



Learner-centered coach education in Vierumäki: A case study on the presence of the learner-centered educational approach

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Bachelor of Science in Sports Coaching and Management

Bachelor's Thesis

2023

Abstract

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Degree Bachelor of Science in Sports Coaching and Management
Report/Thesis Title Learner-centered coach education in Vierumäki: A case study on the presence of the learner-centered educational approach
Number of pages and appendix pages 88 + 13
<p>Higher education institutions, as well as coach education programmes, have been evolving in past decades the nature of pedagogy, i.e., the practice of teaching alongside the learner needs and interests. Pedagogy, in general, has been shaped mostly by social influences and external factors. Therefore, the pathway of change involves notable movements and shifts in emphasis in relation to educational paradigms through these influences and factors.</p> <p>The learning paradigm, which lays down the fundamental pillar of learner-centered teaching (LCT), has become a central theme and objective of many education programs. LCT is an educational approach that is considered to be essential in education nowadays. It was found that LCT in coach education is necessity for achieving better construction and implementation of the learners' own knowledge in practice.</p> <p>LCT is in nature an approach to teaching with an emphasis on the learners, their needs, and interests, rather than on memorizing the content. It notices the balance of power in teaching and learning. LCT also develops learners' responsibility for their own learning, and requires them to take an active role in the learning environment. Especially, the establishment of learning environment plays an important role in developing LCT. It is not just a classroom, but rather a space where learners feel safe and supported in their learning. Through their own unique ways of learning they can freely construct, pursue, and explore new knowledge and skills.</p> <p>The purpose of the present study was to assess the presence, and level of implementation of learner-centered teaching in Haaga-Helia University of Applied Science's (HH UAS) Degree Programme in Sport Coaching and Management (DP). The HH UAS made an educational reform, which evoked in DP the necessity for curriculum change. Therefore, DP has developed in recent years a new curriculum, which was also influenced by the International Degree Standards published by the International Council of Coaching Excellence (ICCE). The curriculum consisted of several new courses, yet a major change occurred in balancing the implemented level of LCT.</p> <p>The assessment of LCT implemented in DP lasted 1 academic year. Assessment includes 16 courses, where each course is assessed through 4 evaluation components, among which are course a) syllabi and materials, b) class observations, c) questionnaires for students, and d) interviews with the instructors. All of the components are assessed through an extended LCT framework, which serves as an assessment rubric. In this study, the LCT rubrics are converted to a Likert ordinal scale, while ratings on rubrics are described using descriptive statistics.</p> <p>Finally, the results indicated a positive, significantly large, and successful implementation of LCT in the DP. However, further development of several actions of the LCT framework is needed as well as continuous re-evaluation of the DP, or at least some courses that require a shift and development of LCT.</p>
Key words Learner-Centered Teaching, Learning-Centered Teaching, Student-Centered, Coach Education, Coach Development, Sport Coaching

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1 Introduction

The history of knowledge has always been shaped and linked by extraordinary social influences and external factors, while the main channel for the creation and transmission of knowledge, the educational institution in the broader sense is no different (Paquette, & Trudel, 2018, 24). The innovations that have shaped the history of education have emerged overwhelmingly as the adaptive responses to the challenges of the external environment (Quehl, Bergquist & Subbiondo, 1999, 4).

This phenomenon is evident in the higher education systems, mostly, in the second half of the 20th century (Quehl et al., 1999). Particularly after the end of World War II, the education system adopted an extension of the common factory model to meet the demands of a wave of returning war veterans. According to Tagg (2003, 17): “The mission of universities was to get more students into more classes”. Educational institutions became factories and content-based education became their product (Harris & Cullen, 2010; Quehl et al., 1999). The goal of the education was to complete a curriculum (in translation from a Latin word meaning “a race” or “racetrack”) and earn a diploma or degree.

At this time, the instruction paradigm was gaining ground in higher education. Based on the assumptions of positivist learning, the mission of the instructional paradigm is to deliver quality instruction and transfer measurable pieces of knowledge from faculty to students (Barr & Tagg, 1995). Additionally, criteria for the success of this paradigm include curriculum development and student completion, and increasing enrolment and income (Barr & Tagg, 1995).

The various educational reforms in response to different civilian movements, especially in Western countries, increasingly focused on and prioritized student learning and needs (Tagg, 2003). The learning paradigm has been conceptualized and has become the focus of much educational study and practice (Barr & Tagg, 1995).

Based on constructivist learning assumptions, the mission of the learning paradigm is to produce learning through the construction of knowledge within an efficient learning environment. Within this paradigm, teaching methods and time vary, but the achievement of each student's learning outcomes remains constant (Barr & Tagg, 1995). Despite the growing interest and advances in adoption of the learning paradigm, most of the education system remains deeply embedded in the traditions of the dominant instructional paradigm.

The learning paradigm evolved into, what we know today as, learner-centered teaching, which is an educational approach mostly popularized in past decades when the traditional instruction paradigm has been shown as a less effective educational approach (Milistedt, Trudel, Rynne, Mesquita, & Nascimento, 2018). While traditional instructor-centered

teaching demands an enormous amount of content to be taught, the learner-centered approach requires learners to develop various learning skills that are used for greater transfer between assimilation and accommodation of knowledge (Moon, 2004).

Learner-centered teaching is already a well-known educational approach by various figures in education, among which belong Maryellen Weimer (2002, 2013) and Phyllis Blumberg (2009, 2019), whose works are creating the foundation of this study. Yet, these authors have mostly popularized the need for change in education in the past 20 years. However, there were also tendencies in the second half of the last century to influence the educational approach and change the shift of focus from educators ("factory-like education") towards learners.

Even though the learner-centered approach was not "invented" in recent years, since it was known pedagogical approach throughout the past 40 years in education, there was no determination or will to shift the way of current teaching, as mentioned earlier. The main turnover happened in 1995 when Barr and Tagg presented their critical paper about current education status, where they highlighted the difference between the 2 educational paradigms. Thereafter, Weimer, and lately Blumberg, but also others, have contributed to the development and implementation strategies for a learner-centered teaching approach, which was representing Barr and Tagg's, so-called, learning paradigm (1995).

Recent studies (Milistetd, Trudel, Rynne, Mesquita, & Nascimento, 2018; Paquette, & Trudel, 2018; Paquette, Trudel, Duarte, & Cundari, 2019; Rodrigues, Milistetd, Brasil, & Trudel, 2021) have been showing the crucial need and importance for the implementation of learner-centered teaching in education. Although to better understand what learner-centered teaching represents, it is essential to perceive it as the structure of multiple learning theories and educational methods. While constructivist learning theory is the biggest cornerstone of the learner-centered teaching approach, there are other theories and strategies supporting the reliability and efficiency of the approach. Among those, there are a) attribution theory, b) radical and critical pedagogy, c) transformative learning theory, or d) self-efficacy theory.

Many researchers have also recognized the shortcomings, specifically, in coach education and have come up with a series of remedial recommendations consistent with the LC approach. Such recommendations are:

- Becoming a LC leader
- Using a variety of learning strategies to achieve specified learning outcomes
- Deliberately developing learning skills
- Integrating assessment with learning
- Recruiting facilitators, not instructors
- Providing LC facilitator training
- Regularly assessing facilitators' performance
- Helping coaches to recognize their view of learning and to understand LCT

- Prioritizing making content meaningful for coaches
 - Empowering coaches with increased autonomy and learning options
- (Paquette, & Trudel, 2018, 170-173)

In addition, the concept of learner-centeredness is mostly popularized when discussing opportunities to improve the impact of coach education (Paquette, & Trudel, 2016).

Despite coach learning being a contested concept with a variety of theoretical perspectives and conceptual lenses, the sport coaching literature appears to be progressively converging on constructivist approaches (Paquette, & Trudel, 2016.). Moreover, the acceptance of coach learner centrality has led to the emergence of a learner-centered (LC) emphasis in the field of coach development and, more specifically, coach education (Paquette, Trudel, Duarte, & Cundari, 2019).

This study uses Weimer's 5 key dimensions (2002, 2013) as an essence of learner-centered teaching. Her dimensions create the first components that should be utilized when implementing, but mostly shifting toward learner-centered education. Weimer (2002, 2013) describes learner-centered teaching, where it comes from, and why is it so effective, however, she does not discuss solely the implementation strategies. Therefore, Blumberg (2009, 2019) created a comprehensive table of components (specific areas of LCT framework) for each Weimer's (2002) key dimension. Each component represented an implementation strategy as well as an evaluation criterion, through which the implementation of learner-centered teaching could be monitored or assessed.

Blumberg's (2019) updated her table (LCT framework) from 2009, and re-named components to actions. This LCT framework was applied in this study for the evaluation of learner-centered teaching in the Degree Programme of Sports Coaching and Management, in Vierumäki.

The Degree Programme in Sports Coaching and Management is a Bachelor's program (210 ECTS) at Haaga-Helia University of Applied Sciences, in Finland. It is a unique programme, due to specific learning environment and emphasis on personal growth of the students. The DP is endorsed by ICCE and their Sport Coaching Bachelor Degree Standards for coach education programmes. This endorsement was given to only 2 programs in the world, while Degree Programme in Sports Coaching and Management is one of them.

The DP focuses on LCT implementation, however, no LCT assessment was used for the investigation to what level the learner-centeredness is applied. Therefore, the purpose of this study was to assess and estimate the level of learner-centeredness in the DP.

For determination of the level of learner-centeredness, all compulsory courses were assessed in 4 evaluation components, a) course syllabi and materials, b) class observations,

c) questionnaire for students and d) interview with the instructors. For all components, Blumberg's learning-centered rubric framework was applied.

The process of evaluation was accomplished through the DACCS loop, a specially created loop for this given study, adapted from Blumberg (2019). The DACCS loop includes 5 steps/stages of the learner-centered teaching evaluation process.

Overall, this study is one of the first studies using Blumberg's (2019) newest LCT rubric as well as including 4 different evaluation components. Most of the studies are using only 1, or 2 evaluation components individually for investigation and determination of the level of learner-centeredness. However, this study combines the data from all of the components into final tables, for each of the 16 evaluated courses, as well as for the whole DP.

2 Learner-centered teaching

In past decades, the need for change in education has critically influenced academic dialogue on learner-centered teaching (Milistetd, Trudel, Rynne, Mesquita, & Nascimento, 2018, 105). The point found behind various educational theories has lately shown the imbalance in the emphasis of learning aimed at educators rather than learners. This particular issue has negative consequences on learning, such as lack of learners' responsibility for learning or engagement with the content.

In the beginning of the 20th century, higher education institutions were urged to fundamentally change the way they structure and deliver their services if they hoped to remain perceived as an important pillar of society (Milistetd et al., 2018, 105). The pressure to change and adapt arises from a combination of many factors, such as a) increased student enrolments (including international students), b) financial difficulties and increased competition between institutions, c) more research contracts with companies, d) the emergence of interdisciplinary fields of study, and e) professors who are more focused on research than on the teaching itself. To this list of pressure factors, we must add students, who are central to why higher education institutions exist.

The new generation of students, often referred to as "Millennial students" or "Generation Y", arriving at colleges and universities is said to have its own characteristics (e.g., over-protective parents, pressure to perform), expectations (e.g., getting good grades with minimal effort), and learning styles (e.g., preferring teamwork) (Côté, & Allahar, 2007).

Unlike many previous generations, a unique challenge for this group of students is increased uncertainty about future work as they may end up in careers that do not yet exist. Recognizing the nature of students and what they need to learn during their academic experience, 21st-century higher education must provide learning environments that foster the development of intellectual and practical skills along with autonomy, creativity, communication, and teamwork (AACU, 2007). Therefore, to be successful, colleges must transform the nature of their pedagogy significantly (Weimer, 2013).

Specifically, coach education has long been criticized for being ineffective in influencing coaches' learning and sustainable behaviour change (Trudel, Gilbert & Werthner, 2012). Since then, it has been recognized that criticisms often drawn from studies examining programs are consistent with assumptions of positivism (the core of the ICT), and therefore, researchers may have rushed to draw conclusions about the potential of coach education. As coach education programs have made attempts to align with LCT methods, research has documented the positive impact on these programs, which can be noted on academic and behavioural coaching (Paquette et al., 2019.).

While most educational institutions are trying to "cover" the content, which has to be learned, some are critically reviewing their learners' learning efficiency. Learning efficiency is a measure of improvement in performance accuracy and speed per amount of learning time (Bruce, 2004). However, in one way or another, the educators' educating approach and strategies influence the learners' learning skills and ability to learn. Therefore, emphasizing the learning process on learners' learning, rather than on educators' instruction, has been lately shown to be a highly efficient approach in making the learners master their learning. Furthermore, via this approach, the learners can be taught how to learn individually, within their own strengths and weaknesses (Dano-Hinosolango, & Vedula-Dinagsao, 2014, 1816.).

According to Blumberg (2009, 2019), Weimer (2002, 2013), Barr and Tagg (1995), and others, one part of the foundation of successful and effective learning are different learning skills, which allow the learner to obtain new information and manipulate with it in a practical environment, where it needs to be implemented. Moreover, such term as "learning skills" is very broad term used to describe the various skills. Higgins et. al. (2007, 5) divides these skills into sub-categories as follows:

- Information and communication skills (Often including aspects of literacy)
- Thinking and problem-solving skills (Particular the development of critical thinking)
- Interpersonal and self-management skills

The aim of developing different learning skills is to improve subsequent learning by a) developing more effective study skills and habits, or b) improving specific skills, which will be the foundation for further learning (Higgins, Baumfield, & Hall, 2007, 5). In order to acquire various learning skills, the process requires environmental changes, where the learner and his/her learning are the central themes. Definitely, the learner should be confronted with different learning situations during education, where the learning skills could be experienced and learned.

Nevertheless, learner-centered teaching (LCT) has been shown as one of the educational approaches, which enhances not only the knowledge base and understanding of the learned content but also the application of the knowledge and development of different skills, such as meta-skills. Besides that, LCT involves reflection, re-construction of the current knowledge, and personal growth due to empowering learners in responsibility for their own learning, and decision-making processes.

Emphasizing on learning might be easily understood at a superficial level, however, its delineation reveals more details and intricacies, such as:

- It is teaching that engages students in the hard, messy work of learning.
- It is teaching that motivates and empowers students by giving them some control over learning processes
- It is teaching that encourages collaboration, acknowledging the classroom (be it virtual or real) as a community where everyone shares the learning agenda.

- It is teaching that promotes students' reflection about what they are learning and how they are learning it.
- It is teaching that includes explicit learning skills instruction (Weimer, 2013, 55-56)

Although, this paper uses the term "learner-centered" due to its wide application. More importantly, due to attention on "what", which depends mostly in teaching, there are several different terms, such as learning-centered, student-centered learning, student-centered teaching, or just student-centered. Yet according to Weimer (2013, vii), when using term "student-centered" the focus implies on student needs, i.e. it tends to perceive student as a customer and the role of faculty as one of serving and satisfying the customer. Furthermore, does it mean the educators are serving the students, while students are always right? And is then the education a product? Why not then use the term "learning-centered", since learning is an abstract, and does not represent any concrete value. Therefore, as stated by Weimer (2013, vii): "What we call something will guide how we think about it—so what something is called matters".

2.1 Origin of learner-centered teaching

In the past, most criticism of coach education has focused on program design, particularly common shortcomings related to a) low ecological validity and minimal focus on the learner and coaching, b) de-contextualized learning environment, c) with a "one size fits all" approach or a top-down approach, d) lack of opportunities for collaboration and social learning, and e) the consideration or integration of reflection (Paquette, & Trudel, 2018, 170). As potential solutions for these design limitations, coaching scholars have made numerous recommendations, including the integration of reflective, interactive, and active learning activities, using relevant content to address relevant, real-world coaching issues, and the focus on developing learning skills (Cushion et al., 2010).

Regardless of the rationale for the instruction-centered and largely didactic methods employed by these programs, their limited impact has been well documented and criticized by scholars (Chesterfield, Potrac, & Jones, 2010; Morgan, Jones, Gilbourne, & Llewellyn, 2013), ultimately leading to a propagated notion that coach education has little value in coaches' development (Trudel, Gilbert, & Werthner, 2010).

All the above-mentioned concerns and solutions for the development of common shortcomings are indicating the essentials of the learning paradigm, and its educational approach, learner-centered teaching (LCT). Nowadays, most of the researchers base their knowledge of LCT on the work of professor Maryellen Weimer, who is considered one of the first authors who popularized the LCT concept (Milistetd et al., 2018; Paquette, & Trudel, 2018; Paquette, Trudel, Duarte, & Cundari, 2019; Rodrigues, Milistetd, Brasil, & Trudel, 2021). Weimer was not necessarily the founder of the LCT concept, rather she

merged the different educational theories into a unified concept of teaching and constructed 5 dimensions, "The Five Key Changes to Practice", which create the founding pillars of the whole approach (Weimer, 2002, 2013). Specifically, Weimer (2002, 2013) lists the given 5 key dimensions as follows:

- The Role of the Teacher
- The Balance of Power
- The Function of Content
- The Responsibility for Learning
- The Purpose and Processes of Evaluation

Although, Weimer (2002) has described and unified the founding dimensions of LCT, Robert Barr and John Tagg (1995) published an article named, "Change, From Teaching to Learning: A New Paradigm for Undergraduate Education", which highlighted 2 different educational paradigms:

- Instruction Paradigm
 - Learning Paradigm
- (Paquette, & Trudel, 2016, 55-56)

Both paradigms describe the differences in teaching/learning structure, nature of faculty roles, objectives and purposes, assessment criteria, and main learning theories underpinning the whole system of education (Paquette, & Trudel, 2016, 55-56). In Barr and Tagg's (1995) article, the first and significant difference between traditional instructor-centered teaching (ICT) and learner-centered teaching (LCT) frameworks has been discussed, from which, later, Weimer (2002) was able to establish the 5 key dimensions (see Table 1.).

Table 1. Comparing instructor-centered teaching (ICT) and learner-centered teaching (LCT) according to Weimer's (2002) 5 key dimensions (adapted from Milistetd et al., 2018, 107)

Dimensions	Instruction-Centred Teaching	Learner-Centred Teaching
Overview	a) Post-positivism b) Knowledge transfer, isolation c) Goal to provide/deliver instruction	a) Constructivism b) Knowledge creation, collaboration c) Goal to produce learning
Function of Content	a) Content is covered to build knowledge b) Students are allowed to memorize content c) No clear organizing scheme	a) Content has multiple functions <i>(e.g. help students know why they need to learn content, use discipline-specific inquiry)</i> b) Students are encouraged to transform and reflect on content to make meaning of it c) Organizing schemes support learning
Role of the Instructor	a) Lecturer and giver of information b) Use passive teaching methods c) Use extrinsic motivators <i>(e.g., grades)</i>	a) Facilitator of student learning b) Use active learning methods c) Create intrinsically motivating learning environments
Responsibility for Learning	a) Instructor assumes all responsibility b) Achievement of course outcomes c) Instructor assesses student learning, strengths and weak-	a) Student mostly assumes responsibility b) Achievement of learning objectives and self-directed, life-long learning skills

Purpose and Process of Assessment	<p>nesses</p> <p>a) Strong emphasis on evaluation</p> <p>b) Summative evaluations are prioritized</p> <p>c) Evaluation occurs following instruction</p>	<p>c) Student routinely self-assesses</p> <p>a) Use assessment strategies that lead to deep learning (e.g., <i>authentic assessment, peer- and self-assessments</i>)</p> <p>b) Formative assessment drives learning</p> <p>c) Carefully integrated into learning process</p>
Balance of Power	<p>a) Instructor possesses all power</p> <p>b) Instructor determines course content, course policies, and deadlines</p> <p>c) Student learning is largely influenced by instruction and evaluation process</p>	<p>a) Power is shared with students</p> <p>b) Students are empowered to express their perspectives and recommendations on content, learning methods, and policies</p> <p>c) Open-ended assignments and mastery grading allow alternative learning</p>

However, when searching for a definition of LCT, there is no one definition that would define the approach well enough. Milistetd et al. (2018, 106) have suggested the following definition for LCT applied in the institution:

"A flexible learning environment where teaching and learning strategies are used by instructors to support and facilitate the efforts of the students (individually and in groups) to achieve learning outcomes (knowledge base and learning skills) for their growth as creative and independent learners in ways that both satisfy the Department's/School's expectations for graduation, and also prepare them for an unknown future."

Another possible definition is outlined in Blumberg's (2019, 4) book, where she describes the LCT as:

"Learning-centered teaching focuses on what and how students are learning. Instructors are not the centre of focus in learning-centered teaching. Instead, learning-centered instructor create safe, respectful, and inclusive environments that facilitate student learning."

Although definitions of LCT might vary, the shared understanding of basing the environment focused on learning and the learner's needs should remain. Furthermore, except the extensive work of Weimer (2002, 2013) and Blumberg (2009, 2019) in establishing the foundational pillars of LCT (5 key dimensions), the American Psychological Association (1997) created the "Learner-Centered Psychological Principles: A Framework for School", which underlies 4 key factors where each of them includes several psychological principles that pertain LCT. The 4 factors are as follows:

- Cognitive and Metacognitive Factors
 - Motivational and Affective Factors
 - Developmental and Social Factors
 - Individual Differences Factors
- (APA, 1997)

As can be seen, the majority of practical innovations and establishments regarding LCT started in the 1990s, especially after Barr and John Tagg's (1995) significantly critical article, yet there were others critically reviewing educational system in the Western world, such as Brookfield's (1995) book: "Becoming a Critically Reflective Teacher", where he highlighted the importance of transformative learning. Nevertheless, the absolute origin of the approach, where the implementation of active-learning is intentionally present during education, could be assigned even further back to the first half of past century, to John Dewey (1859-1952) and Carl Rogers (1902-1987) who are good examples of seminal work in this regard (Milistetd et al., 2018, 105).

2.2 Essentials of learner-centered teaching approach

Paquette and Trudel (2018, 24) describe how the environment and society affect the perception of learning and its development. Education and its approach in practice is rather an adaptive response to environmental changes and challenges throughout history, rather than innovative, developmental, and progressive thinking (Paquette, & Trudel, 2018,24). Therefore, the factory model of the education system was unconsciously established in the second half of the 20th century in the Western world, where the aim was rapid enlargement of the amount of students, and thus classes and schools associated with that as well (Quehl et al., 1999; Tagg, 2003, 17).

