constructive learning

The constructivist learning theory assumes that learning takes place when the learner himself is constructing the subject matter. Learning in this vision is a personal process. New information is linked to existing inner information. This personal knowledge varies and, together with the interest of the learner, is a key factor in creating the learning question of the learner. Here, learning is conceived as an active, constructive, cumulative, self-regulating, and purposeful process, in which the learner himself is in charge (Shuel, 1988).

When learners adapt the information from the environment to their prior knowledge (cognitive structure), the Swiss psychologist Piaget, one of the founders of constructivism, calls this assimilation. When the learner must first rearrange or change his inner information before the new knowledge can be linked, Piaget speaks about accommodating. So, there are two complementary processes: assimilation and accommodation. Assimilation is the process by which existing knowledge and skills are used in new situations and accommodation is the process of adapting existing skills or knowledge to deal with a new situation. Learning is the engine of personal development. Piaget talks about a fixed, continuous, and natural growth process in the development of the child. (Van Geert 1997)

In the thinking of Vygotsky, another founder of constructivism, the development of people is less static. He considers learning as a continuous mutual process of social interaction between an active acting and thinking individual and others and the environment (Grotendorst, 2012)

In defining 'ownership of learning' in this layer, we use the description 'that the experience of learning belongs to the learner in an intimate way'. In the definition of constructive learning as an active, constructive, cumulative, self-regulating, and purposeful process, in which the learner himself is in charge, the learner's intimacy with learning is strongly expressed. The acquired knowledge is recomposed by the learner himself. This can only be done in the vicinity of the person of the learner. The experience of constructive learning fits into the list of characteristics of personal experiences of 'ownership of learning'.

f. Experience of 'growth mindset'

Psychologist Carol Dweck also studied motivation and concluded that there are two types of mindsets: the 'fixed mindset' and the 'growth mindset'. It is about beliefs, about ways of thinking, about convictions. Someone with a 'growth mindset' has the belief that through effort or exercise one can improve the personal qualities, knowledge, or skills. Someone with a fixed mindset has an opposite belief. Such a person assumes for instance that intelligence is fixed. Effort is not especially important, because intelligence is a given quality that that does not change substantially.

Someone with 'growth mindsets' has the view that people are different when it comes to talent, interest, and temperament, but that everyone is able to change by learning and gaining experiences. Someone with this mindset assumes that one can develop qualities by making an effort. Someone with a fixed mindset assumes that one has to do it with the

innate talents and considers them to be unchangeable. It is related to the opposition 'nature' versus 'nurture'. The assumption here is that a 'growth mindset' contributes to the sense of ownership. A learner with this mindset will connect more and deeper to the process of learning than someone who assumes that the quality of learning is a fact that is immutable. (Dweck, C. S. & Leggett, E. L. 1988, Dweck, C.S. 2000, Dweck, C. S. 2012).

However, we cannot simply add the concept of 'growth mindset' to the list of indicators of layer A, the personal experience. This is, first, a concern for beliefs. Beliefs and experiences are of course quite different mental entities. What we are looking for are experiences that support the mindset conviction. When one experiences that one can learn something through effort or exercise and in that way push their boundaries, then that supports the 'growth mindset', the view that growth is possible. If that experience is repeated, that view is likely to be reinforced. In this way, we want to look at the contribution of Carol Dweck's theory and add the term to layer A. It is about experiencing a 'growth mindset', not about having it.

g. Psychological ownership

Yet the list of indicators is not complete. Looking for an angle that describes better the 'possessive' side of 'ownership of learning', we arrive at 'psychological ownership'. The concept of psychological ownership was developed by Jon L. Pierce (Pierce J.L. et al. 1991, Pierce, J.L et al., 2002, Brown, G., Pierce, J. L., & Crossley, C. 2013). He focused on business organizations and its employees and on the question of what psychological ownership has for behavioural and sociopsychological effects. Psychological ownership can be defined as the degree to which someone feels that something is 'his/her'. And that 'something' can be material or intangible in nature. Often the feeling of ownership is linked to everything associated with 'me', 'my' and 'us'. Psychological ownership reflects the relationship between a person and an object (material or intangible in nature), in which the person experiences a close connection between the subject and himself. The degree of psychological ownership is complex and consists of a cognitive and affective core. This theory gives us a characteristic that mainly relates to the possessive side of our concept. This makes it the last but a very essential part of the list of indicators.

h. The seven indicators

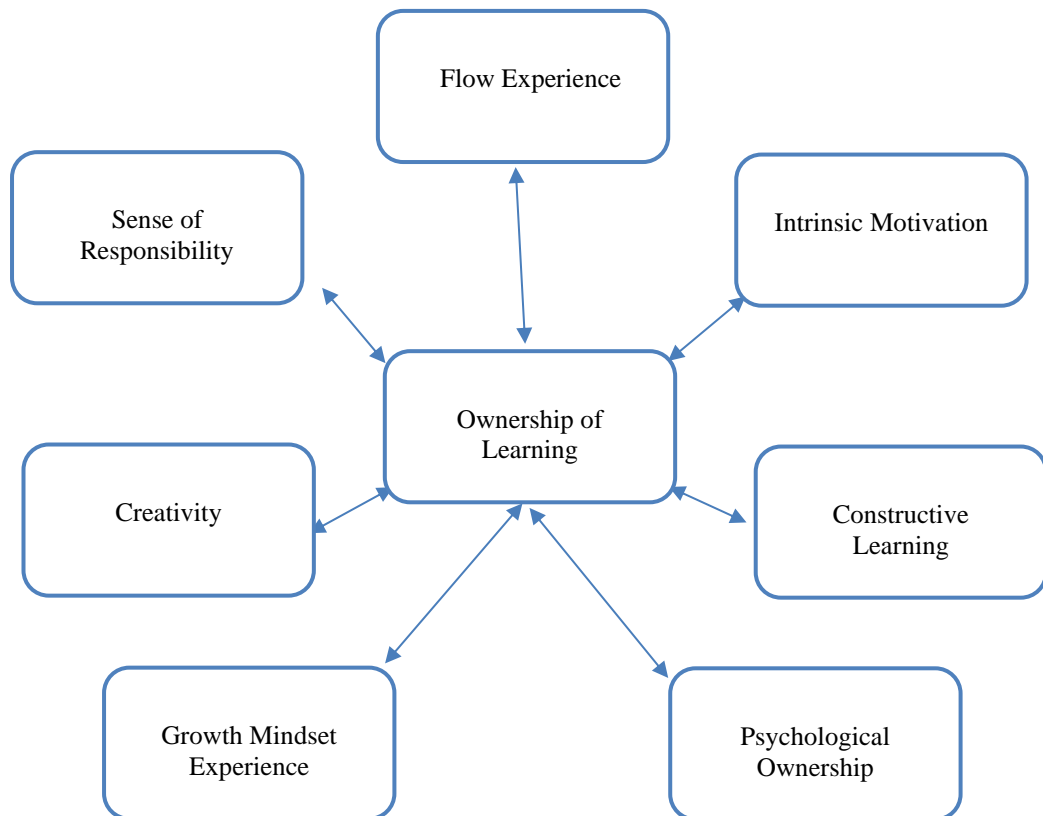


Figure 17: The seven indicators of 'ownership of learning' (layer A)

The seven concepts described here are all characteristics of the experience of 'ownership of learning'. The question which concept contributes most or less is not easy to answer, because this construct is too qualitative. It is a wide and diverse palette of concepts derived from a broad collection of theories.

