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SHARING THE LEARNING BY DEVELOPING MODEL IN AN INTERNATIONAL CONTEXT

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Abstract

Internationality creates new and diverse opportunities for higher education institutions, primarily through research, development, and innovation activities. In the preparation process for international projects and international courses, Laurea UAS's [Laurea University of Applied Sciences, Finland] pedagogical model Learning by Developing [LbD] has often been included as a way of teaching, learning, and co-creating. In these processes, we must convince our project partners about the splendor of the model. A deep understanding of the LbD-model is therefore needed. This research paper aims to find answers to why, what, and how to communicate with international partners about the pedagogical model. We seek answers to these research questions using the literature review method. It examines and summarizes the content of previous studies on the LbD operating model and learning environments in higher education and synthesizes it to an international angle.

Successful learning environments are a combination of formal learning environments, such as the UAS, and non-formal environments, such as companies located in the nearby region. Typical for the LbD-model, is that we are always working with real-life problem-solving (authenticity, experiencing). The problems are not purely theoretical, even if they could be in different stages of the development process, but theoretical approaches are used (research orientation). An important feature is the co-creation processes and shared learning experiences both individually and as a community (partnership, creativity). The model is incorporated into all the projects, courses and degree programmes of the UAS.

It must be remembered that success in the operation of the education institution returns to the idea of success in learning, and that's why it is at the centre of the LbD-model. Also creating partnerships is crucial in an international context. The partnership means working together, sharing knowledge, and learning together. It also means that different roles should be decided upon and shared when needed. In an international context, where we are building partnerships, this is challenging. The virtual space is different from the physical space and the practicalities become sometimes more asynchronous. To build up partnerships requires expertise in encounters in both authentic (physical) and virtual environments, as well as intensive and long-lasting collaboration.

The joint operation of international networks can be challenging, as the common understanding of context and doing can vary. It usually takes time to get acquainted before a confidential collaboration environment can be formed. In various co-development processes, attention is also paid to the different goals and benefits of the operators. In addition, it may be necessary to facilitate the necessary coordination in the process. This could lead towards a dialogue that transforms the model from tacit knowledge to explicit practices.

Keywords: Learning by developing, research, co-operation, international.

1 INTRODUCTION

Laurea University of Applied Science's (hereafter Laurea UAS) strategy outlines a target state of an international university that develops the region [1]. Laurea UAS has also made a separate plan for the internationalisation of education, which looks at the internationalisation of studies, staff mobility, the language used in education and on-demand training [1]. Laurea brings its own pedagogical approach to international interaction. In the preparation process of international projects and international courses Laurea UAS's pedagogic model Learning by Developing (hereafter LbD) has often been included as a way of teaching, learning, and co-creating [1]. In this process we must convince our project partners about the splendour of the model. Deep understanding about the Learning by developing model is needed.

This paper aims at finding some answers to how we can convince others and communicate about LbD-model in a practical, well operationalized way. We present our thoughts by being in a dialogue with existing texts about the model. The paper wants to contribute to the development of the LbD-model and in an international context by a discussive way. Successful learning environments are a combination of

formal learning environments, such as the UAS, and non-formal environments, such as companies, located in the nearby region. [2]. We work towards a more insightful dialogue that will transform our pedagogical model from tacit knowledge to explicit practices, as suggested by Uusitalo & Kyrö [3].

2 THE PHILOSOPHY BEHIND THE MODEL

Tautila & Raji [4] suggested that pragmatism, with its perspective on learning, is the foundation for the learning by developing model. They state that “every learning situation should lead toward increased practical competence” and “the pragmatic approach to education strongly critiques transmission-type teaching” [4]. According to the pragmatic conception of knowledge, education is not only an academic process that increases general knowledge. It provides answers to why and what should be learned and what learning is needed for. [5]

At an earlier stage of the development of the LbD-model Rauhala [6] pointed out that the model is an application of the research-based learning approach [7] within the context of universities of applied sciences. Maybe the researching, questioning attitude is what it is all about, and this attitude is the practical competence we need? Questioning reveals your way of thinking and is part of the research-orientation. Questioning could be the starting point for finding new solutions. There are also three levels in looking at trends in education. The first is the repetition of the existing, the second is for change anticipation, and the third is the level of regenerative learning as change. Through action, we can reflect on the change in the meaning of learning and the need to move from repetitive learning to learning as change. [8] We decide daily which of these levels to attach to.