The shift from the instruction paradigm to the learning paradigm is difficult and tedious. However, more specifically, in coach education, it is highly needed due to practical acquisition and collaboration (Paquette, & Trudel, 2016, 54-55). Especially, active collaboration is essential for development of learning skills as well as creating a growth-based learning environment, and for increasing student learning progress (Ronfeldt, Farmer, McQueen, Grissom, 2015).

Although, most of the educational programs, among which are also coach education programs, are either claiming the presence of LCT or its continuous implementation in their programs. However, the understanding of what it means to be "learner-centered", and the implication of its principles and actions in practice remains limited to a certain level (Paquette, & Trudel, 2016, 54-55.).

Nevertheless, the LCT is an approach that consists of several learning theories and approaches, which underlie its conceptualism and evidence. Therefore the upcoming sub-chapters are emphasizing discussing the different theories and approaches underpinning the concept of LCT.

2.2.1 Constructivist learning theory

Certainly, one of the biggest cornerstones of LCT represents the constructivist approach to learning. Although, in the education field, there are numerous books (e.g. Gagnon, & Collay, 2006) and articles (e.g. Donnelly, 2010) discussing constructivism applied in learning, yet not that much in the sports field, especially in coach education and development (e.g. Ollis & Sproule, 2007) (Culver, Trudel, Werthner, 2012, 375-377).

According to Martin et al. (1994, 45), the philosophy of constructivism proceeds from the premise that:

- Knowledge does not exist outside the bodies of cognising beings (that is, outside the mind of a learner)
- Knowledge is the construction of reality
- Individuals actively construct knowledge by connecting prior and newer learning while working to solve problems

Furthermore, based on the Jarvis's (2006, 2007, 2008, 2009) and Moon's (1999, 2001, 2004) books and materials, the constructivist learning theory steps further in understanding the concept in practice (Trudel et al. 2012). The definition of constructivism is clearly discussed by Moon (1999, 106) as:

"In the constructivist view of learning, the learner constructs their own knowledge and the knowledge is conceived to be organized more as a network ... What is already known is employed in guiding the new learning in organizing the process of assimilation (taking in the material of learning). In meaningful learning, where the learner in tends to understand the material of learning instead of just memorizing it, the learner accommodates or adapts an area of the network in response of the new learning."

According to Moon (2004, 231), there are 5 stages of learning, which create the basis for the understanding of how constructivist learning theory sees learning happening. There are 2 specific terms, which Moon (2004) extensively applies in her model of 5 stages of learning (see Table 2.):

- Assimilation, referred to surface learning
- Accommodation, referred to deep learning

Moon (2004, 231), describes these terms as:

- "Assimilation is the processing of new material of learning such that learning occurs. The process of assimilation is guided by the current internal experience (prior experiences in current state of cognitive structure) of the object of learning, and any given current purposes for the learning. In meaningful learning, assimilation is accompanied by the process of accommodation."
- "Accommodation is the process of modification of new material of learning or current cognitive structure in a learning process that results in change of conceptions (i.e. understanding or state of knowledge). Accommodation follows the process of assimilation."

Table 2. Stages of learning (adapted from Paquette et al., 2012, 379)

Surface learning		Assimilation
1	Noticing:	Looking at the information and trying to memorize it
2	Making sense:	Slotting ideas together on the basis of relatively superficial similarity
Deep learning		Accommodation
3	Making meaning:	Seeking meaning and understanding that relates new learning to current knowledge and understanding in the cognitive structure
4	Working with meaning:	The learning material is now modified as part of the cognitive structure
5	Transformative learning:	More comprehensive stage of accommodation of the cognitive structure; ability to step outside his/her own and others' processes of reasoning in order to evaluate the frames or references that he/she or they are using

In other words, emphasizing education on surface learning, such as the instruction paradigm does, results in memorizing the content, without personal meaning to it, and thus the stage of understanding and applying the content in another context, or in practice, is highly limited. While, progressing from establishing the knowledge base of the content, might result in a deep understanding of the content, such as the learning paradigm does, and thus transformative learning could be possibly achieved.

Nevertheless, the "what" in learning is important, it creates the content, yet "how" might be considered where and how we learn the new content. According to Moon (2001, 48), "the learning context is the setting in which learning occurs - the course, the instructor, relevant organizations, and so on - and the learning situation, is the learner's perception of the context and unique to the learner" (see Figure 1.).

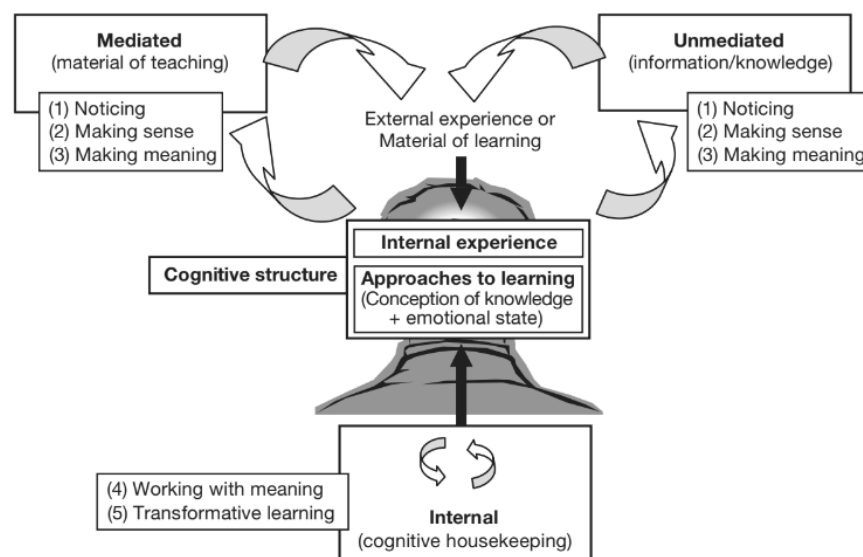


Figure 1. Representation of Moon's conceptual framework of learning situations and stages of learning (adapted from Paquette et al., 2012, 379)

When implementing the constructivist learning paradigm in teaching, instructors who employ the constructivist approach have to adapt to the role of facilitators and not teachers (Cobb, & Bauersfeld, 1995). While the teacher provides a didactic lesson that covers the topic, the instructor helps learners develop their understanding of the content. So, in the first scenario, the learner plays a passive role and in the second scenario, the learner plays an active role in the learning process. Thus, the focus shifts from the instructor and the content to the learners. In addition, a teacher tells, a facilitator asks. A teacher teaches from the front, and a facilitator supports from the back. A teacher gives answers according to a set curriculum, a facilitator provides guidelines and creates an environment for learners to draw their own conclusions. A teachers mostly give monologue, a facilitators are in constant dialogue with learners.

Thus, constructivist instructors are simply guiding learners to build an understanding of the content or topic as they explore knowledge, experiment, and share opinions with others. The essential goal of the constructivist faculty is to help learners become effective thinkers (Dickson, Akwasi, & Attah, 2016, 7).

Constructivist instructors can use instructional strategies to guide the teaching and learning process, focusing on the learner rather than the instructor. A number of pedagogical strategies such as reciprocal questioning, jigsaw classroom, and structured controversies are closely associated with constructivist learning theory (Dickson et al., 2016, 8-9.).

Reciprocal questioning (RQ) requires learners to create questions for the given content that needs to be learned, and then the instructor either answers the questions, or helps learners to find the answers. The jigsaw classroom (JC) strategy assigns learners to work individually or collaboratively in order to learn or solve a problem that has to be learned. Later, the learners obtain sufficient knowledge and understanding of the given content and start to teach the others in the group. In the structured controversies (SA) approach learners are encouraged to find balanced opinion about the controversial issues (Dickson et al., 2016, 7.).

Furthermore, Kim (2005, 8-10) mentions that the constructivist instructor always considers the learner's prior knowledge, and adapts or builds the content to be taught on it. Constructivists believe that a learner needs the knowledge to learn and that it is highly difficult to acquire new knowledge without a structure developed from previous knowledge. Therefore, any teaching effort must be relevant to the state of the learner, while providing a guidance to the content for the learner, based on the learner's prior knowledge.

Moreover, according to Kalendar (2007, 5-6) for constructivism the motivation is the key element necessary for learning. Students need to know why they need to learn the content and how it will benefit them. The statement is also made clear by Kim (2005, 18) that:

"Unless learners know "why", they may not be very interested in the content being taught, even by the harshest and most direct teaching methods."

Lastly, there are different type of constructivism, such as, a) social constructivism, b) psychological constructivism, c) personal constructivism, d) radical constructivism, and e) contextual constructivism. All of these types of constructivism possess various differences, however, Hein (2007, 2) created a basic and universal guiding principles of constructivist thinking, that cover the main fundamental pillars of constructivist learning theory:

- It takes time to learn (learning consists both of constructing meaning and constructing systems of meaning).
- Learning is an active process in which the learner uses sensory input and constructs meaning of it (learners need to do something because learning involves the learners engaging with the world).
- People learn to learn as they learn.
- The crucial action of constructing meaning is mental (physical actions, hands-on experience may be necessary for learning, especially for children, but it is not sufficient, we need to provide activities that engage the mind as well as the hands).
- Learning involves language (people talk to themselves as they learn, and language and learning are inextricably intertwined).
- Learning is social activity (our learning is intimately associated with our connection with other human beings, our teachers, our peers, our family as well as casual acquaintances, including the people before us or next to us at the exhibit).
- Learning is contextual (we do not learn isolated fact and theories in some abstract ethereal land of the mind separate from the rest of our lives, but we learn in relationship to what else we know, what we believe, our prejudices and our fears, therefore, learning is active and social).
- One needs knowledge to learn (it is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on, therefore, the more we know, the more we can learn).
- Learning is not the passive acceptance of knowledge which exists out there (learning involves the learner engaging with the world and extracting meaning from his/her experiences).
- Motivation is a key component in learning (not only is the case that motivation helps learning, but it is essential for learning).

2.2.2 Other learning theories

According to Weimer (2013, 15-27), LCT is closely tied with also other existing theories such as attribution theory, self-efficacy theory, radical and critical pedagogy, or even feminist pedagogy. Besides constructivist learning theory, there are also cognitive and humanistic learning theories supporting the LCT approach.

To briefly introduce the theories already mentioned in the previous paragraph, the first one, attribution theory has the origin credited to Heider (1958), who explains the theory based on attributes, i.e. "what students attribute their success or failure to" (Weimer, 2013, 16). Later on, the theory was developed by other researchers, such as Weiner

(1986), who discussed the importance of understanding the cause, or source of attribution, where he highlighted 3 causes, i.e. a) control, b) stability, and c) locus, which explanation tends to be associated with the concept of "Growth mindset" developed and published by Dr. Dweck, in 2006, in the book called "Mindset".

Stage, Muller, Kinzie, & Simmons (1998, 26), suggest that self-efficacy should be developed in students throughout various learning situations, formed in a learning-supported environment, where a) ability is understood as an acquirable skill, b) competitive social comparisons are deemphasized, and self-comparison of progress and personal accomplishment is highlighted, and c) the individual student's ability to exercise some control over the learning environment is reinforced.

In terms of radical and critical theory, radical and critical pedagogy, Weimer (2013, 19) explains this pedagogy as follows:

"Radical pedagogy challenges many common assumptions about who is responsible for what in the teaching learning process. It is a theory that questions the role of teacher authority in student learning experiences and one that challenges teachers to explore ethically responsible ways of sharing power with students."

Furthermore, there is a transformative learning theory, which is underpinned heavily by constructivist learning theory. The theory discusses the importance of personal meaning establishment in learning for the learner by the teacher. Thanks to the personal meaning of content, the learner is able to transform the learning more efficiently, i.e. to apply it in a different context and gain quicker deep and long-lasting understanding. Promote transformative learning, it requires teachers to construct the content in a way, so students are able to rely on or build new knowledge based on previous knowledge and experience. To do so, teachers are encouraged to practice more critical reflection and critique (e.g. questioning, validating, revising, reasoning, etc.) (Weimer, 2013, 24-26.).

There are also other different theories supporting and reasoning why LCT functions and promotes better learning outcomes than the traditional teaching approach, underpinned by the instruction paradigm.

2.2.3 Other educational approaches

In terms of learning approaches and variety of learning activities, LCT involves a vast majority of active-learning approaches and problem-solving activities, which are simultaneously present in several, already mentioned, learning theories.

Weimer (2013,34-57) lists several approaches and activities, which supplement functionality of LCT in the practice. Among the most important approaches is independent, self-directed, and self-regulated learning.

Before educators aim to establish learner-centered environment, they might first understand how their learners are learning. The learning process of individuals can extensively vary. Zimmerman (2002) describes self-regulated learning as it is "not a mental ability or an academic performance skill; rather it is the self-directive process by which learners transform their mental abilities into academic skills" (Weimer, 2013, 34).

Regarding to independent, self-directed, and self-regulated learning, motivation represents the initial factor for its development. Simply explained, if the learner is not motivated in learning of the content, self-regulated learning cannot be achieved, due to dependence on one's self-efficacy beliefs and intrinsic interest (Weimer, 2013, 35).

Furthermore, active learning introduces the direct learner's engagement with the content, which drives the learning to be more personal, practical, and reflective, as the vast majority of active learning strategies incorporate problem-solving and critical thinking. Nevertheless, Michael (2006, 160-165) discusses the main principles, which support active learning:

- "Learning involves the active construction of meaning by the learner. Learners construct meaning by combining what they currently know with the new information they are acquiring. This makes learning a personal process and rules out any idea of learning as the mere transmission of knowledge.
- Learning facts and learning to do something are two different processes. This explains how students can know the facts and still not be able to do anything with that information.
- Some things that are learned are specific to the domain or context (subject matter or course) in which they were learned, whereas other things are more readily transferred to other domains. In order to successfully transfer knowledge from one situation to another, students need to practice.
- Individuals are more likely to learn more when they learn with others than when they learn alone.
- Meaningful learning is facilitated by articulating explanations, whether to one's self, peers, or teachers. Constructing these explanations also gives students practice in using the language of the discipline."

Active learning strategies can also involve various problem-solving activities, such as problem-based learning (PBL), process-oriented guided inquiry learning (POGIL), or peer-led team learning (PLTL).

The most common problem-solving activity is PBL, which is well known among researchers, but also teachers since it is the most widely used and oldest learning activity (Weimer, 2013, 42). PBL is a form of self-directed learning that founds on solving a particular open-ended problem, whereas the learning outcome or goal of the activity is to practice the process of solving or the actual outcome of solving the problem.

POGIL differs from PBL in special and carefully prepared inquiry materials, which will lead as the guide throughout the process. This learning activity incorporates the development of process-based skills while cooperating with other learners in small groups to solve the inquiry. POGIL should be primarily applied when learning outcomes are more process-oriented than outcome-oriented, as well as POGIL working well in small groups of learners, whereas PBL could be applied to individuals (POGIL, 2021.).

PLTL is also considered a group-based learning activity, especially due to the requirement of peer learning. Therefore, PLTL cannot be applied to individuals, i.e. PBL. The origin of PLTL is similar to POGIL and PBL since all of them are solving pre-prepared problems related to text materials, lectures, or homework. The major difference in PLTL represents peer-led facilitation of learning. Each of the small groups involves at least 1 instructed/trained student facilitator, who either has completed the course or excels in the course with a high understanding of the content. The student facilitator (peer-leader) is asked to encourage other students (peers) in the group to use collaborative learning approaches to enhance and facilitate learning more effectively (Weimer, 2013, 42.).

2.3 Weimer's 5 key dimensions of learner-centered teaching

Barr and Tagg (1995) have inspired Weimer to the creation of 5 key dimensions, around which the whole concept of LCT is based (Milistetd, 2018, 106). Her first book (2002) deepened the contrast and understanding of the view between the instruction paradigm (ICT) and learning paradigm (LCT) while promoting her conceptual framework (5 key dimensions) as beneficial and well-supported (e.g., Cornelius-White, 2007; Tagg, 2003) in education (Paquette, & Trudel, 2016).

Weimer's first key dimension is "the role of the teacher" (Weimer, 2002, 2013). Throughout this dimension, she discusses the importance of the division of roles in the classroom. More importantly, the fact, that in the ICT approach the teacher is the center of the whole class, is undeniable. The teacher is the one who "knows, decides, leads, asks, answers, teaches, solves, and gives", regardless of others, who are passive participants in the process, who only observe what the teacher is doing. Originally, the teacher owns the power, and his place, in terms of hierarchy within the organization, is higher than students have. It is common to see in ICT that teachers show this power in their role within the learning process (Weimer, 2002, 2013.).

In LCT, the role of the teacher is primarily opposite from what ICT requires teacher to do. LCT encourages teacher to facilitate and support learning. The teacher does not force or demand the learning, rather the environment of LCT established by the role of the teacher enhances students to take a part in their own learning and be responsible for that (Wei-

mer, 2002, 2013). In order to better understand what the "role" means in terms of this particular key dimension, Fox (1983) created a metaphor for a learner-centered teacher, who is introduced as a gardener. According to Fox (1983), the gardener's role is to create environmental conditions where he enables his flowers or fruits to accomplish their potential, but he is not the one who blooms and bears the fruit. Another metaphor, which creates a better understanding of the role of the teacher in the learning process, represents Hill's (1980, 48) "mountaineer", where he describes him as:

"The teacher as mountaineer learns to connect. The guide rope links mountain climbers together so that they may assist one another in the ascent. The teacher makes a "rope" by using the oral and written contributions of the students, by forging interdisciplinary and intradisciplinary links where plausible, and by connecting the course material with the lives of students."

Weimer (2002, 2013) creates a several principles for establishment of facilitative teaching. Some of them are listed below:

- Teachers let students do more learning tasks
- Teachers do less telling so that students can do more discovering
- Teachers do instructional design work more carefully
- Faculty more explicitly model how experts learn
- Faculty encourage students to learn from and with each other
- Faculty and students work to create climates for learning
- Faculty use evaluation to promote learning

(Weimer, 2013, 72-84)

The second key dimension represents "the balance of power" (Weimer, 2002, 2013), which comes hand in hand with "the role of the teacher". Furthermore, this key dimension does not describe what role stands for the teacher and student in the class, yet it approximates how the power is re-distributed inside of the learning environment.

In ICT, the decisions belong to only one person, an educator. Educator decides the direction and depth of the content that has to be taught and learned by learners. The educator is the one who implements learning material into the content and what assessment of learning will be promoted. The educator sets the rules and course policies, deadlines of the assignments, pace of the study plan, activities, and teaching/learning methods applied during the course. Once again, the educator/teacher/instructor owns the power over the students and the right to decide, without the students' input (Weimer, 2013, 88-89).

Several educators and researchers have recognized the need for the distribution of the power for decision-making process to learners (Bunce, 2009; Singham, 2005, 2007; Braye, 1995). Bunce (2009, 676) describes the issue as follows:

"Students "know" that the course belongs to the teacher: the teacher determines policy, due dates, the difficulty of the tests and the value of each assignment/test. The

teacher also decides what material is important and how it will be presented. No one asks students what they need to learn. Typically they have no voice in how things are done, nor are they likely to volunteer any suggestions for fear that it would be viewed as impudent."

In terms of the LCT approach, the balance between what educators and learners can decide should be emphasized more. Involving learners in establishing the learning environment, in the course or attendance policies, in the assessment process, or in content selection, is a direct promotion of LCT, where the process of learning is centralized on the learner and his needs, and thus the opportunity of a decision should be promoted (Weimer, 2013, 88-94.).

Weimer (2002, 2013) gives several examples of where the power could be possibly re-distributed in an appropriate balance between educator and learner. The examples are listed below:

- The activities and assignments of the course
 - Course policies
 - Course content
 - The evaluation of student learning
- (Weimer, 2013, 98)

The third key dimension is "the function of content" (Weimer, 2002, 2013). The amount of content "covered" by an educator, course, or program, is seen as a significant factor for learning and it matters due to the credibility, reputation, and professional responsibility of the education program. Many faculties are not willing to adapt to LCT exactly due to amount of the content that can be "covered" in a course, which according to those faculties, makes the teaching untenable (Weimer, 2013, 114-115).

Weimer (2013, 115-119) discusses more in detail the word "cover" in terms of content. Educators, but also learners, tend to believe "the more content is always better", and use the "covering content" notion ingrained and unquestioned (Weimer, 2013, 115). According to Wiggins and McTighe (2005, 229) "covering the content" is a metaphor. They opened up with this saying as:

"The word "cover" refers to something on the surface, like a bedspread. Applied to teaching, it suggests something superficial. When we "cover" material ... we end up unwittingly focusing on the surface details, without going into depth on any of them."

Therefore, using the "covering the content" notion does not necessarily mean promoting the learning throughout an extended amount of content or information needed to learn, rather it targets surface learning. Consequently, that is not the target of LCT, but rather the emphasis of ICT. The ICT approach implies "covering" an extensive amount of con-

tent, which equals to potential incensement of the knowledge base, yet not understanding or implementing the "known" content in practical acquisition (Weimer, 2013, 115-123).

Nevertheless, in the ICT approach "the function of content", in combination with "the balance of power" and "role of the teacher", represents and supports the undeniable power and role of the educator in the environment, where the educator promotes him/her-self into the centre of learning, includes all the decisions on what, how, and why the content has to be taught, regardless the needs of learners (Weimer, 2013, 115-123).

On the contrary, in the LCT approach, "the function of content" is to promote deep, self-directed, and long-lasting learning, where the amount of the content learned might be limited due to time constrain, yet the efficiency of learning exceeds the ICT approach in the long-lasting understanding and application of the content to practical acquisition. In addition, the emphasis on learning skills is extensively promoted throughout the process of learning. (Weimer, 2013, 119-127.).

In order to develop learning skills, Weimer (2013, 127-132), creates a simple guideline on how to approach to its development:

- 1) Think developmentally
- 2) Target skill development
- 3) Routinely engage students in short skill-development activities
- 4) Take advantage of those ready-to-learn moments
- 5) Partner positively with learning centre professionals
- 6) Use supplementary materials to support learning skills development

Nevertheless, she also highlights several strategies that develop learning skills. Among those are:

- Developing reading skills
- Partnering with the learning centre
- Learning about learning from each other
- The learning question
- Learning from exam results
- Writing to learn; Learning to write

(Weimer, 2013, 98)

The fourth key dimension is "the responsibility for learning" (Weimer, 2002, 2013), where the severance on who owns the responsibility for learning has to be clear. Weimer (2013, 143) identifies several issues, such as "students are not well prepared for college-level work. They don't have good study skills and often lack essential background knowledge. Many attempts to combine higher education with full-time jobs and families. A lot see education as the pathway to jobs that pay well—they aren't especially interested in being well-educated. Most college students are not confident learners. They tend to be passive, hoping that the educational decision-making will be done by their teachers."