The concepts sense of responsibility, flow experience, intrinsic motivation, the 'growth mindset' experience, creativity, constructive learning, and psychological ownership have a meaning regarding the personal experience of 'ownership of learning'. (Layer A).

One could state that these seven sub-areas are indicators of the experience of 'ownership of learning'. The experience is characterised by at least a number of the indicators. These indicators can be used as a checklist to determine the extent to which one has been involved in such a personal experience. In other words, the more one experiences the different areas or indicators, the more there is an experience of 'ownership of learning', the experience that learning belongs in an intimate way to the learner.

5. The personal context

In this section we will mainly look at the setting in which one experiences 'ownership of learning' and in particular the personal side of it. The learner creates his own context. What does a learner do, what does he bring to the table, how independent is he to his environment, how does he relate to other learners and to the teacher? And how does he relate to what he learns? Basically, the question is this: What basic needs, or conditions are there for a learner to experience 'ownership of learning'? Which theories will help us to understand this?

a. A conditional layer

In this layer, "ownership of learning" is linked to the way the subject relates to his context. First, this is about the personal environment. The discussion is no longer about the experience of ownership itself, but how that experience manifests itself to the environment and how the environment responds to the subject.

As a theoretical framework, the work of Deci and Ryan is used here. (Deci & Ryan, 1985, 2000). The previously cited 'self-determination theory' describes the three conditions for good functioning, well-being, and growth. It is about the needs for autonomy, competence, and relatedness. Intrinsic motivation depends partly on the satisfaction of these three needs. Since we have said that intrinsic motivation is one of the characteristics of the experience of 'ownership of learning', we can say here that 'ownership of learning' also applies to these three conditions.

But ownership is more than motivation. It is not only that inner drive that makes ownership what it is, but there is also a possessive relationship with the object. This is where the theory of psychological ownership comes in handy once again. That theory also describes how ownership develops in a person. This could be called the acquisition process. Acquisition then becomes the fourth element that is conditional for 'ownership of learning' in layer B. That'll be visible in the next graphic representation.

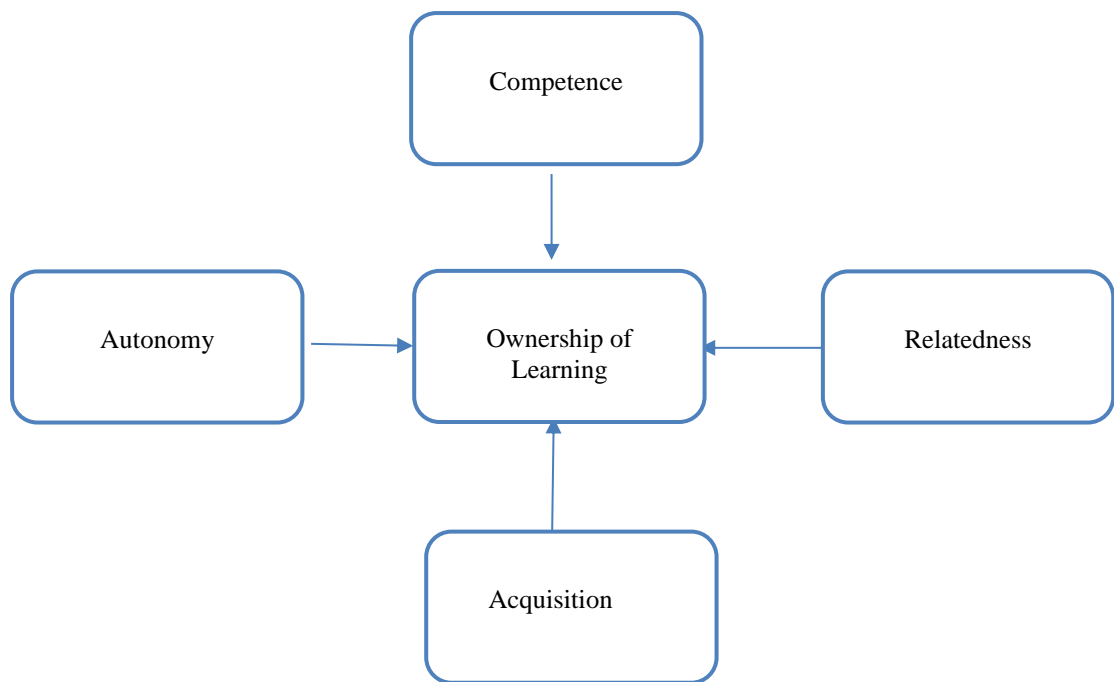


Figure 18: The four conditions for 'ownership of learning' (layer B)

b. **Autonomy**

The first condition for having the experience of 'ownership of learning' is autonomy. In Deci & Ryan's work (2000), they describe the need for autonomy to self-regulate experiences and actions. They argue that autonomy is a form of functioning associated with "the sense of willpower, congruence and integration". But autonomy, as an expression of willpower, is not the same as independence. The capacity autonomy ensures that one's behaviour is self-endorsed, in line with one's authentic interests and values. One experiences incongruity when one does something contrary to the will. (Deci & Ryan 2000)

Autonomy according to Deci and Ryan is strongly linked to the will. What one does is congruent to what one wants. What is strongly emphasized is the distinction between autonomy and independence. This is necessary to define the concept positively and to clarify that autonomy is not the same as 'not doing what another person wants'. It is a question of consistency between one's own will and what one does or intends to do. One could say shortly, autonomy is about "I want it".

One could argue that autonomy belongs to layer A because it is an experience. However, Deci & Ryan's theory does not describe it that way. This state of willpower, congruence and integration' is an important condition for experiencing intrinsic motivation and therefore ownership. The term autonomy is more used as an abstract condition than as a sensation.

c. Relatedness

Relatedness is the need to belong and be in contact with others. (Deci & Ryan, 2000a). People feel most connected when they find that others care about them. But connectedness is also about 'belonging' and that one feels meaningful to others. In order to feel connected, it is important to experience oneself as someone who contributes something to others. In addition, relatedness is associated to the feeling of being an integral part of social organisations. Both through an empathetic relationship with others as well as being a significant member of social groups, people experience relatedness.

In other studies, the term relatedness is further elaborated on and even more specifically, focused on learning. Involvement in one's own learning consists of three components, namely cognitive engagement (e.g. finding a challenge or using learning strategies), emotional engagement (experiencing interest and enthusiasm) and behavioural engagement (Fredricks, Blumenfeld & Paris, 2004; Conley & French, 2014; Reeve & Tseng, 2011).

The term relatedness is also linked to the phrase 'to add significance'. Adding significance to oneself and to others. "What I do has meaning" one might say, or "what I do matters".

d. Competence

Competence is an often-researched topic in psychology and is widely seen as a key element in motivated actions (Bandura, 1989; Deci, 1975; White, 1959). Competence is about feeling effective in continuous interaction with the social environment and experiencing the ability to exploit one's own capacities. This is not about learned behaviour, but about a sense of confidence in one's own abilities and actions. (Eikelenboom, 2012)

In self-determination theory, competence refers to the basic need for effectiveness and mastery. People want to feel effective within the important areas of life. (Deci & Ryan, 2000) The need for competence is an inherent endeavour, which is reflected in all kinds of knowledge-acquiring actions. A person's competence can be easily enhanced. It increases in contexts where challenges are achievable, where there is positive feedback, or when feelings of mastery and effectiveness are increased by interpersonal factors such as personal appreciation. In short, competence is mainly about "I can do it".

e. Acquisition

Acquisition is the element that makes the concept of 'ownership of learning' distinguish itself in its conditions from intrinsic motivation. One could say that 'ownership of learning' is an enriched form of intrinsic motivation.