3 OUR LITERATURE REVIEW

A literature review can provide a broad picture of the topic under discussion or describe the history and development of the subject ([9], [10]). The method we use is mainly a narrative literature review, and the literature is examined from an international perspective. In a literature review, it is necessary to open the methodology used by explaining how the literature was selected, analysed and synthesised [11].

To compile the literature review, we decided to use a combination of the keyword terms learning by developing (LbD) and Laurea (UAS). The information search was conducted in Google Scholar and in ProQuest databases that covers multidisciplinary content for scholarly journals especially. In the ProQuest advanced search, we used the keywords “learning by developing” and Laurea. This search result was then limited to scholarly journals and peer reviewed articles giving us 45 different research articles about the subject. 23 articles were published in the Laurea Uas-based journal “Interdisciplinary journal”, whereas 22 articles were published in other international, peer-reviewed journals. We also did a search in the Laurea Journal, founded in 2018. In this journal different RDI projects, pedagogical Lbd-examples and new discussion topics are published as short articles. The articles are mainly authored by Laurea employees.

A total of 76 articles have been selected for this text. They have been read considering the objective of the article (LbD in international contexts) and the research questions (what, why and how to communicate the LbD approach in international cooperation). We have also supplemented the literature by selecting other sources of relevance to the topic of sharing a pedagogical model, particularly in the field of education. However, these are not listed in Table 1, which describes the actual literature review data.

Table 1. Table of the data.

<i>Data search</i>	<i>Keyword search</i>	<i>Limitations</i>	<i>Number of articles in total</i>
Laurea Journal [Laurea]	Learning by Developing [LbD] and Laurea UAS	Mostly internal material of the UAS, not peer reviewed	31
ProQuest	Learning by Developing [LbD] and Laurea UAS	Peer reviewed scholarly articles	45
		TOTAL	76

Articles relevant to the aim of the study were selected and read. This was followed by a content summary and synthesis with lenses of LbD-model. It is important for the results to understand that the research objective and research questions guided the choice of perspectives and we decided to use the

description of the five components of the LbD model. The aim of the literature review was firstly to provide an overview of the topic under study [11]. This has been done in chapter 2. It has then taken the features of the topic that are important from an international perspective (in chapter 4), so that the research carried out can provide a framework for examining the key elements of the LbD model in an international context. The results of the study are presented in Table 2, which summarises the answers to the research questions: why, what, and how to communicate with others about the pedagogical model in an international context.

4 ANALYSING THE STAGES IN THE LEARNING MODEL

We are always working with real-life in LbD-model, different ways in practical problem-solving (*authenticity*). The problems are not theoretical in nature, even if they could be in different stages of the development process. The need for a clear understanding of the parties involved has been stressed for the approach to work as intended [12]. Existing roles include at least those of teacher, student and working life partner. An important feature is the cocreation processes and shared learning experiences both individually and as a community. Raij [13] has described the pedagogical triangle in the LbD model as consisting of the joint development work of teachers, representatives of working life and students. The LbD model assesses different competences that are different from the student's knowledge, written output, or activities in the project [14]. A key factor for LbD has also been its link to the UAS' strategy [6].

Raij [15] gives us the starting point of the development-based learning process which is a project based on a problem or a wish to renew something in work life. This problem or wish should relate to the knowledge or expertise the student wants to acquire to become a professional. How can we find these problems and wishes? Sometimes we rely on official EU-funding calls to find the societal problems that need to be solved. We can find some answers by analyzing the stages in the simplified LbD-model in Figure 1.