When identifying this key dimension in the ICT approach, educators focus on guidance and striving for correctness. It translates to their later actions, when learners struggle to

learn or make a decision to succeed in the course, the educators tend to help learners by making clearer and clearer terms and explanations. Lastly, when learners are still not capable to succeed in the course, due to a lack of confidence or knowledge, those decisions to succeed will be made by educators, and thus the responsibility for learning shifts towards the educator, who again, maintains the power of decision-making in own hands (Weimer, 2013, 144-145.).

Furthermore, promoting students' responsibility for learning should not be understood as only direct verbal promotion, but rather as establishing the appropriate environment, or as Weimer (2013, 147) suggests "classroom climate".

Fraser, Treagust, and Dennis (1986) developed the College and University Classroom Environment Inventory (CUCEI) for the measurement and comparison of preferred and actual classroom environments. CUCEI consists especially of 7 subscales, which are further divided into 49 instruments. In order to understand what is meant by "classroom climate", the following CUCEI 7 subscales describe its essence:

- Personalization, defined as opportunities for interaction between professor and students and the amount of instructor concern for students
- Involvement, defined as the extent to which students actively participate in all classroom activities
- Student cohesiveness, meaning how well students know and are friendly to each other
- Satisfaction, defined as how much students enjoy the class
- Task orientation, being how clear and well-organized class activities are
- Innovation, defined as the extent to which instructor plans new and unusual class activities and uses new teaching techniques and assignments
- Individualization, or the degree to which students are allowed to make decisions and are treated differentially, according to their individual learning needs

When applying LCT and this key dimension in the classroom, educators should emphasize students' engagement in taking responsibility over, via using different active-learning strategies as well as setting students' expectations for the course.

According to Weimer (2013, 150-158), when attempting to establish an appropriate classroom climate for learning and students accepting the responsibility for learning, educators should utilize the following key points:

- Logical consequences
- Consistency
- High standards
- Caring
- Commitment to learning

Last, the fifth key dimension represents "the purpose and processes of evaluation" (Weimer, 2002, 2013). The "purpose" stands more for "why" we evaluate the learners, whereas the "process of evaluation" talks about "what" and "how" we evaluate. Usually the answer for "why" is for grades, while when asking about "what" and "how" the answer is to document the fact that students know the content at a certain time, not whether the stu-

dents understand or apply the knowledge outside the classroom, even after completing the course (Weimer, 2013, 168-175).

According to Weimer (2013, 170), grades are important, however, should not be as important as they are. Even the LCT approach emphasizes changing the value and importance of grades, yet there is little chance of truly succeeding. Instead, the LCT approach should focus on overcoming 3 major negative effects that grades have on learning:

- Grade-orientation, where students work for grades, not for learning
 - Believing in ability and luck to earn grades, not effort, not good study habits, not hard work
 - Pressure to get grades motivates students to cheat
- (Weimer, 2013, 170-175)

In the ICT approach, the 3 major negative effects (Weimer, 2013, 170-175) are commonly present, while the intention is not directed towards solving the issues, in the learning process, which supports its presence. Rather it is accepted as a fact. Although in case of cheating the educators usually apply some method of punishment to display the learner's failure to know the content.

In the LCT approach, besides overcoming Weimer's (2013,170-175) 3 major negative effects that grades have on learning, educators are also intentionally and extensively applying assessment to the process. Whether the assessment involves different skills, such as learning skills, or it involves the presentation of mastered content, or even the implementation of the content in a large assignment, another context, or application in real-life situations or learners' careers.

Weimer (2013, 175-194) suggests numerous strategies how to improve or change "the purpose and processes of evaluation". Some of the strategies are:

- Harness the power of grades to motivate students
 - Make evaluation experiences less stressful
 - Use evaluation only to assess learning
 - Focus more on formative feedback
 - Use peer and self-evaluation
 - Use review sessions
 - Use exams with open-ended questions
 - Use debrief sessions
- (Weimer, 2013, 175-194)

2.4 Blumberg's learner-centered teaching framework

Many highly regarded authorities on LCT (Barr, & Tagg, 1995; Weimer, 2002, 2013; Doyle, 2011; Harris, & Cullen, 2010) were discussing the need for a shift from instruction to a learning paradigm, the framework of LCT, or the essential components. However, they only minimally outlined the concrete actions or steps for implementation of LCT, and thus how to make the shift from ICT to LCT.

Furthermore, when the LCT approach received extensive attention in educational programs and schools, after Weimer's (2002) first book, which highly popularized the concept of LCT framework, the issues of implementation of LCT arose (Paquette, & Trudel, 2016, 55-66).

Among the first ones, who created and published practical strategies for implementation, was Phyllis Blumberg (2009), and her first book "Developing Learner-Centered Teaching: A Practical Guide for Faculty". In this book she adapted Weimer's 5 key dimensions into her framework (see Table 3.), and assigned to these dimensions 4 to 7 components, based on the learner-centered literature, such as Alexander and Murphy (2000), or Tagg (2003). In total, Blumberg's framework represents 29 components, which define the LCT (Paquette, & Trudel, 2016, 56-66).

Table 3. The components of LCT (adapted from Blumberg, 2009)

Dimensions of LCT	Components
The Function of Content	<ul style="list-style-type: none"> a) Varied uses of content b) Level to which students engage in content c) Use of organizing schemes d) Use of content to facilitate future learning
The Role of the Facilitator	<ul style="list-style-type: none"> a) Creation of an environment for learning through organization and use of material that accommodates different learning styles b) Alignment of the course components for consistency c) Teaching or learning methods appropriate for student learning goals d) Activities involving student, instructor, content interactions e) Articulation of SMART objectives f) Motivation of students to learn
The Responsibility for Learning	<ul style="list-style-type: none"> a) Responsibility for learning b) Learning-to-learn skills or skills for future learning c) Self-directed, lifelong learning skills d) Students' self-assessment of their learning e) Students' self-assessment of their strengths and weaknesses f) Information literacy skills
The Purpose and Processes of Assessment	<ul style="list-style-type: none"> a) Assessment within the learning process b) Formative assessment c) Peer and self-assessment d) Demonstration of mastery and ability to learn from mistakes e) Justification of the accuracy of answers f) Timeframe for feedback g) Authentic assessment
The Balance of Power	<ul style="list-style-type: none"> a) Determination of course content b) Expression of alternative perspectives c) Determination of how students earn grades d) Use of open-ended assignments e) Flexibility of course policies, assessment methods, learning methods, and deadlines f) Opportunities to learn

According to Blumberg (2009), her book transferred the LCT from theoretical background of describing and discussing the concept to practical implementation, concrete strategies,

and guidelines on how to effectively establish LCT in education. When comparing Weimer and Blumberg in terms of LCT, Blumberg underlies her work mostly on supporting educators in the implementation and self-assessment of LCT (Blumberg, 2019).

More importantly, Blumberg (2009) created assessment rubrics for each of the 29 components of her LCT framework, adapted from Weimer (2002), to define different educator actions and behaviours for the given component, based on 4 levels:

- 1) Employs instructor-centered approaches
- 2) Lower-level of transitioning
- 3) Higher-level of transitioning
- 4) Employs LC approaches

(Paquette, Trudel, 2016, 57; Blumberg, 2009)

Via Blumberg's (2009) LCT rubrics, educators as well as faculties are able to assess their course or program's LCT implementation. These LCT rubrics offer also practical and systematic strategies for facilitating the change toward the development of LCT (Paquette, & Trudel, 2016, 56-57).

Paquette and Trudel (2018) have used Blumberg's (2009) LCT rubrics for the evaluation of the Canadian golf coach education program, where they called these rubrics a "well-established framework for developing and assessing learner-centered teaching" (Paquette, & Trudel, 2018, 25).

In 2019, Blumberg published her second edition of the first book, called " Making Learning-Centered Teaching Work: Practical Strategies for Implementation", where she modified her LCT rubrics, i.e. she renamed the dimensions to constructs, components to actions, and levels of evaluation to (see Figure 2.):

- 1) Instructor uses instructor-centered approaches
- 2) Instructor uses minimally learning-centered approaches
- 3) Instructor uses mostly learning-centered approaches
- 4) Instructor uses extensively learning-centered approaches

(Blumberg, 2019)

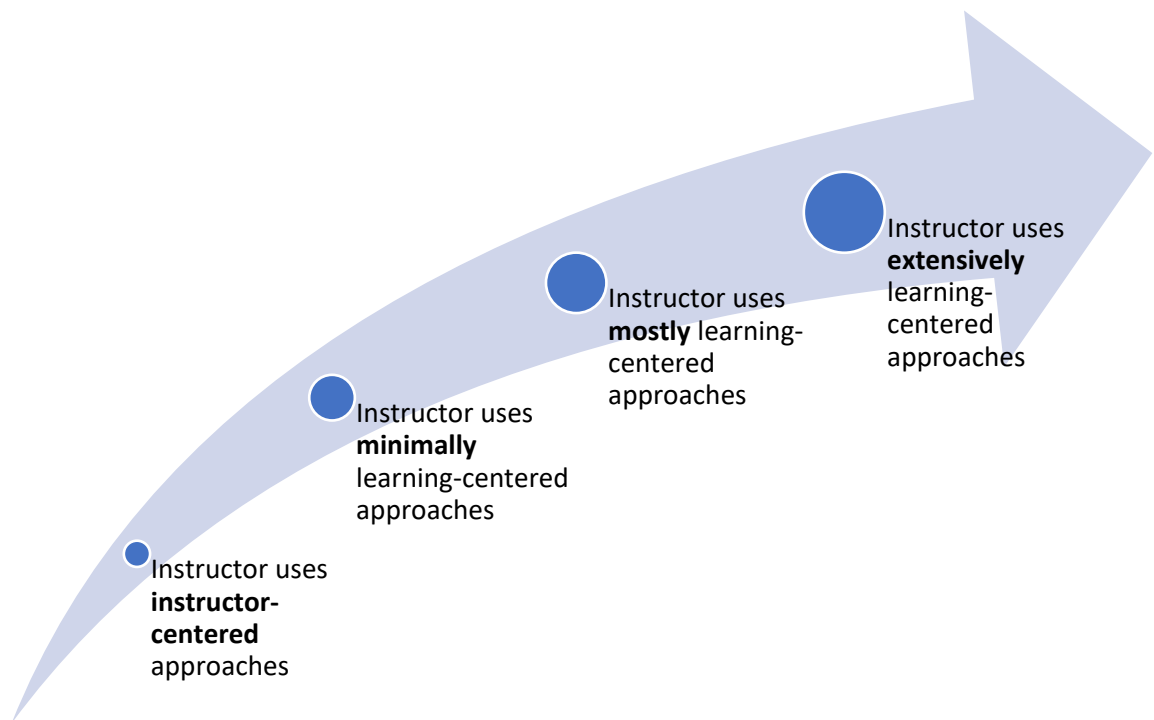


Figure 2. Four levels showing a progression of instructor's actions towards LCT (adapted from Blumberg, 2019, 16)

Furthermore, Blumberg (2019) stopped using the term "learner-centered", and began to use "learning-centered". Blumberg (2019) explains this decision as follows:

"This is an intentional and purposeful shift because learner-centered focuses on the person or the student. Learning emphasizes the learning process, which I believe is a more important focus. Learning-centered teaching is more congruent with the content of the book, which gives you concrete ways to help students learn better. Some people use student-centered learning, but this customer satisfaction phrase might give the wrong impression that students can expect to get a good grade even without working for it."

Another change that can be seen in Blumberg's (2019) second book is the order of constructs, whereas, in the first book (2009), she did not emphasize this element at all. The order of constructs is (see Table 4.):

- 1) Role of instructor
 - 2) Student responsibility for learning
 - 3) Function of content
 - 4) Purposes and processes of student assessment
 - 5) Balance of power
- (Blumberg, 2019)

Table 4. The 5 constructs of the LCT approach and essential actions associated with each construct (adapted from Blumberg, 2019, 18)

Construct	Essential Actions Associated With Each Construct
Role of Instructor	<ul style="list-style-type: none"> • Develops learning outcomes • Uses appropriate teaching/learning methods • Aligns objectives, teaching/learning methods, and outcomes • Creates a supportive and success-oriented environment • Creates an inclusive environment • States teaching/learning methods explicitly
Development of Student Responsibility for learning	<ul style="list-style-type: none"> • Sets expectations for students to take responsibility for learning • Provides scaffolding learning support, then allows for greater student independence as the course proceeds • Develops student learning skills • Develops student self-directed, lifelong learning skills • Fosters student reflection and critical review • Fosters use of metacognitive skills, habits of mind
Function of Content	<ul style="list-style-type: none"> • Uses organizing schemes • Promotes meaningful student engagement with the content • Fosters development of discipline-specific methodologies • Helps students understand why they learn content • Fosters thinking in discipline • Helps students acquire in-depth conceptual understanding that facilitates future learning
Purposes and Processes of Student Assessment	<ul style="list-style-type: none"> • Integrates assessment and learning • Uses fair, objective, and consistent assessment policies and standards • Provides students with formative feedback • Uses student peer and self-assessment • Allows students ability to learn from mistakes • Uses authentic assessment
Balance of Power	<ul style="list-style-type: none"> • Establishes safe, moral, and ethical environment that empowers all students • Provides syllabus that demonstrates that students and instructors share power • Allows for some flexibility in policies and practices • Provides varied student opportunities to learn • Empowers student learning through appropriate freedom of expression • Responds to student feedback

According to Blumberg (2019), the constructs are mutually aligned (Figure 4.), but progressively sequenced (Figure 3.), therefore, implementation of LCT should consider all of the constructs, yet not the same emphasis on implementation on all of them at the particular time, but rather generating more focus at 1 or 2 constructs at the time, while other constructs are partially implemented alongside. Later on, when the previous constructs were successfully implemented, according to LCT rubrics, the next 1 or 2 constructs should be implemented with larger intention, while the other are partially implemented alongside (Blumberg, 2019).

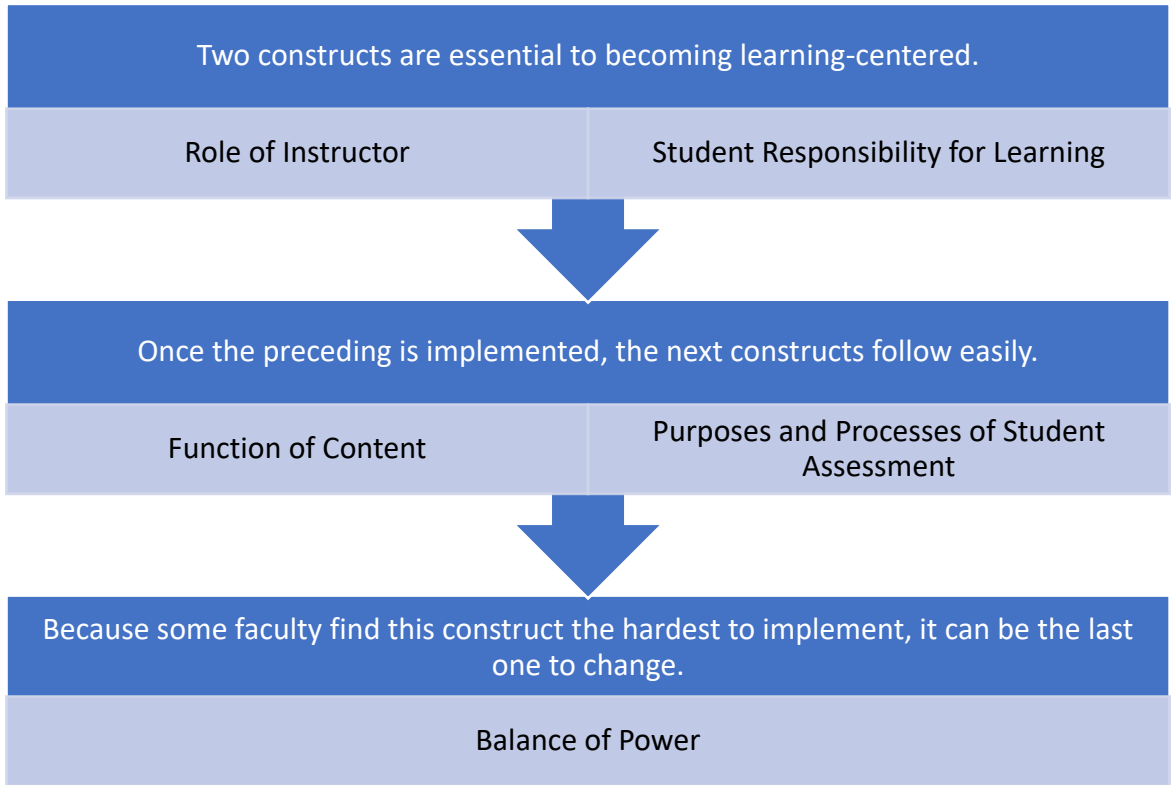


Figure 3. Implementation progression of learning-centered teaching constructs (adapted from Blumberg, 2019, 21)

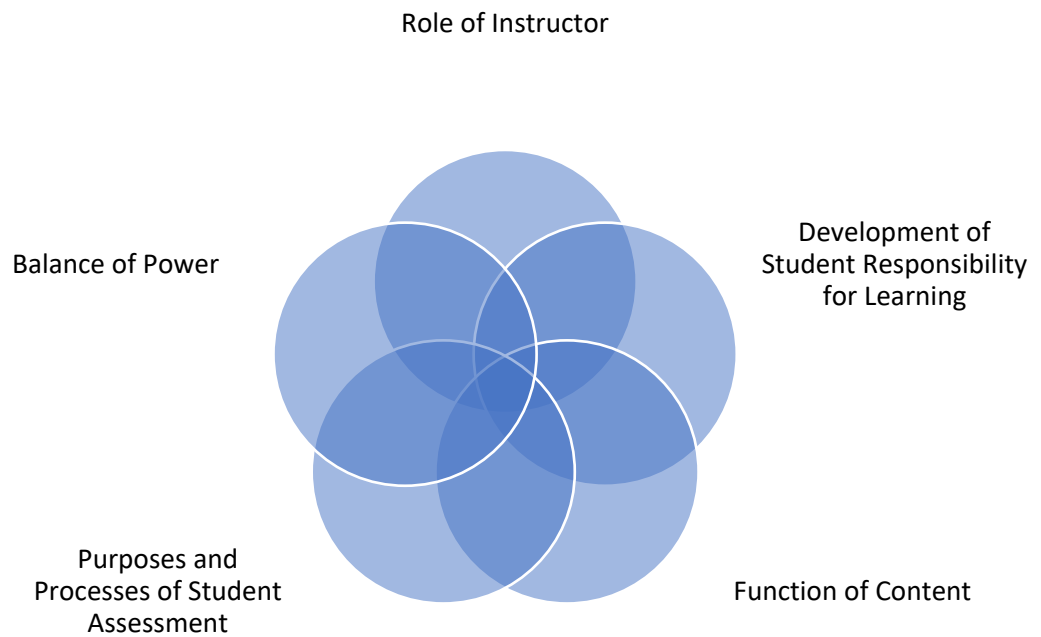


Figure 4. LCT is an integrated approach composed of 5 constructs (adapted from Blumberg, 2019, 17)

2.5 Implementation issues of learner-centered teaching

Weimer (2013, 68-70) discusses numerous implementation issues for each of LCT's key dimensions, yet the major reason ascribes to the nature of human beings. On one side, there is a common problem of understanding the LCT approach, and on the other side, there are teachers, who are not used to sharing the power in the classroom or stepping back and not being in the centre of the learning.

Although the initial problem has its origin in teachers and their pedagogical approach, Weimer (2013, 68-72) highlights the importance of the whole educational environment shift, i.e. educational program or faculty shift towards LCT. If the environment does not support LCT, the teacher might find it hard to implement most of the key dimensions of LCT in his teaching, and thus, rather usually decides not to continue.

When giving more attention to individual key dimensions, the first Weimer's key dimension, "the role of the teacher" possesses several implementation issues, among which the actual facilitation and intervention from the teacher's side might be needed differently, depending on the learners and environment. As Weimer (2013, 84-86) questions herself: "If this approach to teaching is about letting students discover and experience the consequences of their decisions, should teachers intervene?", certainly, the largest issue is how much the teacher should facilitate and how much intervene into the learning process. Certainly, every intervention compromises the potential of students to learn from their mistakes, yet, the teacher should understand the level of the learning process and support those, who stopped and cannot move forward in learning. Furthermore, the important fact is, when should the teacher intervene? Weimer (2013, 86) describes several occasions when to intervene:

- When a decision will hurt a student
- When the decision of some students compromises the learning potential of others
- When students' efforts to figure something out produce such enormous frustration and anxiety that the learning potential of the experience is compromised

Another question would be: "Should the teacher intervene while students are making the error or wait until after they have made the mistake?", as Weimer (2013, 86-87) says, "it depends".

In the second key dimension, "the balance of power", Weimer (2013, 108) encourages further discussion and exploration of the question underpinning the selection of learning activities that would compromise/encourage the balance or control over the decisions of students. Among other questions, which do not have straightforward answers, but are worth consideration when implementing this key dimension, are:

- How much power is enough to motivate students?
- How much decision making are students ready to handle?
- How do teachers know when they have abrogated legitimate instructional responsibility?

(Weimer, 2013, 109)

"The function of content", a third key dimension of LCT (Weimer, 2002, 2013), incorporates 2 major issues. The first one highlights the need for change from "covering" to "using" the content, as it directly influences teachers' and learners' perspectives on the essence of the content. Secondly, the amount of content is usually less in LCT than in ICT. Therefore, teachers are worried about how much their students will develop a solid knowledge base. However, they do not consider the importance of developing a range of learning skills and deep learning, which lead to more learning (Weimer, 2013, 141-142).

Nash (2009) in his, "Crossover pedagogy: The collaborative search for meaning", article concluded:

"Often when I teach less, I find that I actually teach more. I call this a "pedagogy of ironic minimalism". Whenever I take the time to call forth what it is my students actually know, and whenever I intentionally minimize the "endless breadth and depth" of my "vast wisdom and knowledge" then my students learn the most."