We derived the term from the theory of psychological ownership (Jon L. Pierce et al. 1991, 2002). In this theory, among other things, the 'origins' of psychological ownership are discussed. Pierce talks about the three motives that underlie psychological ownership: the desire for efficacy and effectance, the desire for self-identity, and the desire for having a place'. We collectively call these three elements the desire for 'acquisition'.

I. Efficacy and effectance

The underlying motive here is, in large part, to be in control. Ownership and the rights that come with it, allow individuals to explore and alter their environment, thus satisfying their innate need to be efficacious. Being the cause through one's control or actions results in feelings of efficacy and pleasure and creates satisfaction as certain desirable outcomes are acquired. The desire to experience causal efficacy in altering the environment leads to attempts to take possession and to the emergence of a sense of ownership.

II. Self-Identity

A second motive is the desire for self-identity. Ownership helps people to define themselves. Possessions also serve as symbolic expressions of the self since they relate to self-identity and individuality (Dittmar, 1992; Mead, 1934; Porteous, 1976). It is through our interaction with possessions, coupled with a reflection upon their meaning, that "our sense of identity, our self-definitions, are established, maintained, reproduced and transformed" (Dittmar, 1992: 86). Thus, we suggest that people use ownership for the purpose of defining themselves, expressing their self-identity to others and ensuring the continuity of the self across time.

III. Having a place

Ownership and the associated psychological state can also be explained in part by the individual's motive to possess a certain territory or space, to have a "home" in which to dwell (Darling, 1937, Ardey 1966). As Weil states, to have a place is an important "need of the human soul" (Weil 1952: 41). Similarly, Duncan (1981) speaks of home as a psychological phenomenon.

It is because of this motive and the possibility to satisfy it through ownership that people devote energy and resources to targets that can potentially become their home.

If autonomy is about "I want it", relatedness is about "what I do matters", competence is mainly about "I can do it", then acquisition results in 'I have it'

f. A foundation layer

By combining the conceptual frameworks on intrinsic motivation and psychological ownership, we have given the theoretical framework of 'ownership of learning' a solid foundation. Here is some kinship between theories of Pierce and Deci and Ryan. The desire for identity does have common ground with the story of autonomy. But Pierce's theory adds something when it comes to the working of property. Pierce argues that people use their property to define themselves, express their identity to others, and ensure the continuity of their identity. We need to add this dimension to the concept of autonomy to complete it. Ownership relates to motivation as identity relates to autonomy.

In figure 19, we add key phrases to the four conditions to make layer B clearer and to make the four conditions even sharper.

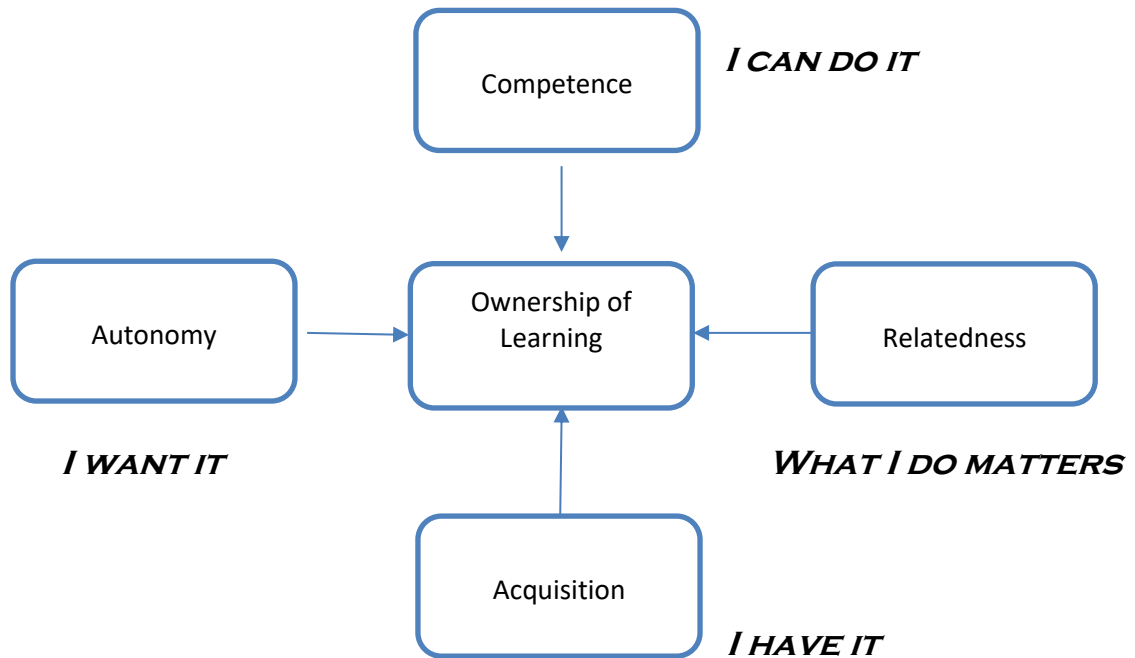


Figure 19: The four conditions for 'ownership of learning' (layer B) with their key phrases.

6. The learning context

In the meantime, we have assembled several descriptions of 'ownership of learning'. We have said several things about how it is experienced and what conditions there are to experience it. Now we are going to try to discover how to promote 'ownership of learning'. This gives substance to layer C of the model.

This chapter is about the learning environment. One could say: the classroom, but figuratively. These are situations in which children learn within the school, the environment in which learning takes place. We distinguish a number of perspectives: the learning relationships, the didactics, the pedagogy, learning strategies, learning environment and curriculum. With these perspectives in mind, in this chapter we walk through the environment of the learner and consider the teacher, the co-learners, the classroom, the environment of the school, the timetable, the lesson plan, the online environment, the ICT facilities, the methods, the content of the lesson, the didactic model and the pedagogical climate, in short, the context of learning. But we look at it from the perspective of 'ownership of learning' and the possibilities that exist to increase that. In this chapter, we will discuss what does and does not matter when looking for the opportunities to strengthen ownership.