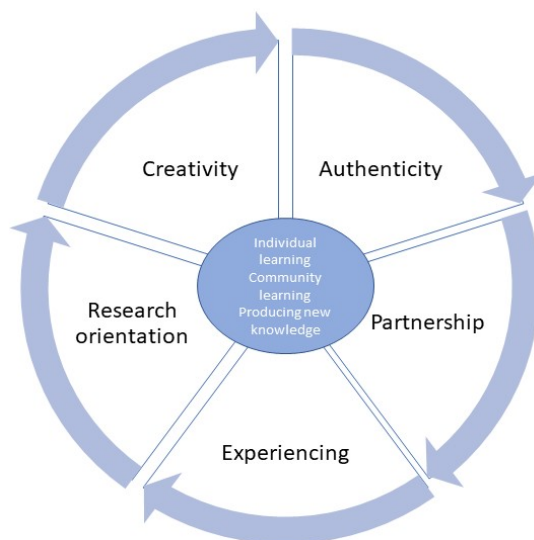


Figure 1. Recognised stages of the LbD model that steer implementation (modified) [16]

The *partnership* “means working together, sharing knowledge and learning together”, states Raij [15]. It also means that different roles should be decided upon and shared [ibid.]. In an international context, where we are building partnerships, this is challenging. The cooperation makes extensive use of virtual encounters. The virtual space is different from the physical space and the practicalities becomes sometimes more asynchronous. Marstio & Kivelä [17] have researched technology enhanced learning in a higher education context and suggest the use of new social networking services to support learning by developing with an emphasis on collaborative learning and authenticity. In research they developed practices within small and medium-sized enterprises (SME) in an LbD-way and used social media tools to collaborate. Some problems occurred when students were not always committed and the SME: s had outdated versions of technology.

To build up partnerships Marstio & Kivelä state as follows: “Introducing new possibilities and visions to heterogeneous, slightly networked organizations, requires intensive, and long-lasting collaboration” [17]. The joint operation of international networks can be challenging, as the common understanding of context and doing can vary. It usually takes time to get acquainted before a confidential collaboration

environment can be formed. [18.] Technology is not the only answer to getting more acquainted. When building up consortia for international projects there are often new partners and new actors and much of the creation of both applications and execution of projects are done asynchronously. Does the physical presence build up better partnerships? When we have new partners, it is easier to collaborate and write together if we have met at least once in the physical space. We have experienced the Covid-19 pandemic, and we had to trust more upon virtual encounters. We must also rely on partnerships built up by our university. But sometimes we need new perspectives and new actors. Then a more spontaneous dialogue is supported by meeting in the physical space.

Experience is crucial in the LbD-model and draws on the experiential learning model developed by Kolb [19]. According to Kolb “knowledge results from the combinations of grasping and transforming experience” [19]. Raji [15] emphasizes that the different actors involved should “have an active and responsible role in his own learning”. Sharing and reflection are important processes of understanding. To our understanding, all the actors should have a willingness to share as well as know how the reflection will be materialized. If sharing doesn’t happen the reflection will be more on an individual level. Tools for sharing and reflection should be created and especially when creating new projects with international actors. We would also like to pinpoint how sharing and reflecting will happen in a virtual space and how this will facilitate the transforming of experience. In the international cooperation experiment, both teachers ‘and students’ perceptions of the LbD approach were positive [20]. Haapanen [21] has found that exchange students experience LbD from a different perspective, as other learning models may not be equally supportive of a model that emphasises responsibility and independent work. However, the student quickly adapts to the new way of learning. This can also be applied to other international situations, i.e., you learn from experience.

When projects start, teams are formed and the aims are decided upon, but we easily forget the important process of sharing our knowledge at the very beginning. It is known [22] that knowledge sharing is central for any team to accomplish their goals with success. To find the way of creating something new it could be recommended that you have a shared understanding of concepts to know how people construct them. It is all about words and communicating and sharing helps us avoid misunderstandings. At the same time, it is a good starting point for creative innovative practices. Knowledge sharing affects organizational learning, and according to Swift & Hwang [23] organizations should focus on promoting both the affective and cognitive trust. In teaching, LbD can also be seen as tacit knowledge, i.e. there is no guidance available on the subject. Dialogue has been seen as a key method for making this visible [24].