As well "the function of content", and "the purpose and processes of evaluation" key dimensions bring 2 major implementation issues. Firstly, the students' grade-orientation issue. If teachers' could possibly combine or involve the learning in assessment more, and besides promote the learning importance more than the grade received, the students might begin to see grades and learning from a better perspective. Secondly, implementation of peer- and self-assessment methods. Certainly, teachers tend to perceive these assessment methods as an option for students to cheat and get better grades, yet as Weimer (2013, 194) discusses:

"It's necessary because the emphasis on grades compromises students' objectivity. But it's worth pursuing because when their self- and peer-assessment activities count, students take those activities much more productive direction."

Lastly, "the responsibility for learning" involves several implementation questions that Weimer (2013, 165-167) discusses, but as she declares: "I'm not sure that we're closer to answers now than we were when this book was first published." Among the question are:

- Is it a matter of doing away with some rules, retaining others, but ending up with fewer rules overall?
- How do you decide which rules stay and which ones go
- Should you revise the rules so that they allow more freedom but at the same time hold students more accountable?
- How may consequences should students be allowed to experience, and what kind of consequences are appropriate?
- If the ultimate goal of learner-centered instruction is for individual learners to manage their own learning, how does a collection of individuals functioning as a class limit, transcend, or otherwise affect the learning proclivities of individual learners?

According to Blumberg (2019, 7-8), many institutions claim to be learning-centered, yet the reality is absolutely different. She created a list of barriers/implementation issues for 3 categories in the education process, wherein she highlighted the most common barriers of why the LCT does not tend to change from ICT to LCT (see Table 5.).

Table 5. Barriers for adoption of LCT (adapted from Blumberg, 2019, 7)

Subject of barriers	Reasons of barriers
Faculty	<ul style="list-style-type: none"> a) Change is risky and difficult b) Learning-centered teaching is threatening to instructors because faculty fear they will lose control of their classes and their student evaluations might go down c) Learning-centered teaching takes more time for out-of-class preparation and giving students feedback. Faculty already feel overburdened d) Understanding of how to implement learning-centered teaching is lacking e) Myths about learning-centered teaching are pervasive
Student	<ul style="list-style-type: none"> a) Learning-centered teaching is threatening to students b) Students fear not doing well in the new learning mode c) There is resistance to change d) Learning-centered teaching takes more time
Institutions	<ul style="list-style-type: none"> a) Assessment processes and methods often favour instructor-centered approaches b) Pressure to publish takes away time devoted to investigating in effective teaching methods

3 Degree Programme in Sports Coaching and Management in Vierumäki

Vierumäki is a well-known sports institute of Finland, located in the "Paijät-Häme" region, 30 km north of the largest city in the region, Lahti. The Institute owns a huge range of facilities for different sports, such as track and field, ice hockey, soccer, tennis, paddle tennis, gymnastics, Olympic weightlifting, cheerleading, golf, cross-country skiing, figure skating, and others. Besides sports facilities, Vierumäki Sports Institute owns also educational facilities, i.e. lecture rooms, meeting rooms, and brainstorm rooms, and offers coaching education and development programs, organizes coaching seminars, and facilitates numerous national, or international tournaments in different sports (Vierumäki, 2022).

Nevertheless, alongside Vierumäki, and its educational programs for coaches, Haaga-Helia University of Applied Sciences (UAS) has representation in the Vierumäki campus as well. It provides different educational programs for sport education, while the Degree Programme in Sports Coaching and Management (DP) is the only one emphasizing primarily on coaching. Other programs are focusing on general sport and leisure management. Due to excellent facilities for sports development, the DP receives the possibility to turn theoretical knowledge base into practical implementation or acquisition.

3.1 Background

The first DP class started in the Autumn of 2002. The purpose behind the DP was, and still is, to develop coaches who are ably capable of the effective practical application of the knowledge base created throughout the competence-based studies. Therefore, DP extensively emphasized practical education, for both, domestic, but also international coaches, since the DP is an international education program (Read, 2022, 14).

The DP is known for its diversity due to the majority of international students, who are coming to the program from all around the world. The differences are not only in sports but also in the age gap and experience level between the students. The range can vary austere even in 20 years of difference between the youngest and oldest students. Usually, the DP class consists of 20 to 25 students.

The DP faced a need for shifting towards competence-based education since the curriculum did not recognize, and emphasize, the real-life skills that the coaches were required to apply in their field. The objective of the program has developed towards "athlete-centered coaching", a field-specific LCT approach, which represented a more effective way of coaching. Yet, to develop "athlete-centered" coaches, the appropriate way of teaching (e.g., LCT) had to be implemented as well. However, the establishment of a "partnership"

between students and teachers, could not be successfully achieved, due to the program's curriculum, which was initially built around an instruction paradigm with major employment of ICT. Therefore, the change in form of the new curriculum was necessary (Read, 2022, 14).

The first, most significant, curriculum change occurred in the 2011/2012 academic year, where the dissatisfaction with the program's objectives, and process of education, was clearly observed by teachers, who made the intention for change, yet not only in the context of "what" was taught, but in the way "how" was it taught, and potential outcomes acquired alongside the different approach. The different approach applied in the DP was certainly a learning paradigm with LCT in its purest form and understanding, which caused a large step forward. Yet, not every student, but also not every teacher, could handle the outcomes of the newly applied paradigm. Some students needed more support and guidance, and some more facilitation, which caused numerous of difficulties for teachers to firstly see the different needs, but later to understand how to satisfy them in a large group of people (Read, 2022).

According to Paquette and Trudel (2018), a similar case happened in golf coach education in Canada, by rapidly shifting the course from the instruction paradigm (NTM, 1985), far to the learning paradigm (TCP, 1995), with no previous experience and lack of understanding in the implementation of paradigm into actual education. Later, golf education in Canada received another educational shift, from a purely learning paradigm to a paradigm that had elements of both, learning, but also instruction (TCCP, 1999) distributed between the two paradigms. The newest educational scheme (NCCP, 2010) encompasses more elements of the learning paradigm but is not fully aligned with the learning paradigm, since there are still components of the instruction paradigm. Nevertheless, the aim of change should be progressive from one to another, but also well-balanced (Paquette, & Trudel, 2018, 32-35).

In the DP case, the first curriculum change (2011/2012) brought the program far beyond the actual practical understanding of LCT. Several years after the shift, the program stabilized and was able to establish a well-functioning environment for coach education within the learning paradigm (Read, 2022).

3.2 ICCE endorsement

The International Council of Coaching Excellence (ICCE), which is a non-for-profit, global organization established in 1997 with the mission of leading and developing sports coaching globally, created a document named "International Sport Coaching Bachelor Degree Standards" for the improvement of development and management of a bachelor coaching

degrees (Lara-Bercial, Jimenez, Abraham, Bales, Colmaire, Curado, Dieffenbach, Ito, Mokglate, Nordmann, & Rynne, 2016). Lara-Bercial et al. (2016, 2-3), listed the expected outcomes that the Standards will support:

- The creation of an optimal match between Coaching Degrees and the needs of coaches, athletes and the labour market.
- The comparison and translation process between existing Coaching Degrees from different countries.
- The mapping and complementarity of Coaching Degrees to other existing coach education and development routes.
- Greater cooperation between HEIs and other coach education providers such as national and international federations.
- Recognition of prior learning between different coaching qualifications at degree level.
- A greater exchange and cooperation between academia and practitioners for the benefit of athletes and participants.
- The quality assurance process of existing Coaching Degrees.
- In countries where there is no clear regulatory framework for coaching practice, the Standards may positively influence policy development.
- The raising of the profile and recognition of Coaching Degrees and Coaching majors.
- The development of student and faculty professional profiles.
- The overall process of professionalization of sport coaching.

However, in order for Higher education institutions (HEIs) to be able to create Coaching Degrees, according to the "Sport Coaching Bachelor Degree Standards", and that those are even capable of qualifying for the Coaching Standards, there was an acute need for defining key criteria and parameters. Therefore ICCE created general qualification criteria (Table 6.), according to which they allow to qualify different Coaching programs.

Table 6. ICCE Bachelor's Degree General Qualification Criteria (adapted from ICCE, 2016, 12)

Bachelor's Degree General Qualification Criteria	
Summary	Graduates at this level will have broad and coherent knowledge and skills for professional work and/or further learning.
Professional Knowledge	Graduates are in possession of advanced knowledge of a field of work or study, involving a critical understanding of theories, principles, routines and applications.
Professional Skills	Graduates have the capacity to engage in diagnosing, creating expectancies, recognising and reacting to field of application, predicting and planning, work in complex non typical settings, manage uncertainty, self-regulation through reflection and self and awareness.
Professional Competences	Graduates are capable of the habitual and judicious use of communication, knowledge technical skills, reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.
Learning Outcomes	Describe what a student should be able to do on completion of a course of study and learning at a particular level. Graduates reflect ways of thinking and practicing.

3.3 Curriculum of Degree Programme

Since the first significant curriculum change occurred, in the 2011/2012 academic year, the "stabilization" process of the learning paradigm and implemented LCT continued for

several years till the common consensus upon the understanding of the learning paradigm and gained experience of LCT shaped the opportunity for finding the "ideal balance" of implementation instruction and learning paradigm, so the education is sustainable and teachers capable, within the realms of possibility, to facilitate the efficient learning and create the appropriate environment for the students.

The opportunity for the establishment of preferable "balance" in the application of the paradigms, and teaching approaches arose recently, in the 2021/2022 academic year, when Haaga-Helia UAS announced a new education reform project and ICCE established a set of standards for higher education coaching degree programs, which needed to be implied in the curriculum as well (Lara-Bercial et al., 2016; Haaga-Helia, 2021).

Haaga-Helia UAS's Education Reform project began in 2019 for all undergraduate degrees. The purpose of the project was to establish specific admissions criteria, create personal, flexible, and work-based learning pathways, and support continues learning. Reform carried alongside a new degree structure for all undergraduate degrees, which involves:

- Haaga-Helia key competences
- Degree-specific key competences
- Other professional competences
- Work placement
- Thesis

(Haaga-Helia, 2021)

As mentioned earlier, the second change in DP's curriculum took place in the 2021/2022 academic year, which is exactly 10 years from the last change that brought the program from one paradigm to the other. The newest curriculum of DP has been aligned with the needs of Haaga-Helia UAS's Education Reform, ICCE demands for Degree Standards, and experience of the shift from the previous curriculum (Read, 2022).

The structure of 2021 curriculum (newest) is as follows:

- Haaga-Helia key competences (40 ECTS)
- Degree-specific key competences (40 ECTS)
- Professional competences (95 ECTS)
- Work placement (30 ECTS)
- Thesis (15 ECTS)

(Haaga-Helia, 2022,b)

The 2021 curriculum fully acknowledges and adapts the learning paradigm with an understanding of limitations in its applicability in all courses, therefore, elements of the instruction paradigm are visible as well, yet within the LCT frame, which signifies in some courses adaption of several of 5 key dimensions of LCT, although not fully emphasizing on achievement of all of them, rather consciously prioritize some of them, so the learning is not negatively affected.

The new curriculum effectively restructured the old design to meet all requirements (see Figure 5.). Subject matters of courses were re-evaluated and distributed into the newly established courses, while the used topics and themes in new courses do not comprise completely new topics or theories, but rather divides them logically into more understandable organizing schemes (Read, 2022, 22-23).

In the end, DP was qualified and has been awarded full ICCE endorsement that demonstrates the complete alignment with ICCE's Sport Coaching Bachelor Degree Standards. Haaga-Helia UAS, specifically a degree programme in Sports Coaching, became the second institution in the world, and first in Europe, to obtain this recognition. The evaluation process incorporated the evaluation of the syllabus, curricula, and delivery of the degree programme in Sports Coaching and Management, which were analyzed by 2 independent reviewers from the ICCE organization (Haaga-Helia, 2022a).

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5 + 6
Haaga-Helia Key Competencies (40 ECTS in total)				Professional Growth 5 ECTS
Customer Insight and Marketing 5 ECTS	Teamwork and Project Management 5 ECTS	Research and Development Skills 5 ECTS	Entrepreneurship and Business Operations 5 ECTS	
Professional Communication and Language studies 15 ECTS				
Keys to Studies and Career 5 ECTS				
Degree-Specific Key Competencies (40 ECTS in total)		Professional Competencies (60 ECTS in total)		Work placement 30 ECTS
Psychology and Coaching 5 ECTS	Sport Analysis and Athlete Development 5 ECTS	Creating Successful Team Culture 5 ECTS		
Skill Acquisition and Learning in Coaching 5 ECTS	Organizational Structures in Sport 5 ECTS	Holistic Athlete Development 1 5 ECTS	Coaching Process 1 5 ECTS	
Strength and Conditioning 5 ECTS		Holistic Athlete Development 2 5 ECTS	Coaching Process 2 5 ECTS	
Coaching Practice 1 5 ECTS		Advanced Coaching Practice 1 5 ECTS		
Coaching Practice 2 5 ECTS		Advanced Coaching Practice 2 5 ECTS		
Establishing Coaching Philosophy 5 ECTS		Coach Development 5 ECTS	Organizational Management and Development 5 ECTS	
Professional Competencies (10 ECTS in total)		Developing Coaching Philosophy 5 ECTS		
		Personal Growth 2 5 ECTS		
Successful Team Culture 5 ECTS				
Personal Growth 1 5 ECTS				
				Complementary Professional Competence 15 ECTS

Figure 5. Recent 2021 curriculum of the Degree Program (DP) in Sports Coaching and Management (adapted from Read, 2022, 23)

4 Methods applied in the evaluation of learner-centered teaching in Degree Programme

Due to the constant promotion of LCT among the students in DP, and the need for insight into the level of implemented LCT, the purpose of this paper can be divided into 3 questions in the case study:

- 1) Is LCT present in DP?
- 2) If yes, what is the degree/level of LCT implemented in DP?
- 3) What are constructs or concrete actions of LCT to be improved?

The initial question serves as a basis for the rest of the questions, as it determines whether the evaluation requires further investigation for particular actions of 5 Constructs of LCT (Blumberg, 2019), that would be potentially insufficient in terms of Blumberg (2019) levels of LCT progressive implementation. Question 1 is successfully completed, when every course of the DP implements LCT in (at minimum) 1 action with a score of 3 or 4. That means, according to Blumberg's levels (2019), that "the instructor uses mostly learning-centered approaches" or "the instructor uses extensively learning-centered approaches". Yet if this requirement is not met throughout the evaluation process, it indicates that every course of the DP implies LCT only minimally, or not at all, which means, the DP follows ICT mostly.

When Question 1 is successfully achieved throughout the requirements of evaluation, Question 2 analyzes profoundly and specifically each action of 5 LCT Constructs (Blumberg, 2019) and emphasizes the determination of the level of LCT applied in DP courses. The analysis of each action, which 5 Constructs of LCT incorporate, is accomplished via LCT assessment rubrics published in Blumberg's book (2019) "Making Learning-Centered Teaching Work: Practical Strategies for Implementation".

Nevertheless, when Questions 1 and 2 are completed, the information of whether the DP implies LCT and to which level the implementation is present within the course is accompanied by Question 3, which shifts the focus on highlighting the limited or insufficient actions, in terms LCT level's of progressive implementation. Alongside accentuating the limitations of particular LCT actions, the solutions or potential steps for the progressive development of given LCT actions are provided.

The main objective of this evaluation is not only to make evaluation but rather to provide a better understanding of needs for development, when emphasizing LCT implementation in particular courses in the DP.

The questions are applied to the whole DP in Sports Coaching and Management, which includes 3 classes of students, 16 compulsory courses, among which are also "accumulated courses", and 4 DP lecturers.

4.1 LCT assessment rubrics

Regarding the assessment of LCT applied in faculty, educational programs, particular courses, or lectures, most of the studies (Paquette, & Trudel, 2018; Milistetd et al., 2018) use Blumberg's (2009) assessment rubrics for LCT evaluation. According to Paquette and Trudel (2018, 25), "the content and construct of the components and rubrics have undergone empirical and expert validation processes (Blumberg & Pontiggia, 2011), making Blumberg's comprehensive framework a leading resource within the LC literature".

Furthermore, due to the lack of LCT assessment resources that would prove satisfactory validity, this study also uses Blumberg's assessment rubrics, yet not the ones from the first publication (2009), but rather from the second (2019). The reason for choosing the newest LCT assessment rubrics published in the second edition of Blumberg's book (2019), is the e-mail communication with Mrs. Blumberg at the very beginning of this study, where she entirely recommended the updated and improved LCT assessment rubrics.

The rubrics from 2019 are preferably organized and evenly structured. What remained is the amount of the constructs (5), due to validation of Weimer's 5 key dimensions (2002, 2013), whereas the amount of components, now actions, is even for each construct (6 actions per construct). The rating remained in 4 levels, although the levels changed the names (Blumberg, 2009, 2019.).

Nevertheless, Blumberg (2019) explains and clarifies the 30 actions associated with 5 constructs of her LCT framework (see Table 7.) in detail, and states that choosing the rubrics for measurement or evaluation represents a simple and understandable way of assessment of the LCT implementation, progress, or quality. The LCT rubrics can be converted to a Likert ordinal scale, while ratings on rubrics can be described using descriptive statistics. Later, results can be graphically displayed in tables or figures (Blumberg, 2019, 169-180).

The rubrics allow the evaluator to evaluate the others, or the instructor to self-assess his or her implementation, progress, or quality of LCT used in different courses. An example of rubrics for first action of first construct is placed in Appendix 1, where all quality levels are adapted and described. Appendix 1 displays how and what this study assessed in the Degree Programme in Sports Coaching and Management.

Table 7. All names of actions associated with 5 constructs of LCT rubrics (adapted from Blumberg, 2019)

<i>Actions</i>	Constructs				
	<i>Role of In-structor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student As-essment</i>	<i>Balance of Power</i>
<i>Action 1</i>	Learning out-comes	Set expectations	Organizing schemes	Integrate as-essment and learning	Moral and ethical environment
<i>Action 2</i>	Teach- ing/learning ac- tivities	Scaffolding	Engagement with content	Assessment policies and standards	Welcoming syl- labus
<i>Action 3</i>	Course align- ment	Learning skills	Discipline- specific methods	Timely formative feedback	Flexibility
<i>Action 4</i>	Environment for success	Self-directed learning	Understand why learn	Peer and self- assessment	Opportunities to learn
<i>Action 5</i>	Inclusive, wel- coming environ- ment	Reflection, re- view	Inquiry in disci- pline	Demonstrate mastery	Freedom of ex- pression
<i>Action 6</i>	Explicit about methods	Metacognitive skills	Fosters future learning	Authentic as- essment	Responds to student feedback

As mentioned previously, all actions incorporate 4 levels of assessment (see Chapter 2.4) through which the evaluation of LCT can be performed. At the end, in Appendix 1 can be seen the description of each of the levels for concrete action. Therefore, there are 30 different statements for each level of each action, which is then a result of 120 statements, or descriptions, for all levels of all actions.

Based on the levels' statements, the evaluator can assign a particular grade for a given action. Depending on the action, but rather the whole construct, the evaluator should utilize different sources of evaluation, i.e. curriculum of the educational program, syllabi of concrete course, interview with responsible instructor, and others (Blumberg, 2019, 172-175).

Only assigned grades for actions would not represent the holistic picture of the evaluation, and might be hard to read and find out the weaknesses of LCT. Accordingly, Blumberg

(2019) suggests using her template of "Construct (Column) Summaries" (see Table 8., & Table 9.), which represents the different grades in percentage values, and not the means or standard deviations of the grades, since the scale is intentionally ordinal, rather than interval.

Nevertheless, the LCT rubric scores can be represented by descriptive statistics in various ways, such as clustered column charts, pie charts, or other graphical illustrations (Blumberg, 2019, 176-178).

Table 8. Example of results interpretation through construct column summary table (adapted from Blumberg, 2019)

Construct (Column) Summaries					
<i>Percent Scored at Each Level</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
<u>Instructor-centered</u> (scored as 0)	33%	17%	0%	17%	0%
<u>Minimally learning-centered</u> (scored as 1)	17%	50%	17%	17%	83%
<u>Mostly learning-centered</u> (scored as 3)	17%	17%	50%	67%	17%
<u>Extensively learning-centered</u> (scored as 4)	33%	17%	33%	0%	0%
Range	0 - 4	0 - 4	1 - 4	0 - 3	1 - 3
Mode (most frequent score)	0, 4	1	3	3	1

Table 9. Another example of results interpretation through dichotomous summary table of scores reached in construct (column) summary table (adapted from Blumberg, 2019)

Dichotomous Summary of Scores					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
<u>Total percentage not learning-centered</u> (scored 0 or 1)	50%	67%	17%	33%	83%
<u>Total percentage learning-centered</u> (scored 3 or 4)	50%	33%	83%	67%	17%



Figure 6. Utilization of LCT assessment rubrics (adapted from Blumberg, 2019, 180)

The evaluator should support the decision of giving a grade to concrete action via course artifacts placed in the course syllabi or materials for a particular class (Figure 6.). The decision should be supported, but also explained in a few words (Blumberg, 2019).

4.2 Components of evaluation

The case study used several sources (components) of evaluation, in order to enhance objectivity in assessment. According to several studies (Milistetd et al., 2018; Paquette, & Trudel, 2018; Rodrigues, Milistetd, Trudel, & Brasil, 2021), where authors used mostly 2 sources of evaluation, interviews and curriculum/syllabi, and Blumberg's (2019, 175) table of sources of evidence for LCT presence (see Table 10.), this study selected 4 different

sources (components), which are then aligned in the final result. The components are as follows:

- Course syllabi and materials
- Class observations
- Interview with the instructor
- Questionnaire for students

Table 10. Sources of evidence about teaching used to support LCT ratings on the rubrics (adapted from Blumberg, 2019, 175)

<i>Self: Instructor's Evidence and Artifacts</i>	<i>Student Artifacts</i>	<i>Peer/Chair Input</i>
Instructor-developed course materials, including: <ul style="list-style-type: none"> • syllabus • assignment directions • examinations • grading rubrics • assessment plans • assessment tools 	Student assessment data	Peer/chair observation of teaching
Personal teaching journals or observations	Summary or analysis of how students did on assessments	Peer/chair review of teaching, instructor-developed assessment materials
Documentation using critical incident observations	End-of-course evaluation data	Chair report on annual evaluations or promotion letter
Analysis of videos of classroom interactions	In-course evaluation of teaching	Teaching award nominations submitted by peers/chair
Review of student work products	Review of students' progress on drafts or large assignments	Peer coaching
Concept map of teaching and learning ideas	Student reflections on learning or the course	Faculty development coaching
Teaching philosophy statement	Review of student portfolios/ePortfolios	Peer review of student work products
Teaching portfolio	Follow-up data on how students did after the course	Peer review of teaching portfolio or dossier
Dissemination of products such as presentations or publications about teaching	Teaching award nomination submitted by students	
	Feedback from teaching assistants	
	Student perceptions of effectiveness of activities or use of SALG survey (SALG, 2013)	

As mentioned earlier, the predominant emphasis in selecting the sources of evidence was underpinned by enhancing objectivity in evaluation. The first component of the evaluation, course syllabi, and materials is the largest and vastly essential component in evaluation, as it reflects on the foundation of the course in terms of implemented paradigm.