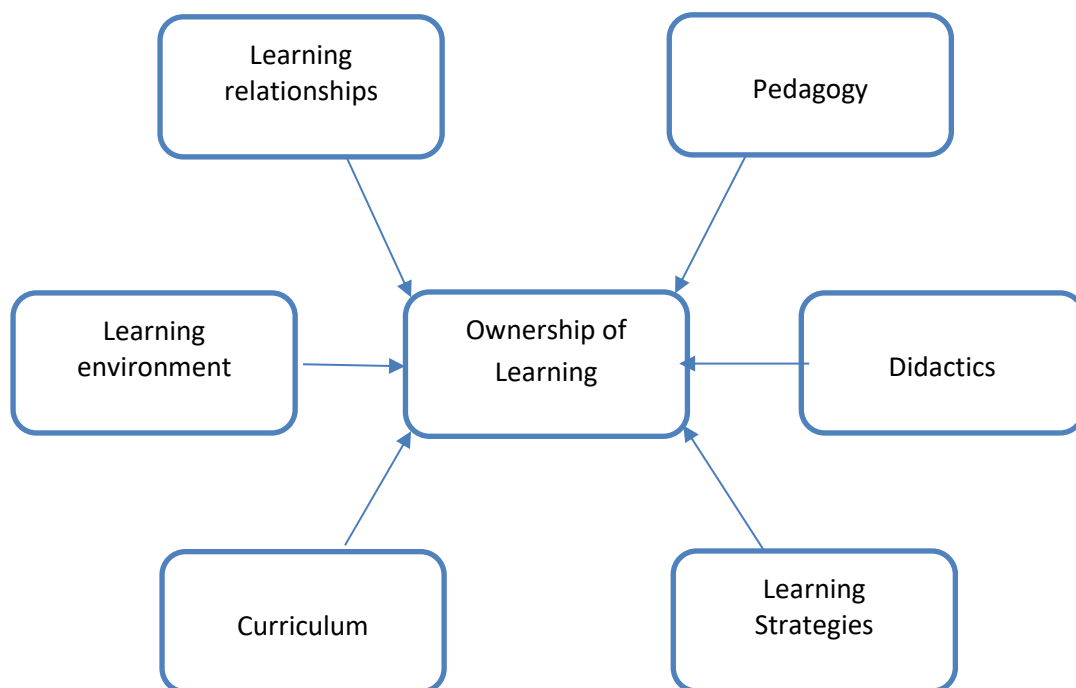


Figure 20: Learning context: the six perspectives of the learning context.

a. The environment

There are a number of important assumptions in the discussion about the opportunities to increase ownership among learners. Perhaps the most important is this: "Students should be able to make their own choices". The assumption is that by making choices, the learner connects with the object of his choice. Of course, more is needed to achieve this, but it is a plausible condition.

If we follow this assumption, it has all sorts of consequences for the environment of education. Making choices requires the learning environment to be multifunctional, flexible, adaptive. Let us elaborate on this:

I. The physical space

This is about organizing the physical space that allows different didactic settings to be used: There is room for instruction, group work, individual work, testing, computer use, dialogue circles, practical work, group instruction, cinema, online work, etc. The space is used and provisioned depending on what is needed. The space is arranged for options.

II. The digital space

The design of the digital space is one of great importance. Different didactic settings are also possible in the virtual space. The use of ICT makes learning less dependent on time, place, and teacher. It is an important tool to make the environment multifunctional, flexible, and adaptive.

III. The timetable

The rooster is an important tool, especially at secondary school. In its essence it is an organizational matrix of the variables class, classroom, time, and teacher. The main goal here is efficiency. The priority list determines how the timetable is shaped and the timetable applications create the arrangement with the highest efficiency. That is important, for the school is a complex organization and the requirements of the curriculum and the wishes of each need to be carefully aligned to each other. But it is also a compelling order that puts pressure on the adage "pupils must be able to make their own choices". A less detailed timetable with more choices for learners meets the requirement of flexibility and adaptive education.

IV. The content

The curriculum is based on objectives and goals. These are often translated by publishers into methods with a clear format and a sequence of topics. Furthermore, the objectives have been translated into programmes for the different forms and the various subjects. In this way, little justice is done to the need for choice. In various schools one is looking for diversification and the creation of options when these methods and programmes are set. But a curriculum based on creating 'ownership of learning' is generally still a long way off in terms of content.

V. *Opportunities to make choices*

The basic ingredients of the learning environment, the space, the timetable, the content, can be adapted when looking for choices. Many schools are exploring opportunities here. Flexible timetables and choice modules are included in the varied routes of the programme. All this leads to better conditions to create 'ownership of learning'. More choices in the system leads to more customization and differentiation. It creates space for more personalized education. But more is needed to ensure that students can make their 'own' choices. Choice alone is not yet a guarantee of ownership. Let us also examine the other elements of the 'learning context'.

b. **The teacher**

If the aim is to strengthen 'ownership of learning' among the learner, what can the teacher contribute to this? What kind of skills or competences should the teacher bring to the table, how should he behave towards a learner? What kind of teacher should one be, if one wants to take a student's 'ownership of learning' seriously? Let us take a closer look at the essence of the teaching profession.

I. *Being a teacher:*

What is the purpose of teaching? What does the teacher want to achieve? What explains his existence on the educational earth? According to Gert Biesta (Operation Education, 2015; Gert Biesta, 2012) education aims at three domains: qualification, socialisation, and the subjectification domain.

- Qualification has to do with learning knowledge, skills and attitude that enable pupils to act.
- Socialisation has to do with becoming part of the social, cultural, and political order. The socialization function leads the students to act and be.
- The formation of a person or subjectification is in a sense the opposite of the socialization function. It is about ways of being that indicate a certain independence from the existing orders. These include critical thinking, independence, being an adult.

If this is what education is all about, then it is the teacher's mission to contribute to these three areas of education. In the latter category, the subjectification, we can also locate the considerations about 'ownership of learning'.

Biesta stresses that questions around education are composite questions. And answers are always about qualification, socialization as well as subjectification. "The three functions of education can therefore best be seen in the form of a Venn diagram, as three partially overlapping areas. The more interesting and important questions are always about the places where the areas overlap, rather than about the individual areas as such" (Gert Biesta, 2012). Biesta's argument is one that deals with coherence and integration.



Figure 21: The three functions and objectives of education

When one considers the competences required for teaching, one encounters three areas:

- a. the subject-specialist competence,
- b. the professional didactic competence,
- c. the pedagogical competence.

This three-part package, subject matter, didactics and pedagogy is the heart of requirements for the teacher.

II. To be a didactic

We delve a little deeper into the phenomenon of teaching and focus specifically on the subject-specialist and didactic competences. The teacher uses these to achieve the educational goals.

We look at the concept of pedagogical content knowledge (PCK) developed by Lee Shulman. It was described by him as "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (Shulman, 1987, p.8). The term 'amalgam' indicates the fixed connection between the two main components of PCK: knowledge of professional content and didactic strategies. Shulman argued that professional knowledge and pedagogy were often seen as mutually exclusive concepts. The combination allows the teacher to help students understand complex concepts. Shulman's thinking also emphasizes coherence and integration.

III. To be a pedagogue:

The pedagogical repertoire is of great importance to strengthen ownership. Giving responsibilities and trust are the basics of the teacher's repertoire. But on the other hand, directing, offering new content and giving feedback is also crucial. The underlying quality in all this is contact. The relationship between teacher and learner creates a fertile soil in which the 'ownership of learning' can grow. This fact is elaborated in the model of the pedagogical cross or the cross of interaction. (Hamstra et al. 2013)