Research-orientation has been utterly important in the context of universities of applied sciences. Behind this emphasis certainly lies the fact that the UAS had to profile themselves differently and to show that they are not vocational education institutions or universities. Therefore, the research is more applied as can be seen in the LbD-model. The way of working is in this context critical and analytical even if the level of abstraction and generalization is not the same as in the research done by universities. Maybe the research-orientation has more to do with the development on an individual level and not on a societal level? The impact is in focus and as we see it, within this model we are striving for immediate impact and on a micro-level. But micro-level practices can be aggregated and start a movement. In summary, the integration of research and development projects with studies is also a key activity in the LbD model, regardless of the level of activity at macro and micro levels. The purpose of learning must be considered from the preparation and inception of the project [25].

Creativity is emphasized but not so much elaborated upon in the model. Raji [15] puts forward that creativity is a resource and that the development projects are platforms for creativity. The joint construction of the skills and working life of the future requires multidisciplinary regional and international activities. New knowledge is created in it, for example through interaction, problem solving and cooperation. [26] Berger [27] inspires us to question the right questions to be creative and innovative: Pirinen & Fränti [28] emphasize the learning culture and its proactive knowledge development as well as the networked expertise springing from “social interaction, knowledge sharing and collective problem solving”. In an international context the social interaction, knowledge sharing and problem solving as a collective practice could be analysed more by the use for example of Hofstede’s model of cultural dimensions [29]. An underlining of how we address the unknown future [uncertainty avoidance], how we integrate into primary groups [individualism vs. collectivism] and what values are prevalent in different cultures [indulgence vs. restraint] would be needed to facilitate the success of international cooperation of any kind.

Table 2. The summary of the research questions and findings

<i>The research question</i>	<i>The main findings</i>	<i>Especially in international aspect</i>
Why	The idea of collaboration	Deepening cooperation and quality of interaction, creating and maintaining international partnerships
What	The core content	The open and understandable ways of learning, RDI- and other activities at Laurea UAS: authenticity, partnership, experience, research-orientation, creativity
How	The ways of implementing LbD	Learning, communication, interaction, working together also in networks and ecosystems, giving time

5 CONCLUDING REMARKS

Raij [16] has emphasized the abductive approach and workshops in the learning and developing model. Abduction is happening in dialogue between theory and practice which seems natural in the way the model is built up. This can happen both in the virtual space as well as in the physical space. Workshops as a method are technically possible in both spaces but more challenging in the virtual space. We all know that platforms can be built, but the willingness to share and coming together synchronously are challenging. The word “together” is often emphasized within LbD and has different meaning for different persons. This should be elaborated upon within any project. Dillenbourg [30] shows the different nuances in his research:

“‘together’ may be interpreted as different forms of interaction: face-to-face or computer-mediated, synchronous or not, frequent in time or not, whether it is a truly joint effort or whether the labour is divided in a systematic way”. [30]

We could criticize the way we are talking about “doing together”, “co-create” or “collaborate” and more thorough elaboration is needed. Everything is nowadays done together to some extent, but there are phases where we are doing together at the same time or at different times. Synchronously or asynchronously. We will always have moments when we must work individually and contribute individually but what we do comes alive when we are doing it together and sharing. The time aspect is important to emphasize too, as it brings an important aspect to collaboration. If we must create common projects using the perspectives of the LbD-model, we have to analyze the time frame more as different time schedules create different collaborative practices.

A limitation of the literature is that most of the pedagogical model has primarily been of interest to those working in the organization from a research perspective, rather than to those outside the HEI. However, this can also be taken as a conclusion for further development. There is a need to review the model with international partners to find out what their information needs are in terms of understanding the partner's activities.

Dialogue has been seen as a key method for making LbD-knowledge visible [24]. On the other hand, this can also be said of all ways of articulating, i.e., bringing others to consciousness by some other method. This objective is also fulfilled by the aim of our article, to make visible why we are doing things with the LbD model, what LbD essentially entails and how it can be promoted in international contexts. Henry Ford has stated that “Coming together is a beginning, staying together is progress, and working together is success.” All these stages demand different time frames. As a concluding remark we want to show, with this short article, how LbD could be explained differently in an international context by emphasizing and analyzing the elements according to the context at hand.

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