In this study, there were 16 different courses, among which were 8 courses for first year students (DP1), 7 courses for second year students (DP2), and 1 course for third year students (DP3) (see Figure 7.).

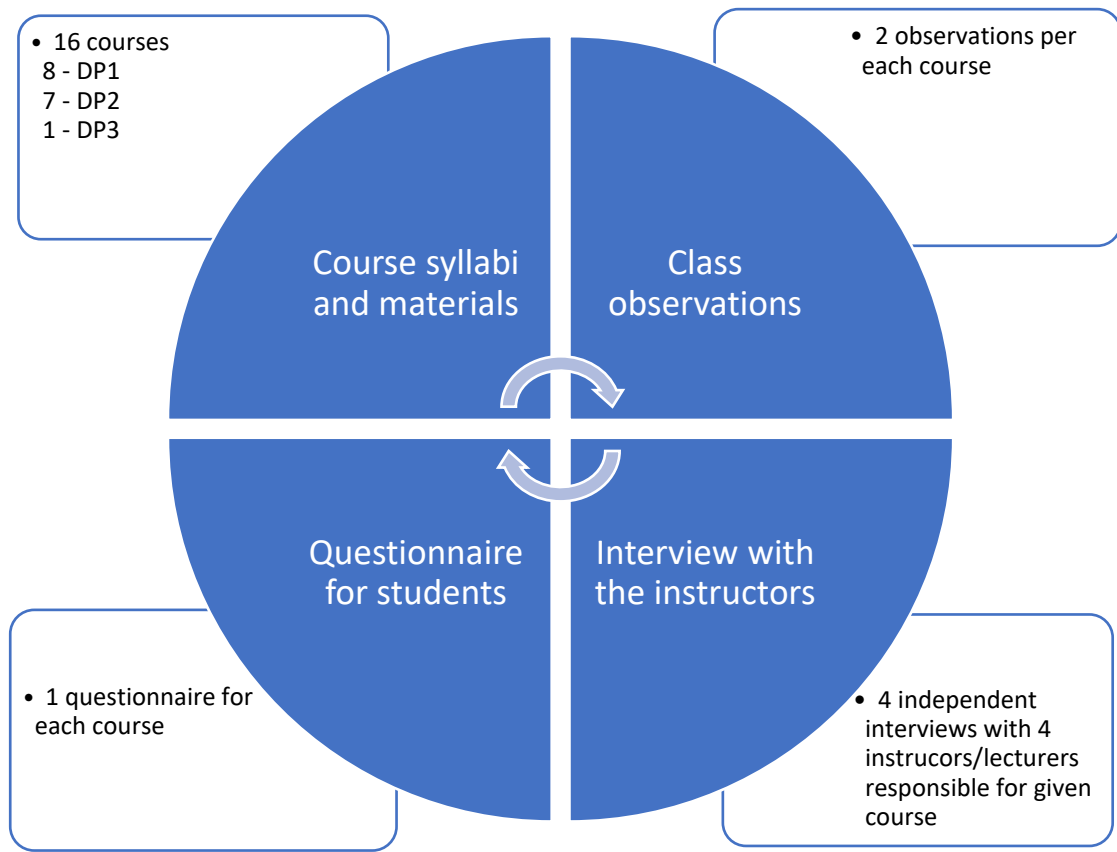


Figure 7. Sources (components) of evaluation of LCT in DP

Some of the courses, such as "Coaching Practice 1" and "Coaching Practice 2", or "Advanced Coaching Practice 1" and "Advanced Coaching Practice 2", were merged together, due to content and structure similarities, progressive sequence of teaching/learning methods, learning outcomes, and assessment implemented in both courses. Therefore, instead of 4 independent courses, as it is highlighted in the DP curriculum from 2021 (Read, 2022, 23), in evaluation there are only 2 courses, "Coaching Practice 1+2" and "Advanced Coaching Practice 1+2", which are considered in the evaluation as one independent course, not two.

DP1 involves 8 courses, among which are (Figure 8.):

- Establishing Coaching Philosophy
- Psychology and Coaching
- Coaching Practice 1+2
- Strength and Conditioning
- Personal Growth 1
- Successful Team Culture
- Skill Acquisition and Learning in Coaching
- Sport Analysis and Athlete Development

"Establishing Coaching Philosophy" is 1 period long (29.8.2022 - 21.10.2022), starts right at the beginning of the DP1 studies, and emphasizes different learning and coaching theo-

ries in order to increase one's competence and knowledge about coaching. "Psychology and Coaching" last 1 period as well (29.8.2022 - 21.10.2022), and the outcome of this course is to increase one's awareness of the importance of psychology in sports. Also, this course introduces "athlete-centered coaching" which could be associated with LCT in pedagogy.

Furthermore, "Personal Growth 1" and "Successful Team Culture" are academic year-long (29.8.2022 - 12.5.2023) courses, where the focus is on individual development and growth within the team or group of people, where collaborative learning and growth-minded approach is promoted.

"Strength and Conditioning" course is 2 periods long (29.8.2022 - 16.12.2022) and incorporates learning outcomes that aim for the knowledge base, understanding, and ability to apply the information into practice. "Skill Acquisition and Learning in Coaching" is 1 period-long (21.10.2022 - 16.12.2022) course, where most of the lectures are practically based on the implementation of the knowledge acquired throughout the course, but also this course contains peer sport-specific skill teaching/learning, where once more, students have the opportunity to apply the knowledge into the practical acquisition.

"Sport Analysis and Athlete Development" is also 1 period-long course (9.1.2023 - 17.3.2023) which implies extensive sports analysis and a foundation of knowledge for long-term athlete development models. Nevertheless, "Coaching Practice 1+2" is a unique and specific DP course lasting the whole academic year (29.8.2022 - 12.5.2023), where students obtain the role of coach/instructor and lead the theoretical and also practical sessions for their peers in the sport-specific environment.

DP2 involves 7 courses, among which are (Figure 9.):

- Athlete-Centered Coaching
- Coach Development
- Advanced Coaching Practice 1+2
- Developing Coaching Philosophy
- Personal Growth 2
- Creating Successful Team Culture
- Organizational Management and Development

"Athlete-Centered Coaching" originally consists of 4 different courses, "Holistic Athlete Development 1" (29.8.2022 - 21.10.2022), and "Holistic Athlete Development 2" (21.10.2022 - 16.12.2022), "Coaching Process 1" (9.1.2023 - 17.3.2023), "Coaching Process 2" (17.3.2023 - 12.5.2023), although, all of them are creating a logical, progressive sequence, in terms of learning outcomes, assessment criteria, and learning/teaching methods implied, therefore, similarly as in the case of "Coaching Practice 1+2", also all these courses are merged together as 1 course. The course lasts for the whole academic year (29.8.2022 - 12.5.2023), and emphasizes on planning and monitoring phase of

coaching, mostly, where students need to create an annual plan, so-called "periodization" for the development of different athletic needs.

"Advanced Coaching Practice 1+2" (29.8.2022 - 12.5.2023) is highly similar to "Coaching Practice 1+2", yet learning outcomes and content of the sessions vary due to greater knowledge and understanding of DP2 students. "Personal Growth 2" and "Creating Successful Team Culture" are similarly to DP1's an academic year-long course (29.8.2022 - 12.5.2023) but the emphasis on monitoring of personal growth and self-assessment is greater. In the case of "Creating Successful Team Culture," the students are engaged in the development of their own class/group functioning and cooperation, in order to be more successful in learning.

"Coach Development" lasts 2 periods (29.8.2022 - 16.12.2022) and implies LEARNS principles for coach education, due to the fact that the DP2 students are involved in leading the "Strength and Conditioning" sessions in Period 2 (21.10.2022 - 16.12.2022), after or before the lecturer's presentation of the content. Therefore, this is also a unique course, where students obtain the role of instructor and apply LEARNS principles, which are specific guidelines for how people learn most effectively.

"Developing Coaching Philosophy" is lasting 1 period (9.1.2023 - 17.3.2023) and emphasizes self and peer-assessment of coaching behaviour and actions in the practice. It incorporates also POGIL learning activities throughout the course. Lastly, "Organizational Management and Development" (9.1.2023 - 12.5.2023) implies analysis of the organization and establishing action or strategic plans for the development of the organization.

Establishing Coaching Philosophy - SPO008LI1AE (5 ECTS)	• 1 Period (29.8.2022 - 21.10.2022)
Psychology and Coaching - SPO001LI1AE (5 ECTS)	• 1 Period (29.8.2022 - 21.10.2022)
Skill Acquisition and Learning in Coaching - SPO003LI1AE (5 ECTS)	• 1 Period (21.10.2022 - 16.12.2022)
Sport Analysis and Athlete Development - SPO004LI1AE (5 ECTS)	• 1 Period (9.1.2023 - 17.3.2023)
Strength and Conditioning - SPO002LI1AE (5 ECTS)	• 2 periods/1 semester (29.8.2022 - 16.12.2022)
Successful Team Culture - SPO001AS2AE(5 ECTS)	• 4 periods/2 semesters (29.8.2022 - 12.5.2023)
Personal Growth 1 - SPO006AS2AE (5 ECTS)	• 4 periods/2 semesters (29.8.2022 - 12.5.2023)
Coaching Practice 1+2 - SPO005LI1AE + SPO006LI1AE (5 + 5 = 10 ECTS)	• 4 periods/2 semesters (29.8.2022 - 12.5.2023)

Figure 8. List of DP1 courses their duration, and maximum amount of credits to be achieved

DP3 involves only 1 course (Figure 9.):

- Professional Growth

"Professional Growth" is an academic year-long course (29.8.2022 - 12.5.2022), where students who are executing their "work placement" practical year, have several sessions through the "Zoom" application, where they discuss with their tutors/supervisors about their current situation. Furthermore, this course emphasizes on personal growth and development, yet only through distance learning, while the rest of the 15 courses are taught via present studies.

1 course from DP1 was not included in the evaluation due to the time constraint of the evaluator. The course is "Organizational Structures in Sport" and lasts 2 periods (9.1.2023 - 12.5.2023), yet the lectures start at the beginning of March, therefore at the end of Period 3 (9.1.2023 - 17.3.2023) and continue till the May. Due to the time limitation of the evaluator, this course could not be included in the evaluation, yet 2 components of evaluation could be possibly implied, but it could mislead the final result of the study.



Figure 9. List of DP2 courses, their duration, and maximum amount of credits to be achieved



Figure 10. DP3 course, its duration, and maximum amount of credits to be achieved

All of the courses belong to Degree-Specific Key Competencies and Professional Competencies of DP. Therefore, it should be noted that all of the Haaga-Helia Key Competencies from the curriculum of DP were not included in the evaluation, mainly due to the direct emphasis on Degree Programme in Sports Coaching and Management, and not Haaga-Helia UAS as the whole organization.

Furthermore, class observations were applied to courses, which were evaluated through the first component, course syllabi, and materials, and thus the observation served as a "double tap" to also see the practical execution of teaching methods implied and described in course materials, and in syllabi.

The guideline for this component was to observe at least 2 classes per course, whereas in many cases first observation contained more theory-based and the other practical-based session. In total, there were planned to observe 32 sessions in 3 periods (29.8.2022 - 17.3.2023).

Certainly, the study took into account also participants of DP, and therefore there were created 2 groups of participants, that were evaluated independently. The groups are as follows:

- Instructors/Lecturers
- Students

Table 11. DP lecturers biographies at the time of the interview

Lecturers	Age	Education	Teaching	Coaching
Lecturer A	46	BS in Physical Education, MS in Sport Science MS in Exercise and Sport Psychology, Certified Sport Psychology consultant	15 years, Senior Lecturer (<i>Haaga-Helia UAS</i>)	8 years, Mental Coach in ice hockey, tennis, and football, 3 years, Head Coach in ice hockey (<i>U9, U10</i>), 10 years, Mentor Coach in ice hockey (<i>U20 AA</i>)
Lecturer B	49	BS in Physical Education, MS in Sport Science Sport Instructor Degree	19 years, Senior Lecturer (<i>Haaga-Helia UAS</i>)	6 years, Physical Coach in golf (<i>Lahti Golf Association</i>), 1 year, Sport Instructor (<i>Finnish Sport Institute in Vierumäki</i>)
Lecturer C	56	BS in Sport Science, Teacher's pedagogical qualification	5 years, Senior Lecturer (<i>3 years at University of Jyväskylä, 2 years at Haaga-Helia UAS</i>)	30 years, Head Coach, Assistant Coach, Video Coach, Scout in ice hockey in various leagues (<i>4 years in KHL, 9 years in SM-Liiga, 12 years with Team Finland</i>)
Lecturer D	46	BS in Sport and Exercise Science, MS in Exercise Physiology, Teacher's pedagogical qualification	19 years, Senior Lecturer (<i>5 years at Lahti UAS, 14 years at Haaga-Helia UAS</i>)	2 years, Fitness Instructor (<i>Elixia Fitness Center</i>), 3 years, Head Coach in floorball (<i>U11</i>), 11 years, Mentor Coach in ice hockey (<i>U20 AA</i>)

The first group, lecturers (n=4) (see Table 11.), were planned to be interviewed in November 2022, due to responsibility for the courses that were going to be evaluated. Their understanding of the LCT and the different actions of 5 constructs (Blumberg, 2019) was considered vastly valuable to be included in the final result of the evaluation.

The interview consisted of 49 pre-prepared questions based on Blumberg's LCT assessment rubrics, without the intention of "right" or "correct" answers. The interview questions are listed in Appendix 2. The interview was planned to be executed only once per a lecturer.

All the pieces of information in Table 11 are real and used in this paper with the participants' consent. With respect to their demographics, the lecturers ranged in age from 46 to 56 years, had all obtained secondary education at a university degree, and had amassed

substantial and diverse experiences in sports. Overall coaching experience ranged from 7 to 30 years, and specifically teaching experience ranged from 5 to 19 years.

The second group of participants, the students of DP (n=70), who were attending and participating in the assessment in the form of questionnaires that were sent to them in the last sessions of each course, filled the questionnaire within 1 hour at the given session of the course, which was aimed to be evaluated.

The questionnaire was created based on Blumberg's LCT assessment rubrics, where students were instructed and asked to choose one of the given 4 options for each action of 5 constructs. All questionnaires (n=16) were identically the same, except the title photo and name of the course that was meant to be evaluated. An example of a questionnaire is placed in Appendix 3.

4.3 Process of evaluation

Since sources (components) of evaluation were clearly established and defined, the process could begin. According to Blumberg (2019), LCT assessment rubrics are created in ordinal scale, and therefore, it is not recommended to use interval scale components in collecting and objectively analysing the data.

Consequently, the paper implements the median as a primary tool for collecting, analyzing, and summarizing the results from rubrics. Secondly, the "Construct (Column) Summaries" and "Dichotomous Summary of Scores" were applied, as Blumberg (2019) suggested. Lastly, the interval-quartile ratio was implemented as the tool for the representation of general distinction between results in the form of difference between the first and third quartile of results.

Specifically, for the evaluation of course syllabi and materials were used all available information, web platforms, and documents (e.g. Microsoft PowerPoint, Word, Excel, Teams, Outlook, Peppi, Study Guide, etc.), which contained any useful information that would clarify and possibly improved the evaluation, in terms of validity and accuracy.

Class observations were executed directly in the class, or environment where the class was held (e.g. ice rink, gym, outside pitch, etc.) due to its content or learning objectives.

Interviews were executed in a one-on-one meeting format, where the whole interview was recorded by the evaluator, with the permission of all participants, and used solely and only for the evaluation process. The questionnaires were sent to students during the last sessions of the courses via Google Calendar, in the description of the given course, in the form of Google Forms, from which the results were uploaded automatically to Google

Sheets. The questionnaire results, placed in Google Sheets, were later processed in the main Google Sheet for the results of all questionnaires.

Nevertheless, all results from all sources (components) of evaluation were processed, analyzed, and summarized in several Google Sheets. The reason for using Google Drive, particularly Google Sheets was due to accessibility from different devices and automatic saving after each change made to the document since it is an online working platform.

Table 7, Table 8, and Table 9 show an example of the evaluation process with the result summaries applied for 1 course in 1 of the 4 sources (components) of evaluation. Each course obtains 4 evaluations, based on 4 different sources (components) of evaluation, which are then merged into the final result for the given course.

An outline of the process is illustrated in Figure 11. The study used a self-created, so-called "DACCS" loop with 5 steps/stages of the process of evaluation.

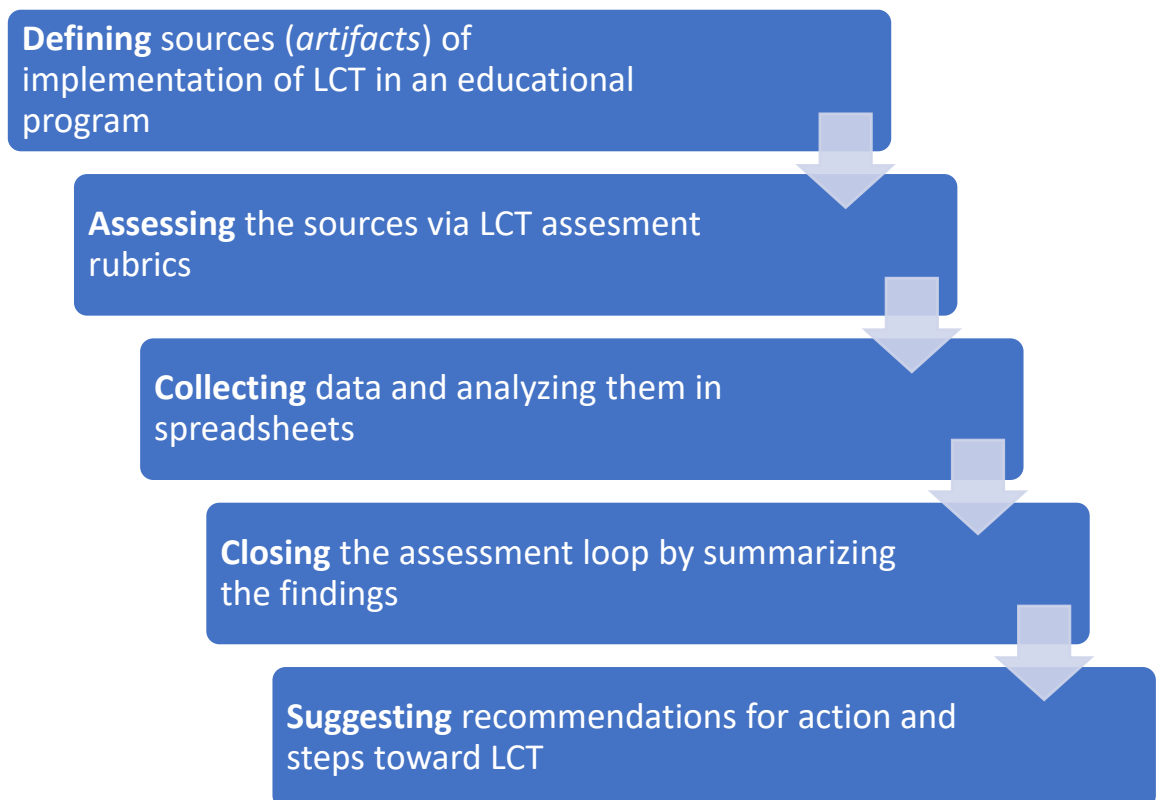


Figure 11. The case study process of evaluation illustrated into "DACCS" loop, which was followed in this study, yet it is not an evidence-based loop (adapted from Blumberg, 2019, 205)

4.4 Data collection and results groups

The case study results are divided into several groups of results (n=4), as shown in Figure 12. The objective was to estimate the degree of LCT implemented into the educational

programme. However, alongside the final results (Results 4), which state a comprehensive summary of all the possible results combined logically into 1 table, the diversion of other results received throughout the evaluation process represents more valuable feedback for further development of LCT in the Degree Programme.

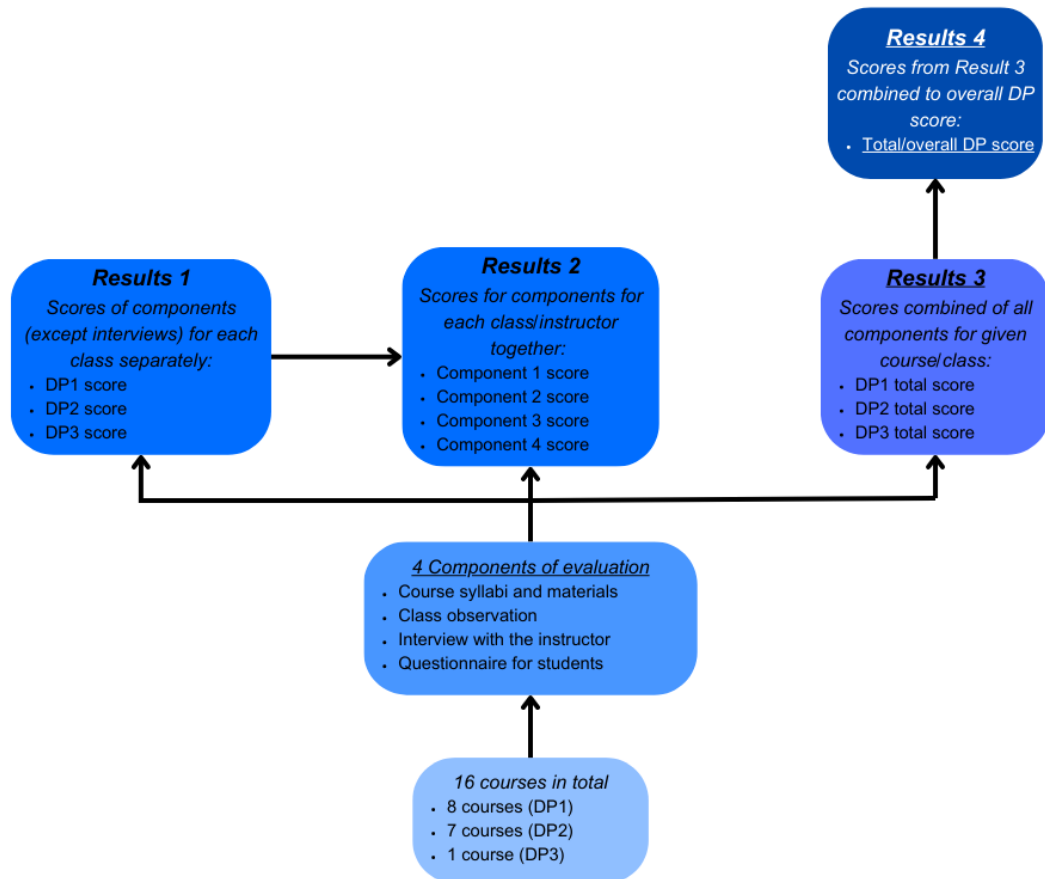


Figure 12. Overall outline of collecting and summarizing the evaluation results

All the results were collected and evaluated on March 15th, 2023. The evaluation process lasted approximately 28 weeks, including 3 educational periods (1,5 semesters), and the number of collected evaluations reached, for all courses and all components of evaluation, the number of 68.