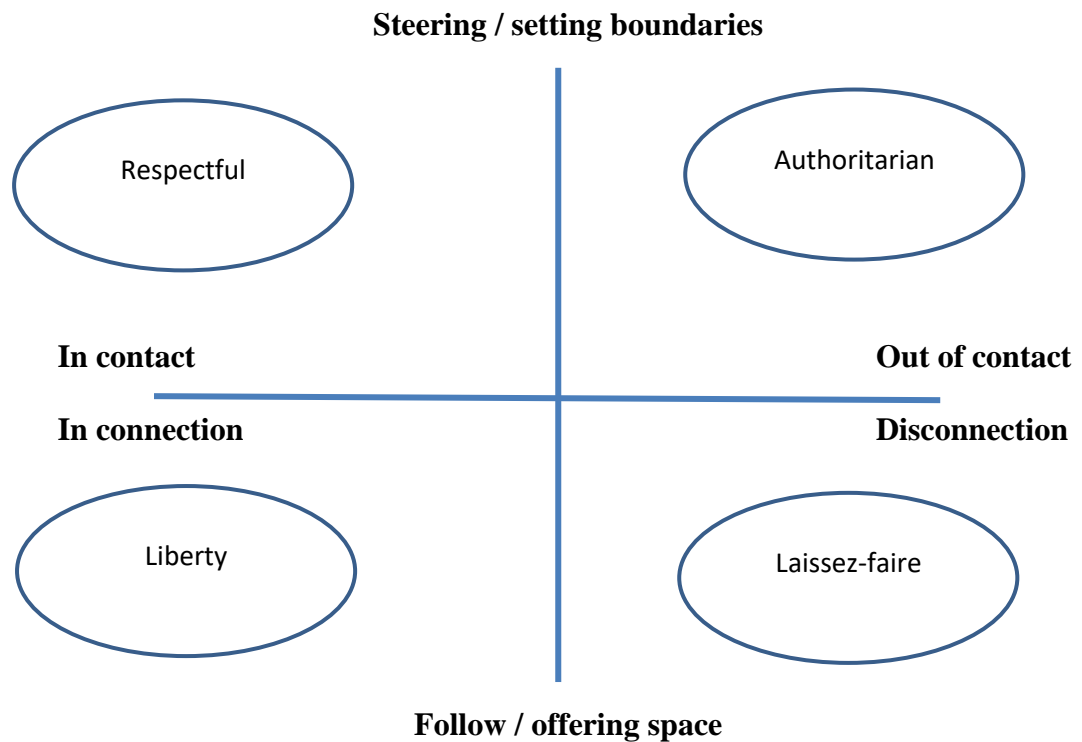


Figure 22. The Axis system of the pedagogical cross

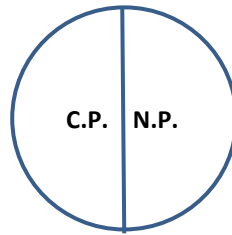
On the horizontal axis of this pedagogical cross is 'in contact' opposite 'out of contact' and on the vertical axis is 'steer' versus 'follow'. Being able to move on that last axis is the pedagogical quality that matters. Sometimes offering space and then pointing the way is the handiwork that makes a teacher a pedagogical expert. It is an art to do so, while one is in contact. The pedagogical cross results in four quadrants or pedagogical domains: respectfulness, liberty, authoritarian and laissez faire. The cross does not provide a blueprint for creating ownership. One quadrant does not necessarily cause more 'ownership of learning' than the other. Creating a good pedagogical relationship does.

IV. To be a coach:

To get closer to the process of learning, and the role of the teacher in doing so, it is also valuable to look at theories about the relationship or guidance of learners. Transactional Analysis (TA) is such a theory and is a psychological approach originally developed by Eric Berne and focuses on communicative behaviour. In TA, different so-called 'ego positions' are defined. Within a personality, the discerning parent, the nurturing parent, the adult, the adapted child, and the natural child are distinguished. Each ego position has its own repertoire of responses. (Berne, 2009)

Critical Parent

Monitors adherence to rules, and expectations of self and others

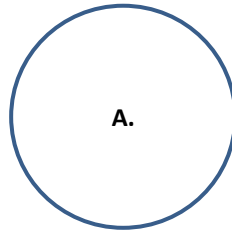


Nurturing Parent

Voice of unconditional acceptance, hope, and optimism. The source of self-soothing and self-recognition

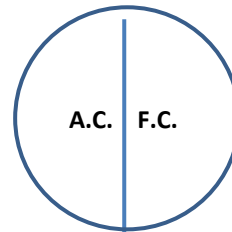
Adult

The planner, observer, organizer, and analyser. The part of self that can think logically and act accordingly.



Adaptive Child

The part of self that makes emotional decisions



Natural Child

The spontaneous, emotive, creative, and in-the moment part of self.

Figure 23. The ego positions within Transactional Analysis.

In the interactions between people, different transactions are possible. Consciously dealing with this and making the right choices helps to communicate successfully. This is of course true of the relationship between teachers – learner.

It is not possible to describe the comprehensive theory of Transactional Analysis here in full. It is mentioned just to demonstrate that there are opportunities to look methodically at the relationship teacher – learner and how to improve this relationship.

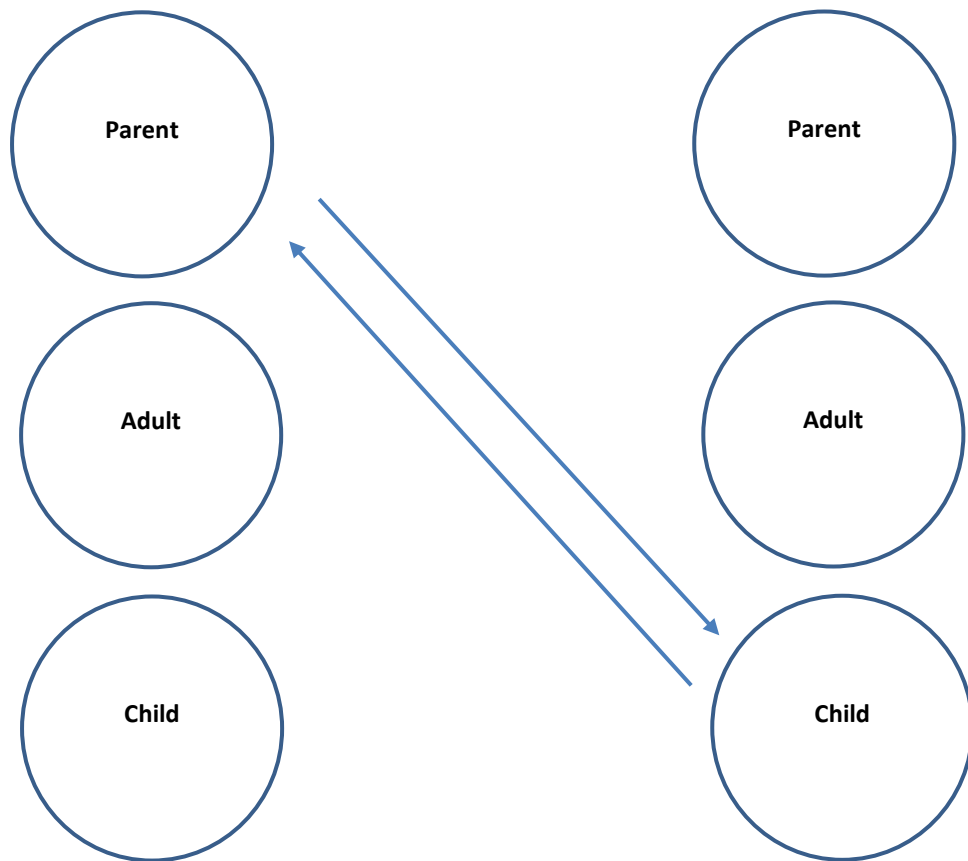


Figure 24. Different transactions between people at Transactional Analysis.

V. To be human:

It all matters, having an eye on the purpose of education, a focus on subject matter, the use of subject-integrated didactics, having a pedagogical repertoire and choosing the right relational position. The coherence and integration of the sub-areas is emphasized by every theory.

We want to add something else to this and go one step further than emphasising coherence and integration. A teacher is a human being. He or she brings his personality. To the learner, the teacher is an example, a tutor, a mirror. It is a person who cooperates, struggles, is learned. The teacher is an adult, someone with experience in life, with feelings, with understanding, with strengths and weaknesses. The teacher has a strongly developed ethic, knows for himself what is right and wrong and constantly reconsiders his values. A good teacher sees the learner, is attentive, empathic, patient, points the way, is critical and honest. The teacher is not a perfect person but is a well-educated human who shows him- or herself and who is able to use his humanity. Such a teacher encourages the learner to enter into that intimate relationship with what one learns. With such a teacher, a learner can relate and he or she can truly experience 'ownership of learning'.

c. The learner

How can a learner strengthen or increase his or her 'ownership of learning'? Let us have a look at what the learner him- or herself can do. First, it is about deploying a number of skills. The list of skills used here is derived from the a forementioned model of Conley and French. (Conley and French, 2014). That model does not distinguish between the different layers as used in this article. We have included only the parts of the model that fit into the narrative about 'learning context'. It is about the skills: goal orientation, self-direction, self-confidence, self-efficacy, self-reflection, self-monitoring, and perseverance. Below the concepts are briefly explained

I. Goal orientation

Based on his or her motivation and involvement, the learner formulates a number of learning goals. From there, the drive ripens to get from the current situation to the desired situation. The learning goals can be more or less explicit and can also be adjusted in the process of learning. The focus sets the learning process in motion.

II. Self-direction

Self-direction in learning means that the learning strategies are used to achieve the learning goal. These learning strategies can be divided into four categories:

- The first are the cognitive strategies. This is about connecting already existing knowledge with new knowledge. But it is also about repeating the learning material in order to store the information in the memory. It can also involve strategies to visualize material to make learning easier.
- The second category is that of metacognitive strategies, such as scheduling the required learning time, checking whether something is understood and determining afterwards whether the learning strategies used were correctly chosen.
- Management strategies are the third category. The focus is on creating the right conditions for the ideal learning environment, for example by thinking about who or what could help to persevere in the face of adversity and thereby learn as successfully as possible.
- The fourth and final category of learning strategies has to do with the motivational aspect. This is, for example, determining a learning goal or the orientation on the 'why' of the task. This can increase self-efficacy.

III. Self-confidence and self-efficacy

There is a distinct difference between self-confidence and self-efficacy. Self-efficacy is more specific than self-confidence. Self-efficacy is about the ability to complete a particular task. Self-confidence has a broader range.

Self-confidence starts with self-awareness. The learner is aware of what he is doing or who he is. Self-confidence is the normative interpretation of this. It has two dimensions: skills and dignity. Here in layer C, the learning context, self-confidence is used from the dimension of skill. (James, 1890) As the skills increase, so does confidence. Self-confidence creates the belief that one's actions lead to results, that one can achieve learning goals.

Self-confidence from the dimension of dignity belongs more in layer A and has overlap with concepts such as growth mindset, flow, and intrinsic motivation.

IV. *Self-reflection*

Self-regulating strategies such as metacognitive skills are about the learner's ability to monitor himself in determining how successful he is in achieving the learning goals. The skill of self-reflection is important here. It is about being able to review one's own learning and the regulation of cognitive processes.

V. *Self-monitoring*

Self-monitoring is closely related to self-reflection. It means that the learner keeps an eye on whether the way of learning brings him closer to the learning goal. When he realizes that he is not learning effectively, he will adapt the approach or the learning strategies accordingly and the same mistakes will be made less often.

VI. *Perseverance*

When the learner has perseverance, there is a drive to achieve learning goals. The learner feels like he has control over learning. He knows how to overcome obstacles in the learning process. Despite the effort, the time investment and any failure moments, the learning continues to achieve the goals.

Jon Pierce's theory, as we have seen, is about developing psychological ownership. We have called that development of psychological ownership acquisition. It does not matter what one takes ownership of, one can acquire this with any object, material or not material, concrete or abstract.

Pierce argues that this development towards ownership is linked to gaining control over, developing a relationship with and investing in the property. Hereunder these skills are clarified.

I. *Control over the subject*

Control of an object seems to be an important feature of the phenomenon of ownership. A study on the semantics of ownership shows that this actually means that one can use and control objects. (Rudmin & Berry, 1987)

Other research has shown that control of an object ultimately gives rise to feelings of ownership towards that object (Sartre, 1943; Csikszentmihalyi & Rochberg-Halton, 1981). Like parts of the body, objects that can be controlled are considered part of the self (McClelland, 1951), and the greater the amount of control, the more the object is experienced as part of the self (Furby, 1978; Prelinger, 1959). Objects that, on the other hand, cannot be controlled or are controlled by others, are not seen as part of the self (Seligman, 1975).

II. *Getting to know the subject up close*

The connection to an object is essential to ownership that it is often formulated in terms of that connection (Beggan & Brown, 1994). An individual's connection to an object gives rise to feelings of ownership (Sartre, 1943). As William James (James 1890) suggests, individuals develop feelings of ownership towards objects through a living relationship with them. Ernest Beaglehole (Beaglehole, 1932) also claims that by thorough knowledge of an object, person, or place there is an

amalgamation of the self with the object. So, people may feel that something is theirs because they are associated with it and are familiar with it. Through connection we acquire information about the object and get to know it well (Beggan & Brown, 1994). The more information and the more profound the knowledge an individual has about an object, the deeper the relationship between the self and the object and thus the stronger the feeling of ownership.

III. *Self-investing into an object*

The work of Locke, Sartre, Durkheim, Csikszentmihaly & Rochberg-Halton give us insight into the relationship between labour and psychological property. Locke (1690) argues that we own our labour and therefore we often feel that we possess what we create, shape, or produce. Similarly, Marx (1867) argues that through our labour we invest our psychic energy in the products we make. As a result, these products become representations of the self, as are our words, thoughts, and emotions. Therefore, individuals own the objects they have created in much the same way as they own themselves (Durkheim, 1957).

The investment of one's energy, time, effort, and attention in objects ensures that one becomes one with the object and develops feelings of ownership towards that object (Csikszentmihalyi & Rochberg-Halton, 1981).

There are plenty of opportunities to invest from within oneself in different objects, such as assignments, products, projects, teams or learning activities and therefore feel ownership of those objects. These investments from within can take many shapes and forms, such as the investment of one's time, ideas, skills, or physical, psychological, and intellectual commitment. As a result, the individual may begin to feel that the perception of ownership comes from one's own subject. The more an individual invests of oneself into an object, the stronger his sense of psychological property will be.

With the theories of Conley & French and Pierce's assembled, a fairly complete palette of mental skills has emerged that learners can use to gain more ownership of their learning.

d. The learning human

The learning context is a multifarious composition as previous chapters show. There are a host of circumstances, actors and skills that help to create learner's "ownership of learning": the physical and digital space, the timetable, the curriculum, the repertoire of the teacher, the skills of learners etc.

Is this the complete list that creates 'ownership of learning'. Is this the checklist we can use as an ownership ruler?

We also need to include the terms of chapter 5. The conditions autonomy, relatedness, competence, and acquisition make the land ready to build and create ownership of learning.

What is still missing from this list is the subject himself. The intention of the learner. If all the conditions are met, it is up to the person to start learning. Here we touch the essence of learning as an essential and natural characteristic of human existence. A human being learns!