Each course has been evaluated through all components of evaluation (n=4) via Blumberg's (2019) LCT framework that consisted of 5 Constructs, where each Construct incorporated 6 different actions.

As mentioned in previous chapters, this study is using primarily median as a tool for collecting, analyzing, and summarizing the results from rubrics. Nevertheless, the interval-quartile ratio was implemented as the tool for the representation of general distinction between results in the form of difference between the first and third quartile of results. Consequently, all the result tables compromise these 2 functions.

According to Blumberg's (2019) LCT rubrics, the highest number that could be received in the evaluation was 4, while the lowest was 0. In this study, there are also cases, where the combination of multiple results from different components of evaluation resulted in decimal numbers, such as 3,3 or other. The evaluation of those numbers sequenced into the author's subjective adjustments in assigning the given decimal numbers to one of the main evaluation numbers (0, 1, 3, 4).

The percentage evaluation was implemented as well. This type of evaluation was adapted directly from Blumberg's (2019) Construct Column Summaries.

4.4.1 Results 1 & 2

The group of results 2 includes the specific results for individual evaluation components. These data were collected initially, course by course, and are establishing the foundation of understanding the differences in planning the courses, observing them, and asking for perceptions and understanding of the applied concept of LCT among the educators and learners.

This group of results is divided into 4 components of evaluation, where the results for each of them are concluded from the individual results of every DP class (n=3). Therefore, the following results and tables should be understood as a summary of Results 1, thus the combination of results of every DP class summarized for each component individually.

Each component includes 4 types of tables representing different views on evaluation results. Usually, the first table (Constructs) represents the given numerical values for each action, based on the median and interval-quartile ratio. The second table (Constructs summaries) changes the visualization of numerical results into percentage-based results while highlighting the most repeated numerical values (mode) in the given constructs, and the range of all the values in the given constructs.

The third table is simply describing the final relation between LCT and ICT educational approaches applied in different constructs. Finally, the last, fourth, table is representing the overall score, including the final median and interval-quartile ratio value, mode and range of median values in the whole evaluation for a given component, and lastly, the total percentage of successful implementation of LCT in the component.

4.4.2 Results 3 & 4

The group of results 3 includes the results from individual classes (n=3). These data were collected by merging all evaluation components together, for the given courses. For instance, for the Psychology and Coaching course, the results from course syllabi and ma-

terials, class observations, student questionnaires, and interviews with the responsible instructors for the given course, were summarized into one table.

Through this process, a better understanding of multiple factors affecting the course level of LCT can be achieved. In this case, if the given course would receive lower result values in one of the components, then there are still 3 other components to influence the overall result and give a more objective view of the LCT implemented in the course.

After finalizing every course from all DP classes, a large summary was made for each DP class (n=3), in order to outline the difference in the implementation of LCT in different classes. These "class summaries" were created out of the results of each course that belongs for the given DP class.

This is simply another way how to interpret the evaluation results, instead of comparing the overall results from 4 components, a better perspective can be achieved after understanding where, in which DP classes are larger deficiencies, and furthermore, in which actions of which constructs.

By combining the group of results 3 into 1 summary for the whole DP, a complete combined overall score for DP was created. This summary is outlined in the results 4. These results are introducing holistic perspective on the DP's implementation of LCT.

5 Evaluation results

All the results are divided into 4 different groups. This section is going to introduce the main groups of results by highlighting the overall results and the lowest scores in each of the specific constructs and actions. Furthermore, general recommendations and ways to improve the LCT implementation in specific actions is described as well. These recommendations are adapted from Blumberg's (2019) LCT framework.

5.1 Results of evaluation components

This part of the "evaluation results" chapter is going to introduce the group of results 2. All of the results for the 4 components of evaluation are described via particular constructs and actions results. The lowest scores are discussed more and recommendations for their further development of LCT implementation are highlighted as well.

5.1.1 Course syllabi and materials

In total, there are 16 evaluations in this given component, since there were 16 courses to evaluate. Specifically, the courses were evaluated in the order, as follows:

- Establishing Coaching Philosophy (19.9.2022)
- Psychology and Coaching (4.10.2022)
- Coaching Practice 1+2 (11.10.2022)
- Advanced Coaching Practice 1+2 (12.10.2022)
- Strength and Conditioning (18.10.2022)
- Personal Growth 1 (2.11.2022)
- Personal Growth 2 (3.11.2022)
- Successful Team Culture (7.11.2022)
- Creating Successful Team Culture (8.11.2022)
- Athlete-Centered Coaching (9.11.2022)
- Coach Development (14.11.2022)
- Skill Acquisition and Learning in Coaching (16.11.2022)
- Professional Growth (12.12.2022)
- Sport Analysis and Athlete Development (12.1.2023)
- Developing Coaching Philosophy (17.1.2023)
- Organizational Management and Development (7.3.2023)

During the evaluations, all the course materials and official syllabi were utilized as valuable and necessary elements of evaluations. However, some courses did not dispose with extensive syllabi foundation, and thus, more insights into the course study design were needed from verbal interaction between the evaluator (author) and responsible educator for the given course/s (instructor).

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 4, IQR = 2)	Set expectations (Mdn = 4, IQR = 0)	Organizing schemes (Mdn = 2,5, IQR = 1,5)	Intergrate assessment and learning (Mdn = 3,3, IQR = 2)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 4, IQR = 0,3)	Scaffolding (Mdn = 4, IQR = 0,5)	Engagement with content (Mdn = 3,5, IQR = 0,5)	Assessment policies and standards (Mdn = 2, IQR = 2)	Welcoming syllabus (Mdn = 4, IQR = 0,1)
Action 3	Course alignment (Mdn = 4, IQR = 1,5)	Learning skills (Mdn = 3,5, IQR = 0,3)	Discipline-specific methods (Mdn = 3,3, IQR = 1)	Timely formative feedback (Mdn = 4, IQR = 0,5)	Flexibility (Mdn = 2, IQR = 0,5)
Action 4	Environment for success (Mdn = 4, IQR = 0)	Self-directed learning (Mdn = 3,5, IQR = 0,5)	Understand why learn (Mdn = 3,8, IQR = 0,5)	Peer and self-assessment (Mdn = 2, IQR = 1)	Opportunities to learn (Mdn = 4, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3,3, IQR = 0,8)	Inquiry in discipline (Mdn = 3, IQR = 0,5)	Demonstrate mastery (Mdn = 4, IQR = 0)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 4, IQR = 1)	Metacognitive skills (Mdn = 3,5, IQR = 1)	Fosters future learning (Mdn = 4, IQR = 0,5)	Authentic assessment (Mdn = 4, IQR = 2)	Responds to student feedback (Mdn = 2, IQR = 0)

Figure 13. Constructs results for course syllabi and materials for all DP classes (Mdn = Median; IQR = Interval-quartile ratio)

According to Figure 13, the construct of the role of instructor satisfied extensively all criteria from LCT rubrics, however, in the construct of responsibility for learning, several actions, such as learning skills, self-directed learning, and metacognitive skills obtained the median value of 3,5, while the lowest median value was 3,3. This number indicates that the reflection and review action is not satisfied extensively, rather mostly, according to Blumberg's (2019) levels of implementation of LCT. In this case, more attention is needed on the explicit facilitation of student development of reflection, critical review, and self-assessment skills of their learning. Furthermore, providing formative feedback to all students on their ability to reflect, conduct a critical review, and self-assessment of their learning should be extensively emphasized. Besides feedback, also assessment of reflection, critical review, or self-assessment skills of learning should be utilized, and not just the product of the use of these skills. Lastly, a larger focus on explaining how and why these periodic opportunities for student reflection, critical review, and self-assessment result in greater student understanding (Blumberg, 2019, 66.).

Regarding the function of content, the lowest score (Mdn = 2,5) belongs to the action of organizing schemes, which incorporates also the biggest distinction among the results (IQR = 1,5), as the interval-quartile ratio indicates. Besides organizing, schemes inquiry in discipline obtained also a lower score (Mdn = 3) than the rest of the actions.

In order to develop the action of organizing schemes, which dropped to the level of minimally learner-centered, the instructor should utilize first, the level of mostly learner-centered. This level requires the instructor to use organizing schemes to formulate student

learning outcomes and state them on the syllabus. Also, instructors should teach students how to learn using organizing schemes. This teaching is done systematically, with everyone and not just those who seek extra help. Nevertheless, the instructor should provide students with 10 or more opportunities throughout the length of the course to use organizing schemes (Blumberg, 2019, 78.).

The fourth construct, purposes, and processes of student assessment, showed clearly 2 actions of the minimally learner-centered level (Mdn = 2). Among these 2 actions belong assessment policies and standards, and peer and self-assessment. The action of assessment policies and standards indicates a large distinction among the results (IQR = 2), which means, several courses obtained the highest score of median value (4) and some the lowest (0 or 1).

In order to increase the level of assessment policies and standards, from minimally to mostly learner-centered, the instructors should emphasize on using consistently specified grading standards such as grading rubrics and specified weights for projects and assignments, with students informed of these standards in advance of due dates. Yet, to enhance the level of peer and self-assessment action, the instructors should utilize teaching students how to meaningfully conduct peer and self-assessments, requiring them to use peer and self-assessments several times during the course length, and counting peer and self-assessment in the final grade, guided by the instructors' oversight (Blumberg, 2019, 98-104.).

In the last construct, the balance of power, flexibility, and responding to students' feedback actions received the lowest scores (Mdn = 2), which shift the level of scores toward minimally learner-centered.

To improve these actions, instructors may utilize larger flexibility on course policies, learning processes, assessment methods, deadlines, or how students earn grades. Furthermore, seeking for feedback on policies, teaching approaches, schedules, readings, workload, assessment methods, or deadlines would enhance the development of LCT. However, asking for feedback that may be solicited beyond the standard course evaluations is not enough. Instructors should continue to seek student feedback to refine action plans for the given course or issues (Blumberg, 2019, 123-131.).

<i>Construct (Column) Summaries</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	0%	17%	33%	33%
Mostly learning-centered (scored as 3)	0%	67%	50%	17%	0%
Extensively learning-centered (scored as 4)	100%	33%	17%	50%	67%
Range	4	3,25 - 4	2,5 - 4	2 - 4	2 - 4
Mode	4	3,5	N/A	4	4

Figure 14. Construct summaries for course syllabi and materials for all DP classes

As Figure 14 shows, the variation in results is visible. However, when summarizing these findings into less specified summaries, as it is shown in Figure 15, the presence of ICT is higher in constructs of level 2 and level 3 of Blumberg's (2019) implementation strategy.

Overall, the course syllabi and materials component of all DP classes reached 83% of the total learner-centered score, with high distinction in results (IQR = 0,8) and relatively extensive value of the median (Mdn = 3,6).

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	0%	17%	33%	33%
Total percentage learning-centered (scored 3 or 4)	100%	100%	83%	67%	67%

Figure 15. Dichotomous summary of scores for course syllabi and materials for all DP classes

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP Scores (Materials and syllabi)</i>
Median	3,6
Interval-quartile ratio	0,8
Range	2 - 4
Mode	4
Total percentage learning-centered	83%

Figure 16. Total summary of scores for course materials and syllabi for all DP classes

5.1.2 Class observations

In total, there are 32 evaluations in this given component, since there were 16 courses and each course was observed and evaluated 2 times. The dates of observations are as follows:

- Establishing Coaching Philosophy (7.9.2022 & 26.9.2022)
- Psychology and Coaching (8.9.2022 & 4.10.2022)
- Coaching Practice 1+2 (26.9.2022 & 10.10.2022)
- Advanced Coaching Practice 1+2 (26.9.2022 & 10.10.2022)
- Strength and Conditioning (27.9.2022 & 11.10.2022)
- Personal Growth 1 (22.9.2022 & 14.10.2022)
- Personal Growth 2 (22.9.2022 & 14.10.2022)
- Successful Team Culture (29.9.2022 & 20.10.2022)
- Creating Successful Team Culture (29.9.2022 & 20.10.2022)
- Athlete-Centered Coaching (20.9.2022 & 18.10.2022)
- Coach Development (11.10.2022 & 31.10.2022)
- Skill Acquisition and Learning in Coaching (7.11.2022 & 30.11.2022)
- Professional Growth (9.12.2022 & 13.1.2023)
- Sport Analysis and Athlete Development (18.1.2023 & 6.2.2023)
- Developing Coaching Philosophy (16.1.2023 & 23.1.2023)
- Organizational Management and Development (31.1.2023 & 14.3.2023)

The observations were executed after familiarization with the teaching/learning methods employed in the session, by discussing this matter with the responsible instructor before the session. This was done so, due to variation and progression of the course learning process, where some sessions were led on the level of minimally learner-centered teaching, while the other sessions of the same course were facilitated in an extensive level of learner-centered teaching. It depended on the structure and level of the course. Therefore, in order to receive as objective results as possible, at least 2 observations were needed.

During observations, the evaluator (author) was present, but a passive attendant in the classroom, usually apart from the students and instructor/s as well. Only, if some of the actions were not used or visible during the course, the evaluator actively sought the answers in verbal interaction with the instructor. Usually, the class observations were executed only after course syllabi and materials evaluations were completed. Therefore, the evaluator was always aware of the structure and process of the course, while expecting and looking for the similarities in the scores from the course syllabi and materials component.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 3,5, IQR = 1,5)	Set expectations (Mdn = 4, IQR = 0)	Organizing schemes (Mdn = 2, IQR = 1,3)	Intergrate assessment and learning (Mdn = 3,8, IQR = 1,9)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 4, IQR = 0,3)	Scaffolding (Mdn = 4, IQR = 0,5)	Engagement with content (Mdn = 3,6, IQR = 0,4)	Assessment policies and standards (Mdn = 2, IQR = 1,3)	Welcoming syllabus (Mdn = 3,6, IQR = 1)
Action 3	Course alignment (Mdn = 3,5, IQR = 1,5)	Learning skills (Mdn = 3,3, IQR = 1,3)	Discipline-specific methods (Mdn = 3, IQR = 0,6)	Timely formative feedback (Mdn = 4, IQR = 0,3)	Flexibility (Mdn = 1, IQR = 0,5)
Action 4	Environment for success (Mdn = 4, IQR = 0)	Self-directed learning (Mdn = 3,4, IQR = 0,3)	Understand why learn (Mdn = 3,5, IQR = 0,8)	Peer and self-assessment (Mdn = 1,8, IQR = 1,3)	Opportunities to learn (Mdn = 4, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 2,5, IQR = 1)	Inquiry in discipline (Mdn = 3,5, IQR = 1)	Demonstrate mastery (Mdn = 4, IQR = 0,5)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 3,4, IQR = 0,4)	Metacognitive skills (Mdn = 3,1, IQR = 0,6)	Fosters future learning (Mdn = 3,8, IQR = 0,9)	Authentic assessment (Mdn = 3, IQR = 2)	Responds to student feedback (Mdn = 2, IQR = 0,5)

Figure 17. Constructs results of class observations for all DP classes (Mdn = Median; IQR = Interval-quartile ratio)

As shown in Figure 17, already first construct, the role of the instructor, indicates the decrease in the level of LCT implied in the Degree Programme, when comparing previous component results. Although the decrease is not radical and the scores still indicate extensive implementation of LCT in particular actions, the decrease should be highlighted. Moreover, by discussing possible options for the development of LCT implementation, regarding actions, which received lower scores than 4, the further steps for accomplishing the highest score (4) can be achieved. In this case, the actions that received lower scores than 4 were learning outcomes (Mdn = 3,5) course alignment (Mdn = 3,5), and explicit about methods (Mdn = 3,4).

The role of the instructor is the first fundamental construct of the LCT framework, and thus extensive focus on its development should be provided. Even though, actions in this construct are mostly or extensively implementing LCT, their further development should consider the weakest points. Therefore, when emphasizing the lowest score (Mdn = 3,4) of

the last action (explicit about methods), the instructor should explicitly address how the students should use the teaching and learning methods employed in the course and explain why they are used for further learning throughout the course. Nevertheless, instructors may model ideal student behaviors to achieve deep learning such as how they should work in groups with expectations for participation (Blumberg, 2019, 48.).

In the second construct of responsibility for learning reflection and review action needs to be developed from a minimally learner-centered level to a mostly learner-centered level, in order to successfully achieve LCT. However, besides reflection and review, in this case, the action of metacognitive skills received the second-lowest score (Mdn = 3,1). Due to this reason, instructors should explicitly facilitate student development of various and appropriate metacognitive skills and habits of mind to solve real-life problems and to gain a positive outcome. Also, it may provide better LCT outcomes, if the instructors teach individuals or groups of students how to use metacognitive skills when deficiencies are detected. Finally, instructors may utilize formative feedback to all students on the development of metacognitive skills as well as assess these skills and habits of the mind and not just the product of the use of these skills and habits (Blumberg, 2019, 68.).

Similarly as in the case, of course, syllabi and materials component, in this case in the function of content construct, organizing schemes are visibly the worst (Mdn = 2) action with the lowest score. Yet, to focus on other actions, immediately after organizing schemes, the discipline-specific methods action received a score of 3, which is the second lowest in this construct. Discipline-specific methods are a relation between disciplines or practices, and thus a set of understandings that is more than broad knowledge of a field, rather, it is the sort of knowledge that is specific to the discipline or profession and defines a specialist in the area.

Improving the implementation of LCT in course content incorporates explicit facilitation of students to develop appropriate discipline-specific methodologies while providing formative feedback to all students on their ability to use discipline-specific methodologies. Instructors should emphasize assessing these discipline-specific methodologies more and not just the product of the use of these methodologies (Blumberg, 2019, 82.).

In the construct of purposes and processes of student assessment, the lowest median value (Mdn = 1,8) belongs to peer and self-assessment action. There is a minimal implementation of this action in the courses of DP. The second lowest score obtained was assessment and policies and standards (Mdn = 2). Nevertheless, the action of authentic assessment finished in third place with a median value of 3.

To develop the last action, the usage of authentic assessment, the instructor should develop and use authentic assessments always throughout the courses, and that counts 80% or more of the final grade. Lastly, the instructor should ask students to review the authentic assessments and provide feedback (Blumberg, 2019, 109.).

Likewise the course syllabi and materials component, the class observations also concluded that flexibility and response to student feedback represent the lowest median values from the whole construct of the balance of power. The new difference between the course syllabi and materials component and the class observations is in the action of the welcoming syllabus (Mdn = 3,6) with large distinction (IQR = 1) in results.

To improve the action of the welcoming syllabus, there is a need to complete the following steps:

- Creating and clearly defining a measurable learning outcomes and how they fit with the larger educational program's outcomes
- Explaining how students will get usable feedback on how they are doing throughout the course
- Describing how the instructor will know whether teaching is helping students reach learning objectives
- Making an explicit statement about sharing power during the course

<i>Construct (Column) Summaries</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	17%	17%	33%	33%
Mostly learning-centered (scored as 3)	50%	50%	67%	17%	0%
Extensively learning-centered (scored as 4)	50%	33%	17%	50%	67%
Range	3,375 - 4	2,5 - 4	2 - 3,75	2 - 4	1 - 4
Mode	4	4	3,5	4	4

Figure 18. Construct summaries of class observations for all DP classes

The differences and variations of answers are the highest among all the evaluations in this evaluation component (see Figure 18). The class observations served as a "double-check" for what was written in the course syllabi and materials. Some actions were improved in practical execution (during the sessions), however, most actions were perceived with a lower rating than displayed on the syllabus.

Even with the high difference range of median values, this component received 80% of the total learner-centered teaching score, which is converted to the median value of 3,5 (see Figures 19 & 20).

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	17%	17%	33%	33%
Total percentage learning-centered (scored 3 or 4)	100%	83%	83%	67%	67%

Figure 19. Dichotomous summary of scores of class observations for all DP classes

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP Scores (Observations)</i>
Median	3,5
Interval-quartile ratio	1
Range	1 - 4
Mode	4
Total percentage learning-centered	80%

Figure 20. Total summary of scores of class observations for all DP classes

5.1.3 Interview with the instructors

In total, there are 4 interviews in this given component, since there were 4 responsible instructors for the given evaluated courses. The dates of the interviews are as follows:

- Lecturer A (10.11.2022)
- Lecturer B (16.11.2022)
- Lecturer C (3.11.2022)
- Lecturer D (9.11.2022)

The length of individual interviews varied between 82-116 minutes. The interviews were executed in isolated rooms, usually meeting rooms, where only the evaluator (author) and instructor were present. Interviews were structured based on pre-prepared questions (see

Appendix 2.) and were led by evaluator with main and supportive questions, which were adapted from Blumberg's (2019) LCT rubrics.