7. The school context

This chapter is about the layer D, the school context. Also, at the school level, the concept of 'ownership of learning' has significance. To understand this, we define the school as a community of teachers, learners and supporters who collectively give relevance to the concept of 'ownership of learning'.

a. School culture

There are few representatives in the school who will not argue that one intends to promote 'ownership of learning'. The strategic documents of schools often talk about the ambition to put this at the heart of the provision of education. However, it seems that this is being developed in quite different ways. The language used in schools on this subject differs and so does the practical elaboration. You could also say that school culture differs in terms of the mission and practice of 'ownership of learning' between schools.

To identify and explicate these cultures, we can use a taxonomy derived from a sequencing originally used for the degree of 'shared leadership' in schools. This model outlines the development route of schools where more and more 'shared leadership' is being used in her organization. The model comes from John MacBeath who for that purpose had done research at eleven different schools. (MacBeath, 2005, De Koning, 2011) This model forms the basis of a taxonomy of schools from the perspective of 'ownership of learning' that we will introduce here.

The taxonomy of types of schools that have a different culture concerning 'ownership of learning' differs on an important aspect from the original MacBeath model. MacBeath's model assumes a development sequence of those six types of schools. The model explains how schools are moving from formal to cultural in a number of intermediate steps. MacBeath's research determines where the school stands in that development order. On the one hand the taxonomy has something of a development ladder, on the other hand the study also states that a development does not necessarily has to take place in this order. Other transitions are also possible.

In the school taxonomy of "ownership of learning" that we will use here, this sequence does not exist. There is no necessary order in the development of schools. Therefore it also lacks a 'judgment' in the description of the schools. The overview of the schools is therefore not a "good-better-best" list. The taxonomy is intended as a determination table, a kind of sample of school cultures.

b. School taxonomy

The following six types of schools are distinguished: formal, pragmatic, strategic, incremental, competent, and cultural. Below are the six types of schools with a short description:

- The formal school. This is a traditional school. The distribution of roles and tasks in the school is traditional.
- The pragmatic school is a warm -we are family- school. Here you can see an ad hoc allocation of roles, tasks, and responsibilities.
- The strategic school is a modern school, a well-oiled machine. A planned and systematic distribution of roles, tasks and responsibilities takes place here.
- The incremental school is a 'conscious' school: The distribution of roles and tasks aims to enhance student ownership.
- The competent school is the school of recognition: Here ownership is more shared than divided.
- The cultural school is a sustainable school. Shared ownership is deeply anchored in practice and thinking.

Taxonomy 'ownership of Learning'

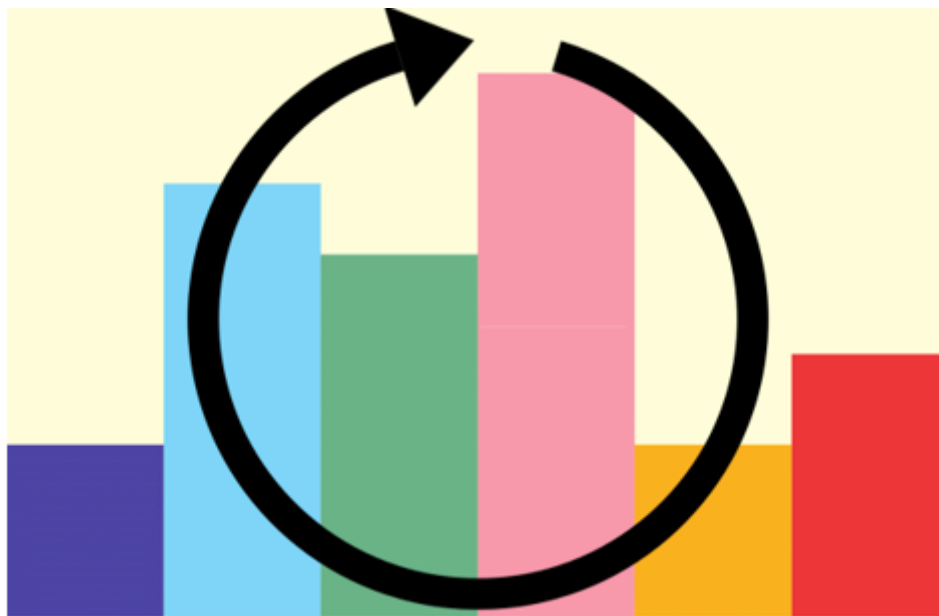


Figure 26. Taxonomy of schools; not a necessary sequence but a choice.

c. Culture awareness

Why is this taxonomy an important model? It helps to understand schools in the way they use the concept of "ownership of learning." When a school has a specific orientation towards 'ownership of learning', it can be recognized in its language or the behaviour of the members of the community. For example, a formal school will regard 'ownership' as a bycatch, the incremental school will see it as a higher purpose and the cultural school will take it for granted. A school community that is aware of its typology may decide to change. By considering schools as a carrier of culture, questions about changing the school become more complex but also more complete. In the overview below, we will outline the culture of each school type based on a list of assumed cultural characteristics.

Formal

The traditional school

The distribution of roles and tasks in the school is traditional.

- Formal rules take centre stage.
- The teacher takes the lead, and the students follow in what befits a natural setting.
- The organization is at the forefront and the ownership of the students is coincidental.
- Hierarchy prevails and is experienced as supportive.
- Delegation of responsibilities is executed through a top-down structure with clear procedures.
- The working atmosphere portrays accountability and regularity.
- Knowing and performing the defined roles and tasks is welcomed and practiced as a norm.
- Assignments are performed from a sound discipline.
- Safety and reliability remain core values of the school.

Pragmatic

The warm -we are family- school

Roles, tasks and responsibilities are assigned in ad hoc.

- Pragmatic culture: solution-oriented, reactive, and smooth and informal operation.
- Personal relationships are valued. There are old faiths. "We know each other."
- There is room for informal moments.
- Sports club, entertainment committees and excursion teams play an important role in the school.
- Class representatives have a say.
- Warm atmosphere and agreeable workload allocation.
- Responsibilities are shared on the belief that many hands make light work.
- Some students obtain more freedom to act based on their familiarity with particular teachers.
- There is a feeling of security and risks avoidance.
- The culture is intuitive and is highly internalized.
- Experience is applied to avoid waste of energy.

Strategic

The modern school: 'A well-oiled machine'

A planned and systematic distribution of roles, tasks and responsibilities.

- Everyone's roles, tasks and responsibilities are clearly defined.
- Task allocation is goal oriented.
- Education prepares the student for the outside world.
- There is a culture of recognized differences.
- Being a team player is a core value of the school.
- Assign tasks based on talents, specializations, and individual strengths.
- The prescribed and assigned tasks are cyclically evaluated.
- Students have clear roles and responsibilities e.g. student councils, school associations, or cleaning schedules.
- The learning process is well organized.
- Homework, lesson objectives, testing, teaching content and exam requirements are clearly defined.
- The long-term development of pupils is core.

Incremental

The conscious school

Roles and tasks are divided with the aim of enhancing student ownership.

- Envisions a continuous development of individual attributes.
- Top-down and bottom-up initiatives.
- Pragmatic and strategic.
- Enhances growth and personal development of students.
- Leadership of students is recognized and appreciated.
- Speaks out on positive expectations on students' performance and personal attributes.
- Ideas are welcomed.
- Emphasis is more on people and their capacities than work and tasks.
- Students participate in extracurricular activities. A wide variety of choices exists.
- Trust is a core value.

Competent

The school of recognition

Here the ownership is more shared than divided.

- Ownership is more taken than given.
- Enhanced bottom-up approach.
- The process is more natural than planned.
- Ownership at all levels of the organization and goals
- A more professional culture where people address each other openly.
- Symbiotic relationships.
- Ambitious and energetic.
- Opportunities and social enterprise.
- Power of Collective Ambition.
- Intuitive and independent.
- Everyone has a developmental perspective, talent is recognized and appreciated.
- The power of the initiatives.

Cultural

The sustainable school

Shared ownership is deeply anchored in practice and thinking.

- Intuition controls the steering process.
- Naturally shared and embedded in culture.
- The question is more of "what" than "who".
- First, activities, then roles.
- Relationships are spontaneous and collaborative.
- Who leads or follows depends on the subject, task or situation.
- A community of people working together.
- Activities are done through a shared ownership mentality.
- A professional learning community, where learning from and with each other is central.
- Student Ownership is a core value.

Figure 26: The cultural characteristics of the six school types from the taxonomy.

d. School culture and experienced ownership

As stated, the school taxonomy of 'ownership of learning' that we use here does not have a necessary sequence in the development of schools. Therefore, no judging principle in the taxonomy of school types exists.

When schools want to make 'ownership of learning' of their learner's work, it is important that they are aware of the present culture type of their school and what type of ambition, in an ownership-cultural sense, they have.

Having said this, it would be interesting to examine whether there is a link between the typology of the schools and the 'ownership of learning' experienced by learners. The SOL Foundation is in the process of undertaking such a research.

e. School culture and identity

The notion the school exists to teach children what the curriculum writers consider important is still widely spread. That the school aims to teach students to develop 'ownership for learning' is a view that is positioned at the other end of the spectrum. What does it take to achieve the latter?

In discussing the role of the teacher, we stated that teaching is more than focussing on the objectives of education, subject content, the use of subject-integrated didactics, having a pedagogical repertoire and choosing the right relational position. Above all, a teacher must be a mature, educated, and self-aware person who is capable of deploying his humanity.

Congruent to this one can also make a few remarks about the entire school. How does one characterize a school that makes learners experience 'ownership of learning' in addition to consciously dealing with the choice of cultural typology? Within such a school there should be awareness that a school is a community of people who are all learning together in a coherent way. Awareness is the key word here.

So, it is not so much about what type of culture one can label one's school with, but how profoundly it is connected to the identity of the school. It is about congruence between identity and culture. Where that congruence exists, a school becomes an environment where there is room for all aspects of human learning. Such a school community is a place where each and every one experiences 'ownership of learning'.

8. The societal context

The concept of 'ownership of learning' also has significance in a wider context. It is a concept that has a societal meaning, which subsequently connects with the meaning of the concept in schools, educational situations, learning situations and personal context. That is the content of layer E.

In addition to an educational, there is a sociological, a historical, an economical, a political and a philosophical environment that influences the inner layers.

This document does not elaborate on this part of the model. This will be described in a separate article.

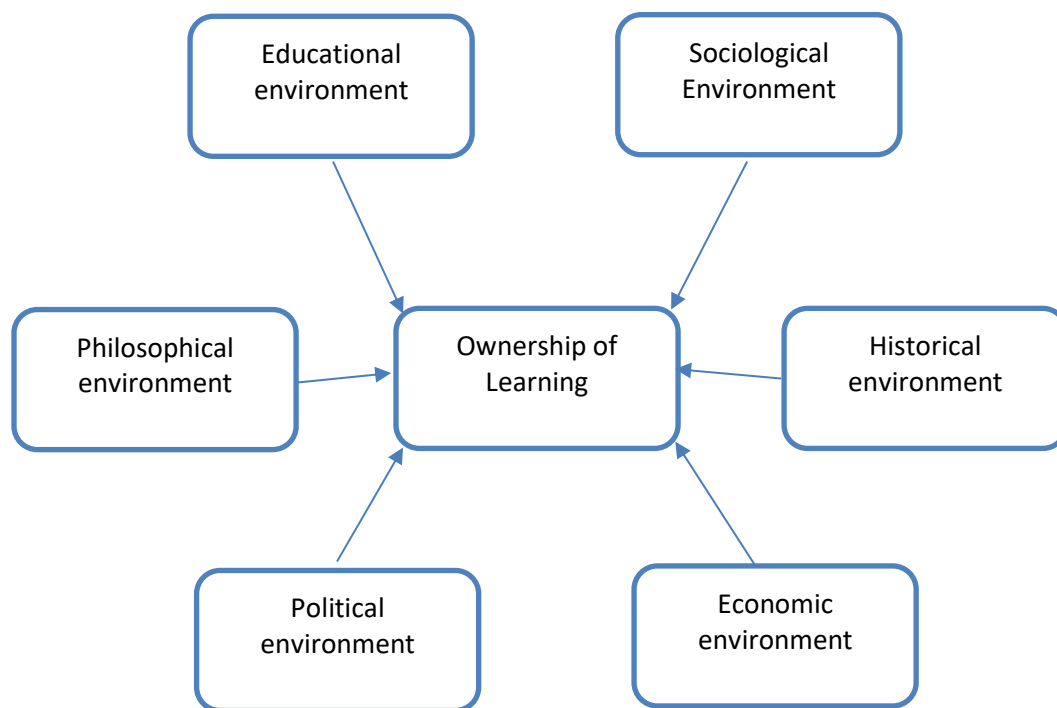


Figure 27: The societal context: six affecting environments.

9. The entire picture

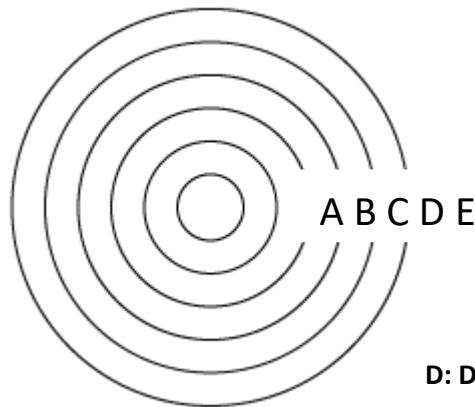
The theoretical framework presented focuses on the experience of 'ownership of learning' and describes the various contexts that influence the experience. In this, it diverges from other theoretical treatises on this concept. The theoretical framework described must be considered as a model. It is an arrangement that helps to understand reality and connects various elements of the theory. We have described the logic and consistency of the model and argued that the model has an added value compared to other theories. The distinctive layers have their own arrangement and their own underpinnings. We have clarified this in the various chapters. In the figure below, the entire model, the conceptual framework, is shown.

A: The Personal Experience

- Flow Experience
- Growth Mindset
- Creativity
- Constructive Learning
- Intrinsic Motivation
- Sense of Responsibility
- Psychological Ownership

B: The personal Context:

- Autonomy
- Relatedness
- Competence
- Acquisition



C: The Learning Context

- Curriculum
- Didactics
- Pedagogy
- Learning relationships
- Learning Strategies
- Learning environment

D: De school context

- The Formal School
- The Pragmatic school
- The Strategic School
- The Incremental School
- The Competent School
- The Cultural school

E: The societal Context

- Educational Environment
- Sociological Environment
- Historical Environment
- Economical Environment
- Political Environment
- Philosophical Environment

Figure 28: Overview model of the five layers in which 'ownership of learning' has meaning.

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