Every interview was recorded on the voice recorder and later re-played by the evaluator for the purpose of evaluation. In this way, the evaluator focused on natural discussion during the interview, rather than evaluating the instructor immediately during the interview.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 4, IQR = 0)	Set expectations (Mdn = 4, IQR = 0,1)	Organizing schemes (Mdn = 3,8, IQR = 0,6)	Intergrate assessment and learning (Mdn = 4, IQR = 0,8)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 3, IQR = 0,1)	Scaffolding (Mdn = 3, IQR = 0,1)	Engagement with content (Mdn = 4, IQR = 0,3)	Assessment policies and standards (Mdn = 4, IQR = 0)	Welcoming syllabus (Mdn = 4, IQR = 0)
Action 3	Course alignment (Mdn = 3,8, IQR = 0,6)	Learning skills (Mdn = 3, IQR = 0,8)	Discipline-specific methods (Mdn = 3,8, IQR = 0,5)	Timely formative feedback (Mdn = 3,8, IQR = 0,5)	Flexibility (Mdn = 2,5, IQR = 1,1)
Action 4	Environment for success (Mdn = 3,8, IQR = 0,5)	Self-directed learning (Mdn = 3, IQR = 0,4)	Understand why learn (Mdn = 4, IQR = 0)	Peer and self-assessment (Mdn = 3, IQR = 0,8)	Opportunities to learn (Mdn = 4, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3, IQR = 0,4)	Inquiry in discipline (Mdn = 3,8, IQR = 0,5)	Demonstrate mastery (Mdn = 4, IQR = 0)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 4, IQR = 0,3)	Metacognitive skills (Mdn = 2,5, IQR = 1,3)	Fosters future learning (Mdn = 4, IQR = 0)	Authentic assessment (Mdn = 3, IQR = 0,3)	Responds to student feedback (Mdn = 3, IQR = 0)

Figure 21. Constructs results of interviews of all instructors (n=4) (Mdn = Median; IQR = Interval-quartile ratio)

The individual results of constructs (see Figure 21) highlighted some differences in instructors' perceptions of the LCT framework. Teaching/learning activities from the role of instructor construct showed to be the weakest action (Mdn = 3) with low distinction (IQR = 0,1), in terms of the instructors' answers. Mostly, the instructors did not satisfy the criteria of intentionally using active-learning approaches in at least 90% of the course as well as explaining to students how these methods or technologies promote the achievement of student learning outcomes.

For the construct of responsibility for learning, reflection and review, learning skills, self-directed learning, and scaffolding resulted in the same median value (Mdn = 3), while metacognitive skills (Mdn = 2,5) seem to be perceived by instructors as the weakest action implemented in their teaching.

Regarding learning skills and self-directed learning, usually instructors lacked the amount of provided formative feedback to all students on their development. Furthermore, no learning skills, as well as self-directed learning, are assessed independently or within a project where not just the product of the use of these skills might be assessed, but also these skills would be recognized (Blumberg, 2019, 62-64.).

Although the scaffolding action of the second construct has not been represented by a lower number than 4, instructors believe they have a possibility to improve the implementation of this given action. In order to do so, they should explicitly, and intentionally model responsibility, teaching how to take responsibility actively, and systematically with everyone and not just those who seek extra help. Moreover, instructors might provide different types of scaffolding support as needed, a) procedural for process, b) conceptual for content organization, and c) metacognitive for goal setting, planning, organizing, self-monitoring, or self-evaluation. Removing scaffolding support should be done in an intentional manner, thus allowing one to take more responsibility as the course progresses. Instructors should recognize when students are not yet ready to take such responsibility or be able to respond to individual students' needs for scaffolding support throughout the course (Blumberg, 2019, 60.).

The construct of the function of content received relatively high scores, yet the one action, similarly as in component of course syllabi and materials, inquiry in discipline obtained a lower score (Mdn = 3,8). In this case low, however, in comparison to other components, relatively high still. Though, to improve this action, providing more repeated (at least weekly) student practice using inquiry or ways of thinking in the discipline to solve discipline-specific or real-world problems, is needed. Nevertheless, providing more formative feedback, and requiring students, to use inquiry or ways of thinking in the discipline to solve discipline-specific or real-world problems, while the project or work they would need to do would be graded and counted enough in their final grade (Blumberg, 2019, 85.).

The last two constructs received similar values as in previous components, and thus, instructors recognized the same deficiencies as evaluator in course syllabi and materials and class observations components.

<i>Construct (Column) Summaries</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	17%	0%	0%	17%
Mostly learning-centered (scored as 3)	17%	67%	0%	33%	17%
Extensively learning-centered (scored as 4)	83%	17%	100%	67%	83%
Range	3 - 4	2,5 - 4	3,75 - 4	3 - 4	2,5 - 4
Mode	4	3	4	4	4

Figure 22. Construct summaries of interviews of all instructors (n=4)

As shown in Figure 22 and Figure 23, the major shortcomings in LCT implementation according to instructors are in the constructs of responsibility for learning and balance of power. In overall scores for this component (interview with the instructor), the values are on average high, except for the range of values for different actions. The total percentage for LCT is 93%.

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	17%	0%	0%	17%
Total percentage learning-centered (scored 3 or 4)	100%	83%	100%	100%	83%

Figure 23. Dichotomous summary of scores of interviews of all instructors (n=4)

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP Scores (Interview)</i>
Median	3,9
Interval-quartile ratio	0,4
Range	2,5 - 4
Mode	4
Total percentage learning-centered	93%

Figure 24. Total summary of scores of interviews of all instructors (n=4)

5.1.4 Questionnaire for students

In total, there are 16 questionnaires in this given component, since there were 16 courses and each course was given 1 questionnaire. The dates of completion of the questionnaires are as follows:

- Establishing Coaching Philosophy (10.10.2022)
- Psychology and Coaching (18.10.2022)
- Advanced Coaching Practice 1+2 (2.11.2022)
- Coach Development (28.11.2022)
- Strength and Conditioning (29.11.2022)
- Skill Acquisition and Learning in Coaching (12.12.2022)
- Professional Growth (13.1.2023)
- Coaching Practice 1+2 (18.1.2023)
- Athlete-Centered Coaching (31.1.2023)
- Personal Growth 1 (9.2.2023)
- Personal Growth 2 (9.2.2023)
- Successful Team Culture (17.2.2023)
- Creating Successful Team Culture (20.2.2023)
- Sport Analysis and Athlete Development (6.3.2023)
- Developing Coaching Philosophy (8.3.2023)
- Organizational Management and Development (14.3.2023)

The efficiency of the completion of questionnaires was constantly decreasing as the academic year progressed. The total amount of students for DP1 is 25, for DP2 is 23, and for DP3 is 22 students. The efficiency of completion of questionnaires for DP1 is 81%, for DP2 is 60%, and for DP3 it is 55% on average for 1 questionnaire.

Even due to the wide range of efficiency throughout the classes, the median function creates a better understanding of the middle value out of all answers, which is then more suitable for ordinal scales, such as this LCT rubrics. It means that even if 1 or 2 students

would select the best or the worst options, it does not necessarily reflect in the final number, as the final number is selected out of middle value, so found by ordering all data points and picking out the one in the middle, or if there are two middle numbers, taking the mean of those two numbers.

The questionnaires were filled out by students usually during the classes, and only some were completed during students' free time. An example of a questionnaire is placed in Appendix 3. The questions were simply applied from the LCT rubric and the answers were selected as levels of LCT implementation without further meaning to it. Therefore, students were answering based on their own experience and perception of the level of implemented LCT.

There are possible negatives of involving students in the final result of LCT evaluation, however, thanks to the median function, overall students' input in final value for whole DP represents on average a small part of the whole grade, yet sometimes significant.

Figures 25, 26, 27, and 28, describe better how students perceive LCT implementation in DP. Certainly, the level of their understanding of LCT was limited, yet they are fully involved and affected by the use of LCT. Due to cultural and social differences, some students might perceive the employed LCT in DP as already highly extensive, while some might feel that the implementation of LCT is minimal.

Overall, the middle value for all students of all DP classes perceived employed LCT as level 3, therefore mostly learner-centered. The distinction among the answers/median values was minimal, while the highest interval-quartile ratio number reached 0,5.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 3, IQR = 0)	Set expectations (Mdn = 3, IQR = 0,1)	Organizing schemes (Mdn = 3, IQR = 0)	Intergrate assessment and learning (Mdn = 3, IQR = 0,5)	Moral and ethical environment (Mdn = 4, IQR = 0,5)
Action 2	Teaching/learning activities (Mdn = 3, IQR = 0,5)	Scaffolding (Mdn = 3, IQR = 0)	Engagement with content (Mdn = 3, IQR = 0,1)	Assessment policies and standards (Mdn = 4, IQR = 0,5)	Welcoming syllabus (Mdn = 3, IQR = 0)
Action 3	Course alignment (Mdn = 3, IQR = 0)	Learning skills (Mdn = 3, IQR = 0)	Discipline-specific methods (Mdn = 3, IQR = 0)	Timely formative feedback (Mdn = 3, IQR = 0)	Flexibility (Mdn = 3, IQR = 0,5)
Action 4	Environment for success (Mdn = 3, IQR = 0,5)	Self-directed learning (Mdn = 3, IQR = 0)	Understand why learn (Mdn = 3,5, IQR = 0,3)	Peer and self-assessment (Mdn = 3, IQR = 0,3)	Opportunities to learn (Mdn = 3, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 3, IQR = 0,5)	Reflection, review (Mdn = 3, IQR = 0,3)	Inquiry in discipline (Mdn = 3, IQR = 0)	Demonstrate mastery (Mdn = 3, IQR = 0,5)	Freedom of expression (Mdn = 3, IQR = 0,5)
Action 6	Explicit about methods (Mdn = 3, IQR = 0)	Metacognitive skills (Mdn = 3, IQR = 0)	Fosters future learning (Mdn = 3, IQR = 0)	Authentic assessment (Mdn = 3, IQR = 0,3)	Responds to student feedback (Mdn = 3,5, IQR = 0,5)

Figure 25. Constructs results for student questionnaires of all DP classes (Mdn = Median; IQR = Interval-quartile ratio)

<i>Construct (Column) Summaries</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	0%	0%	0%	0%
Mostly learning-centered (scored as 3)	100%	100%	100%	83%	83%
Extensively learning-centered (scored as 4)	0%	0%	0%	17%	17%
Range	3	3	3	3 - 4	3 - 4
Mode	3	3	3	3	3

Figure 26. Construct summaries for student questionnaires of all DP classes

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	0%	0%	0%	0%
Total percentage learning-centered (scored 3 or 4)	100%	100%	100%	100%	100%

Figure 27. Dichotomous summary of scores for student questionnaires of all DP classes

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP Scores (Questionnaire)</i>
Median	3
Interval-quartile ratio	0,1
Range	3 - 4
Mode	3
Total percentage learning-centered	100%

Figure 28. Total summary of scores for student questionnaires of all DP classes

5.2 Results of individual classes

The next part of the "evaluation results" chapter is introducing the group of results 3, and later results 4. All of the results for the individual classes as well as for the holistic results of DP are described via particular constructs and actions results. The lowest scores are discussed more and recommendations for their further development of LCT implementation are highlighted as well.

5.2.1 DP1

DP1 results include 8 courses, 4 instructors, 16 observations, and 8 questionnaires. As Figure 29 shows, similar deficiencies are repeated again, as shown in previous chapters of 4 components.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 4, IQR = 0,1)	Set expectations (Mdn = 4, IQR = 0,1)	Organizing schemes (Mdn = 3, IQR = 0)	Intergrate assessment and learning (Mdn = 4, IQR = 0,3)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 3,3, IQR = 0,5)	Scaffolding (Mdn = 3, IQR = 0,4)	Engagement with content (Mdn = 3,7, IQR = 0,4)	Assessment policies and standards (Mdn = 4, IQR = 0,3)	Welcoming syllabus (Mdn = 4, IQR = 0,8)
Action 3	Course alignment (Mdn = 3,5, IQR = 0,6)	Learning skills (Mdn = 3, IQR = 0,3)	Discipline-specific methods (Mdn = 3,5, IQR = 0,3)	Timely formative feedback (Mdn = 3,5, IQR = 0,3)	Flexibility (Mdn = 2, IQR = 0,1)
Action 4	Environment for success (Mdn = 4, IQR = 0)	Self-directed learning (Mdn = 3,4, IQR = 0,4)	Understand why learn (Mdn = 4, IQR = 0,1)	Peer and self-assessment (Mdn = 2, IQR = 1,7)	Opportunities to learn (Mdn = 4, IQR = 0,1)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3,1, IQR = 0,7)	Inquiry in discipline (Mdn = 3,5, IQR = 0,3)	Demonstrate mastery (Mdn = 4, IQR = 0)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 4, IQR = 0,7)	Metacognitive skills (Mdn = 3,1, IQR = 0,6)	Fosters future learning (Mdn = 4, IQR = 0,1)	Authentic assessment (Mdn = 3, IQR = 0,6)	Responds to student feedback (Mdn = 3, IQR = 0,1)

Figure 29. Constructs results of DP1 (Mdn = Median; IQR = Interval-quartile ratio)

Figures 30, 31, and 32, highlight the overall view of the LCT implementation in this DP1 class. Finally, the student assessment and balance of power obtained 2 actions in total, with a minimally learner-centered level, which indicates the need for further development of these two constructs.

Construct (Column) Summaries					
Levels	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	0%	0%	17%	17%
Mostly learning-centered (scored as 3)	33%	83%	50%	33%	17%
Extensively learning-centered (scored as 4)	67%	17%	50%	50%	67%
Range	3,3 - 4	3 - 4	3 - 4	2 - 4	2 - 4
Mode	4	3 & 3,1	3,5 & 4	4	4

Figure 30. Construct summaries of DP1

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	0%	0%	17%	17%
Total percentage learning-centered (scored 3 or 4)	100%	100%	100%	83%	83%

Figure 31. Dichotomous summary of scores of DP1

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP1 Scores</i>
Median	3,8
Interval-quartile ratio	0,5
Range	2 - 4
Mode	4
Total percentage learning-centered	93%

Figure 32. Total summary of scores of DP1

5.2.2 DP2

In the case of DP2 results, this DP class includes 7 courses, 4 instructors, 14 observations, and 7 questionnaires. As Figure 33 indicates, once again similar deficiencies are repeated. Yet, the overall results are better than in the previous DP1 class. As shown in Figures 34, 35, and 36, only one action from the balance of power is considered to be minimally learner-centered. The overall percentage of learner-centered teaching reaches 97%, which is supremely high.

The significant improvement in LCT implementation in DP2, compared to DP1, might cause the overall emphasis on the progression of LCT implementation throughout the whole Degree Programme, rather than individually in the classes. However, several courses from DP2 have not reached significantly high results, which is a matter of further development of the systematic implementation of LCT in DP.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 4, IQR = 0)	Set expectations (Mdn = 4, IQR = 0,1)	Organizing schemes (Mdn = 3, IQR = 0,4)	Intergrate assessment and learning (Mdn = 4, IQR = 0,1)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 3,3, IQR = 0,4)	Scaffolding (Mdn = 3,3, IQR = 0,3)	Engagement with content (Mdn = 4, IQR = 0,3)	Assessment policies and standards (Mdn = 4, IQR = 0)	Welcoming syllabus (Mdn = 4, IQR = 0)
Action 3	Course alignment (Mdn = 4, IQR = 0,4)	Learning skills (Mdn = 3, IQR = 0,4)	Discipline-specific methods (Mdn = 3,5, IQR = 0,2)	Timely formative feedback (Mdn = 3,8, IQR = 0,5)	Flexibility (Mdn = 2, IQR = 0,3)
Action 4	Environment for success (Mdn = 4, IQR = 0)	Self-directed learning (Mdn = 3,5, IQR = 0,4)	Understand why learn (Mdn = 4, IQR = 0)	Peer and self-assessment (Mdn = 3, IQR = 0,3)	Opportunities to learn (Mdn = 4, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3, IQR = 0,1)	Inquiry in discipline (Mdn = 3,8, IQR = 0,4)	Demonstrate mastery (Mdn = 4, IQR = 0)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 4, IQR = 0,3)	Metacognitive skills (Mdn = 3, IQR = 0,3)	Fosters future learning (Mdn = 4, IQR = 0,1)	Authentic assessment (Mdn = 3,5, IQR = 0,8)	Responds to student feedback (Mdn = 3, IQR = 0,3)

Figure 33. Constructs results of DP2 (Mdn = Median; IQR = Interval-quartile ratio)

Construct (Column) Summaries					
Levels	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	0%	0%	0%	17%
Mostly learning-centered (scored as 3)	17%	83%	33%	33%	17%
Extensively learning-centered (scored as 4)	83%	17%	67%	67%	67%
Range	3,25 - 4	3 - 4	3 - 4	3 - 4	2 - 4
Mode	4	3	4	4	4

Figure 34. Construct summaries of DP2

Dichotomous Summary of Scores					
Levels	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Total percentage not learning-centered (scored 0 or 1)	0%	0%	0%	0%	17%
Total percentage learning-centered (scored 3 or 4)	100%	100%	100%	100%	83%

Figure 35. Dichotomous summary of scores of DP2

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP2</i>
Median	3,9
Interval-quartile ratio	0,4
Range	2 - 4
Mode	4
Total percentage learning-center	97%

Figure 36. Total summary of scores of DP2

5.2.3 DP3

The DP3 class achieved the lowest LCT scores among all DP classes. In DP3 results there was included only 1 course, 4 instructors, 2 observations, and 1 questionnaire. Most likely, due to lack of the courses as well as the structure of the given 1 course, the scores could not reach a higher score than 90% of learner-centered teaching.

Even though the final result seems to be sufficient when taking look at course syllabi and materials, the scores of some constructs were concluded between levels 1 and 2. Furthermore, class observations have not achieved better results than course syllabi and materials, on the contrary, even worse.

Nevertheless, students' input in the form of student questionnaires as well as instructors' interviews achieved high LCT scores, which influenced the final results extensively. When analyzing Figure 37, most of the actions with lower scores are the same as in previous classes. Yet, when taking look into Figures 38, 39, and 40, specifically, the responsibility for learning construct received 1 action with a level 2 score, which indicates the further need for the development of this particular construct in DP3.

Actions	Constructs				
	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Action 1	Learning outcomes (Mdn = 4, IQR = 2)	Set expectations (Mdn = 4, IQR = 0,3)	Organizing schemes (Mdn = 3, IQR = 1,8)	Intergrate assessment and learning (Mdn = 3, IQR = 3,5)	Moral and ethical environment (Mdn = 4, IQR = 0)
Action 2	Teaching/learning activities (Mdn = 3, IQR = 0,8)	Scaffolding (Mdn = 3, IQR = 0)	Engagement with content (Mdn = 3, IQR = 1)	Assessment policies and standards (Mdn = 4, IQR = 2,5)	Welcoming syllabus (Mdn = 4, IQR = 0,5)
Action 3	Course alignment (Mdn = 3, IQR = 1,8)	Learning skills (Mdn = 3, IQR = 1)	Discipline-specific methods (Mdn = 3,5, IQR = 1,3)	Timely formative feedback (Mdn = 4, IQR = 0,5)	Flexibility (Mdn = 2, IQR = 1)
Action 4	Environment for success (Mdn = 4, IQR = 0,5)	Self-directed learning (Mdn = 3, IQR = 0,3)	Understand why learn (Mdn = 4, IQR = 0,8)	Peer and self-assessment (Mdn = 1, IQR = 2)	Opportunities to learn (Mdn = 4, IQR = 0)
Action 5	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3, IQR = 1)	Inquiry in discipline (Mdn = 3,5, IQR = 0,8)	Demonstrate mastery (Mdn = 4, IQR = 0,5)	Freedom of expression (Mdn = 4, IQR = 0)
Action 6	Explicit about methods (Mdn = 3, IQR = 1)	Metacognitive skills (Mdn = 2, IQR = 1)	Fosters future learning (Mdn = 4, IQR = 1)	Authentic assessment (Mdn = 3, IQR = 1,5)	Responds to student feedback (Mdn = 3, IQR = 0,5)

Figure 37. Constructs results of DP3 (Mdn = Median; IQR = Interval-quartile ratio)

Construct (Column) Summaries					
Levels	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	17%	0%	17%	17%
Mostly learning-centered (scored as 3)	50%	67%	67%	33%	17%
Extensively learning-centered (scored as 4)	50%	17%	33%	50%	67%
Range	3 - 4	2 - 4	3 - 4	1 - 4	2 - 4
Mode	3 & 4	3	N/A	4	4

Figure 38. Construct summaries of DP3

Dichotomous Summary of Scores					
Levels	Role of Instructor	Responsibility for Learning	Function of Content	Student Assessment	Balance of Power
Total percentage not learning-centered (scored 0 or 1)	0%	17%	0%	17%	17%
Total percentage learning-centered (scored 3 or 4)	100%	83%	100%	83%	83%

Figure 39. Dichotomous summary of scores of DP3

Total Course Summary	
<i>Levels</i>	<i>Total DP3 Scores</i>
Median	3,5
Interval-quartile ratio	0,7
Range	1,5 - 4
Mode	4
Total percentage learning-centered	90%

Figure 40. Total summary of scores of DP3

5.3 Overall result of Degree Programme in Sports Coaching and Management

The overall conclusion of this study is represented in the overall result for the whole Degree Programme of Sports Coaching and Management. These data were collected, analyzed, and summarized by the overall results from each DP class (n=3). In Figure 41, all the values are concluded via 4 evaluation components as well as a combination of those into particular courses and their results for the given DP classes.

<i>Actions</i>	<i>Constructs</i>				
	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
<i>Action 1</i>	Learning outcomes (Mdn = 4, IQR = 0)	Set expectations (Mdn = 4, IQR = 0)	Organizing schemes (Mdn = 3, IQR = 0)	Intergrate assessment and learning (Mdn = 4, IQR = 0,5)	Moral and ethical environment (Mdn = 4, IQR = 0)
<i>Action 2</i>	Teaching/learning activities (Mdn = 3,3, IQR = 0,2)	Scaffolding (Mdn = 3, IQR = 0,1)	Engagement with content (Mdn = 3,7, IQR = 0,5)	Assessment policies and standards (Mdn = 4, IQR = 0)	Welcoming syllabus (Mdn = 4, IQR = 0)
<i>Action 3</i>	Course alignment (Mdn = 3,5, IQR = 0,5)	Learning skills (Mdn = 3, IQR = 0)	Discipline-specific methods (Mdn = 3,5, IQR = 0)	Timely formative feedback (Mdn = 3,8, IQR = 0,3)	Flexibility (Mdn = 2, IQR = 0)
<i>Action 4</i>	Environment for success (Mdn = 4, IQR = 0)	Self-directed learning (Mdn = 3,4, IQR = 0,3)	Understand why learn (Mdn = 4, IQR = 0)	Peer and self-assessment (Mdn = 2, IQR = 1)	Opportunities to learn (Mdn = 4, IQR = 0)
<i>Action 5</i>	Inclusive, welcoming environment (Mdn = 4, IQR = 0)	Reflection, review (Mdn = 3, IQR = 0,1)	Inquiry in discipline (Mdn = 3,5, IQR = 0,1)	Demonstrate mastery (Mdn = 4, IQR = 0)	Freedom of expression (Mdn = 4, IQR = 0)
<i>Action 6</i>	Explicit about methods (Mdn = 4, IQR = 0,5)	Metacognitive skills (Mdn = 3, IQR = 0,6)	Fosters future learning (Mdn = 4, IQR = 0)	Authentic assessment (Mdn = 3, IQR = 0,3)	Responds to student feedback (Mdn = 3, IQR = 0)

Figure 41. Constructs results of DP (Mdn = Median; IQR = Interval-quartile ratio)

Firstly, when analyzing Figures 42, 43, and 44, it is noticeable to state the fact that student assessment and balance of power are 2 constructs of needed improvement. Yet, it might be essential to point out also the responsibility for learning.

According to Blumberg (2019, 21) the reason that some faculties find it the hardest to implement the balance of power, it should be considered as the last construct to emphasize, while the rest of the constructs are already successfully implanted.

Therefore, the need to emphasize on flexibility and response to student feedback should be considered as important actions to develop, yet not as the first ones. Rather, the focus should be placed on the development of peer and self-assessment.

Besides, there are also other actions that need to be developed in order to improve the overall efficiency of LCT. The list and order of the actions that need to be improved is following:

- Scaffolding (Responsibility for Learning)
- Learning skills (Responsibility for Learning)
- Reflection, review (Responsibility for Learning)
- Metacognitive skills (Responsibility for Learning)
- Teaching/learning activities (Role of Instructor)
- Self-directed learning (Responsibility for Learning)
- Course alignment (Role of Instructor)
- Peer and self-assessment (Student Assessment)
- Organizing schemes (Function of Content)
- Authentic assessment (Student Assessment)
- Discipline-specific methods (Function of Content)
- Inquiry in discipline (Function of Content)
- Engagement with content (Function of Content)
- Timely formative feedback (Student Assessment)
- Flexibility (Balance of Power)
- Responds to student feedback (Balance of Power)

As the list indicates, the need to develop the first 2 constructs is necessary, mainly due to the foundation that these 2 constructs are creating for the further functional ability of the other constructs. After achieving higher scores in the role of the instructor and responsibility for learning, the function of content, as well as student assessment, should be emphasized more. Lastly, the balance of power should be prioritized as the last construct to develop.

According to the overall DP score, the Degree Programme is 93% learner-centered with relatively low distinction in results (IQR = 0,5) and a final median value of 3,9. The range in answers is moderate (2-4) and the mode value is 4, which represents the most common result value in every evaluation.

Finally, this study proves that Haaga-Helia UAS' Degree Programme in Sports Coaching and Management, in Vierumäki, is extensively learner-centered.

<i>Construct (Column) Summaries</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Instructor-centered (scored as 0)	0%	0%	0%	0%	0%
Minimally learning-centered (scored as 1)	0%	0%	0%	17%	17%
Mostly learning-centered (scored as 3)	33%	83%	50%	17%	17%
Extensively learning-centered (scored as 4)	67%	17%	50%	67%	67%
Range	3,3 - 4	3 - 4	3 - 4	2 - 4	2 - 4
Mode	4	3	3,5 & 4	4	4

Figure 42. Construct summaries of DP

<i>Dichotomous Summary of Scores</i>					
<i>Levels</i>	<i>Role of Instructor</i>	<i>Responsibility for Learning</i>	<i>Function of Content</i>	<i>Student Assessment</i>	<i>Balance of Power</i>
Total percentage not learning-centered (scored 0 or 1)	0%	0%	0%	17%	17%
Total percentage learning-centered (scored 3 or 4)	100%	100%	100%	83%	83%

Figure 43. Dichotomous summary of scores of DP

<i>Total Course Summary</i>	
<i>Levels</i>	<i>Total DP Scores</i>
Median	3,9
Interval-quartile ratio	0,5
Range	2 - 4
Mode	4
Total percentage learning-centered	93%

Figure 44. Total summary of scores of DP

6 Discussion

The purpose of this study was to assess the level of implemented LCT in the Degree Programme of Sports Coaching and Management. The impulse for this study arrived from DP instructors due to the perception of the need for assessment and further development of LCT in DP.

This study is one of the first studies using Blumberg's (2019) newest, and updated, LCT rubrics. Furthermore, it recognizes 4 different components of evaluation, which is rare, even unique among other studies assessing LCT implementation in higher education institutions (HEIs) or specifically, coach education programs.

All of the students as well as instructors were consciously participating in this study, freely, without any form of pressure or coercion to participate in the evaluation process. Results from students' questionnaires were collected anonymously, to ensure the most accurate and open feedback. The interviews were done one by one, so instructors were answering independently, with their own understanding and reflection on the given questions.

The results, or particular answers, were not shared or given to anyone else, nor used for other purposes than only for the evaluation process of this study.

The author/evaluator of this study is a DP3 student of the Degree Programme, employed by Haaga-Helia UAS as "Trainee Lecturer". Therefore, the author was familiar with the environment, instructors, and courses. However, the author is not originally from Finland and has never been exposed to LCT before coming to study in DP. Due to this fact, the author was able to compare different cultural, social, and educational differences between his country of origin, and the Degree Programme placed in Finland. On the contrary, due to the author's environment change and completely new educational approach exposure, there may be an unconscious influence on how the author understands and pictures the overall perception of LCT in education.

Furthermore, the author has an extensive personal relations with DP instructors, as well as personal interests in different learning approaches, prioritizing different contents of the courses, or the way how the structure of organizing schemes for various courses should look like. In conclusion, the author's short teaching experience may affect positively the other elements of understanding the education and LCT concept, particularly assessment in this study.

Regarding author's own learning, throughout this thesis project, a new perspective on methods of teaching and learning was achieved. Author was investigating for LCT origins, found the fundamental pillars of LCT, as well as increased the network in academic envi-

ronment. Moreover, the combination of author's work ("Trainee Lecturer") and the topic of the thesis significantly increased author's skills and competence in the field. Furthermore, author was able to adjust and improve the evaluation process, and thus ensure more, the objectivity and reliability of the results.

However, the LCT rubrics, applied by Blumberg (2019), introduced a new constraint in the objectivity of this study. According to Walvoord (1998), due to the explicit criteria and grading levels, assessment rubrics result in objective assessments of what is usually subjectively judged.

For instance, the issue of objectivity in assessment might be able to solve by involving another evaluator in the study, which would lead in the case of each result to a common grade upon which all evaluators would need to agree. However, since there was only a single evaluator in the whole study, some results might represent misleading conclusions and therefore further re-evaluation of DP is suggested, in order to maintain objectivity in the assessment of LCT.

Specifically, the LCT rubric created by Blumberg (2019) represents a comprehensive, yet general framework for LCT assessment. The reason for this statement could be found in rubric criteria for different levels, where some criteria are too general, where a common understanding of the individual criteria would need further explanation or practical examples.

However, according to Paquette & Trudel (2018, 34), the use of Blumberg's framework for researchers and coach developer administrators is endorsed in conducting a formal and comprehensive assessment of a coach education program. However, given its complexity and the time required to learn and make effective use of the tool, they encourage the researchers and coach developer administrators to consider Cullen et al. (2012) "Rubric for Evaluating Curricular Design and the Assessment of Learner-Centered Practices" (ALCP) as alternative tools for a quicker and more straightforward assessment of program's LCT status.

Early author's concerns about the objectivity of this study were solved by establishing 4 different and independent components, which in the end increased the uniqueness of this study. The purpose of those was to broaden the resulting scale, so it may represent a more accurate result. Yet, still, the main factor of subjectivity in this study remains in the actual evaluation of each action through general criteria of the LCT assessment framework. It means, even though, there are 4 different components for evaluation, which are later summarized into more comprehensive tables, still, if the author's perception and understanding of various actions was different than what it should be, the whole result of this

study would be established on an individual and subjective point of view of what LCT should look like.

Nevertheless, the theoretical framework and methods used to understand, evaluate, and summarize the implementation of LCT should represent the evidence-based foundation. However, as the reliability of used LCT rubrics, and the objectivity of assessment made in this study could be questioned, due to the extensive number of different results, and the lack of studies using the newest LCT rubrics, further research is needed.

6.1 Summary of the results

The study has found that the Degree Programme of Sports Coaching and Management is extensively learner-centered while obtaining lower distinction among all results. However, several actions highlighted in previous chapters still indicated employment at a minimally learner-centered level (level 1). One of these actions belongs to the last construct, the balance of power, which is according to Blumberg (2019) the most challenging construct to fully implement LCT. Usually the cause of this challenge originates in the faculty/educational institution's rules or curriculum which does not allow individual adjustments regarding specific actions of this construct.

Furthermore, the distinction among different components or classes can be seen. However, the differences between the 4 components are significantly larger than those between the 3 classes. The reason comes from the actual evaluation. Reading the course syllabi, and materials and reviewing the planned sessions might give to evaluator a different perspective on the course process. Yet, the class observations usually either confirmed or denied the previous results from course syllabi and materials evaluation.

Moreover, the instructors' interviews were specific to individual perceptions of the concept of LCT. All instructors rated their performance and course structures much higher than the previous 2 components indicated. In conclusion of this component, instructors are not completely able to find deficiencies in their teaching and course structures on their own.

Students' questionnaire results showed small distinctions in answers, yet relatively high scores. Yet, there are numerous factors as to why students evaluated the LCT implementation so positively. Among these, simply belongs students' perception and understanding of the LCT concept. Because, the only session provided to students regarding their participation in the study, was emphasizing mostly the purpose of the study and instructions for filling out the questionnaires. The LCT was introduced only briefly. Yet, there was no explicit session provided on introducing the LCT concept in-depth. The author's intention was spontaneous answers to the given questions in the questionnaires, and thus, students' perception of "what answer fits mostly" to the question.

Even though, the conclusion indicates the predominant implementation of LCT, there are particular courses that obtained relatively low scores. Therefore, when aiming for further development of LCT implementation in DP, either the focus on developing particular courses should be prioritized, or the selection of the most common low-score actions may represent another way of further development.

When comparing this case study with other studies (Rodrigues et al., 2021; Paquette, & Trudel, 2018; Paquette et al., 2019; Milistetd et al., 2018; Dempsey, Cope, Richardson, Littlewood, & Cronin, 2021) the results are much more complex within the Blumberg's (2019) LCT framework, mainly due to combining 4 evaluation components into 1 result. As mentioned before, due to the complexity of the study, other evaluators should be invited into the process for increasing the objectivity of the agreed values for given actions.

Lastly, a noteworthy aspect to increase the reliability of the results may possibly represent other studies, which emphasized LCT assessment in HEIs or coach education programs. However, the issue found in this aspect is that there are a limited amount of studies recognizing LCT assessment, especially using Blumberg's (2019) newest LCT framework. Therefore, the need for further research in this particular area is needed.

6.2 Recommendations

According to Paquette & Trudel (2018, 33-34), central to the transition to LCT is effective leadership, where LC leaders are said to benefit from having strong intrapersonal knowledge and skills, creativity, and tenacity (Harris & Cullen, 2010). These qualities support the efforts of LC leaders to prioritize building community, sharing power, establishing trust, and creating a shared vision among program stakeholders.

The process of shifting paradigms requires leaders who extensively understand the concept of the LCT and who are willing to reconsider their roles in this paradigm and adopt practices that reflect the culture and value of the LC paradigm (Harris & Cullen, 2010, p. 34).

Blumberg's (2009, 2019) LCT framework is designed to be a multipurpose tool for facilitating change and assessment. Moreover, the suggested use for the framework includes helping educators (a) to begin the LC transformation process with their courses and programs, (b) to identify strategies for incremental change towards LCT, and (c) by means of formal assessment to determine the LC status of educational programs (Paquette, & Trudel, 2018, 34).

Based on Blumberg's (2009, 2019) recommendations, it is largely unrealistic to have all courses in a coach education program be completely learner-centred. Rather, the sugges-

tion is that contextual factors must be taken into consideration when assessing the appropriateness and degree of LCT, including:

- The type of students
 - The level of the course
 - The number of students enrolled in the course
 - The content of the course
 - The instructor's own personal philosophy of teaching
 - The culture or philosophy of the campus, department or educational program
- (Milistetd et al., 2018, 106)

According to Blumberg (2019, 182-183), in order to develop LC in teaching, an LCT goal should be established with concrete steps (see Figure 45). In Appendix 4 is placed a whole "catalogue" of the planning procedure, based on LCT goal setting, tracking the process of development, deadlines, and reflection column for how hard it was to achieve the change, if the change was achieved.

In Appendix 5, can be found a table of different LCT techniques or teaching/learning practices that transcend disciplines and can enhance the development of LCT.

Blumberg (2019) and Weimer (2013) explain, instructors may feel that LCT cannot be used with underprepared, unmotivated, or first-year students, yet, the opposite is true. When instructors invest the time to explain what they are doing, teach and let the students practice learning skills, and use many of the LCT actions mentioned in this LCT framework, the students can succeed, because LCT itself motivates students due to their engagement, more frequent formative feedback, and that they may be embarrassed to be unprepared for their peers.

Finally, Blumberg (2009) emphasized that being LC should not be viewed as an all-or-nothing approach, but rather as a continuum. Even most LC teachers and courses will, at times, make use of strategies that are more congruent with ICT (e.g., lecturing).



Figure 45. EDIAI loop created by this study for constant development of LCT (adapted from Blumberg, 2019, 182)

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Appendices

Appendix 1. An example of learning-centered teaching rubrics for the first action of the first construct (adapted from Blumberg, 2019, 212)

Construct I: Role of Instructor

Action

The instructor develops and uses challenging, reasonable, and measurable learning outcomes that foster the acquisition of appropriate knowledge, skills, or values. These learning outcomes should be consistent with the goals of the educational program.

Rubric Quality Levels

Uses instructor-centered approaches. Instructor:

- Does not develop or not use learning outcomes **OR**
- Articulates vague or inappropriate learning outcomes that
 - Are not consistent with the goals of the educational program **OR**
 - Do not foster the acquisition of appropriate knowledge, skills, or values **OR**
 - Are not challenging, reasonable, or measurable

Minimally uses learning-centered approaches. Instructor:

- Develops challenging, reasonable, and measurable learning outcomes but these outcomes
 - Are not consistent with the goals of the educational program **OR**
 - Do not foster the acquisition of appropriate knowledge, skills, or values

Mostly uses learning-centered approaches. Instructor:

- Develops challenging, reasonable, and measurable learning outcomes that are consistent with the goals of the educational program and foster the acquisition of appropriate knowledge, skills, or values **AND**
- Places these outcomes in the syllabus, but do not refer to them during the course

Extensively uses learning-centered approaches. Instructor:

- Places in the syllabus challenging, reasonable, and measurable learning outcomes that are consistent with the goals of the educational program and foster the acquisition appropriate knowledge, skills, or values **AND**
 - Regularly refers to them throughout the course
-

Appendix 2. 49 questions for interview with lecturers created by evaluator, based on Blumberg's (2019) LCT assessment rubrics

Construct	Action	Questions
1	1	1) Could you describe your view or understanding of learning outcomes for the lecture, or course? 2) How do you develop the learning outcomes for your lecture, or courses? What do they look like? 3) What do you aim for with learning outcomes? Why and how do you use them? *1-2 supportive questions
	2	1) What teaching or learning methods do you use? 2) What do you aim for with the methods? *1-2 supportive questions
	3	1) There are 3 essential components of a course, a) learning outcomes, b) teaching/learning methods, and c) assessment measures. How do you consider these 3 components in your teaching? Do you apply them? If yes, how, if not, why? *1-2 supportive questions
	4	1) What learning environment are you creating for your students? Describe. *2-3 supportive questions
	5	1) How do you consider the diversity, and differences in the backgrounds of DP students? *2-3 supportive questions
	6	1) Do you promote deep learning? If yes, how? 2) Do you explain the "why" when promoting deep learning? 3) Do you promote life-long learning? If yes, how? 4) Do you explain the "why" when promoting life-long learning? 5) Do you explain the "why" for your students when using different teaching methods? *1-2 supportive questions
2	1	1) Do you set student expectations? 2) Who is responsible for students' learning? *1-2 supportive questions
	2	1) Do you help students become more responsible for their learning? If yes, how does it look like? *2-3 supportive questions
	3	1) Do you promote the development of any learning skills for students that are directed toward academic success? If yes,

		could you define them? *2-4 supportive questions
	4	1) Do you promote the development of self-directed and lifelong learning skills? If yes, define examples. *2-4 supportive questions
	5	1) Do you engage your students to reflect and critically review on their learning, during your lectures? 2) What should reflection or critical review of students' learning include? *2-4 supportive questions
	6	1) Can you name some examples of metacognitive skills? 2) Do you promote metacognitive skills to you students? If yes, why and how should they benefit from those? *2-4 supportive questions
3	1	1) Do you use organizing schemes? If yes what schemes do you use? *2-3 supportive questions
	2	1) Do you promote student engagement with the content of the course? If yes, what methods do you use? *1-2 supportive questions
	3	1) Are you using discipline-specific methodologies? If yes, describe how, and what are those? *2-3 supportive questions
	4	1) Do you connect the content of your courses with students' personal growth and careers? 2) Do students know and understand why they are learning the content of your courses? are you helping them to understand its importance? *1-2 supportive questions
	5	1) What type of practice or practical activities are you using in order to let students solve the problem? 2) Do you provide discipline-specific or real-world problems that are appropriate for the level of the course and students' understanding? If yes, provide examples. *2-3 supportive questions
	6	1) Could you specify what is surface and deep learning? 2) What learning type (surface or deep) of learning do you promote? 3) How do you promote your chosen learning type? *1-2 supportive questions

4	1	1) Do you combine assessment and learning? If yes, how? *2-3 supportive questions
	2	1) How do you assess your students? Could you describe main characteristics of your assessment? *1-2 supportive questions
	3	1) Do you provide feedback to students? If yes, describe how you provide it, when you provide it, and what message it should contain. *2-3 supportive questions
	4	1) What assessment types do you use? *2-4 supportive questions
	5	1) How do you allow students to demonstrate their mastery of the content? 2) How do you allow students to learn from mistakes? *1-2 supportive questions
	6	1) Do you use authentic assessment? If yes, how? *1-2 supportive questions
5	1	1) Can you describe the learning environment you are creating for your students? *2-3 supportive questions
	2	1) Do you share your power with students? If yes, how, and in what ways? *2-3 supportive questions
	3	1) Are you strict, or do you allow some flexibility on course policies, assessment methods, learning methods, deadlines, or how students earn grades? It also means students have an input in these subjects. 2) Are you informing constantly and frequently about your decisions made in course policies, assessment methods, learning methods, deadlines, or how students earn grades? *1-2 supportive questions
	4	1) What opportunities to learn more are you providing for students? 2) Do you help students to recognize the learning opportunities? If yes, how? *1-2 supportive questions
	5	1) Are you tolerating or even encouraging alternative perspectives on content of subjects, or appropriate freedom of expression?

		<p>2) Do you empower students to determine some course content? *1-2 supportive questions</p>
	<p>6</p>	<p>1) Do you empower students to give you feedback for your teaching and their learning? 2) How do you respond to the feedback, and what are you looking in the feedback for? *2-3 supportive questions</p>

Appendix 3. An example of 2 actions from construct 1 placed in the questionnaire for students LCT assessment/feedback on the given course, based on Blumberg's (2019) LCT assessment rubrics

Construct I: Role of Instructor *

Action:

The instructor creates an inclusive and welcoming environment for learning and success for all students by acknowledging and accepting diversity and differences in background.

- Not at all
- Minimally
- Mostly
- Extensively
- N/A

Construct I: Role of Instructor *

Action:

The instructor explicitly states the chosen teaching/learning methods and explains why they promote deep student learning and foster future use of learning.

- Not at all
- Minimally
- Mostly
- Extensively
- N/A

Appendix 4. "Catalogue" for planning the development of LCT actions via using LCT goal setting process (adapted from Blumberg, 2019, 140-143)

Construct	Essential Actions Associated With Each Construct	Learning-Centered Level You Would Like to Achieve: <i>Minimally, Mostly, Extensively</i>	Specific Ideas for Implementation	Indicate Course(s) in Which You Would Like to Use These Ideas	Your Time Line to Achieve Change	Difficulty for You to Make This Change to Achieve Level You Aspire To 1 = <i>Easy</i> 2 = <i>Moderate</i> 3 = <i>Hard</i>
Role of Instructor	Develops learning outcomes					
	Uses appropriate teaching/learning methods					
	Aligns objectives, teaching/learning methods, and outcomes					
	Creates supportive and success-oriented environment					
	Creates inclusive environment					
	Explicitly states teaching/learning methods					
	Sets expectations for students' responsibility for learning					

Student Responsibility for Learning	Provides scaffolding support, then allows for greater student independence as the course proceeds					
	Develops student learning skills					
	Develops student self-directed, lifelong learning skills					
	Fosters student reflection and critical review					
	Fosters students use of metacognitive skills and habits of mind					
Function of Content	Uses organizing schemes					
	Promotes meaningful student engagement with the content					
	Fosters development of discipline-specific methodologies					
	Promotes building a knowledge base					
	Fosters thinking in discipline					
	Helps students acquire in-depth conceptual understanding that facilitates future learn-					

	ing					
Purposes and Processes of Student Assessment	Integrates assessment and learning					
	Uses fair, objective, and consistent assessment policies and standards					
	Provides students with formative feedback					
	Uses student peer and self-assessment					
	Allows students to learn from mistakes					
	Uses authentic assessment					
Balance of Power	Create safe, moral, and ethical environment that empowers all students					
	Provides syllabus that demonstrates that students and instructors share power					
	Allows flexibility in policies and practices					
	Provides varied student opportunities to learn					
	Empowers student learning through appropriate freedom of					

	expression					
	Responds to student Feedback					

Appendix 5. Examples of LCT techniques or practices that transcend disciplines - A review of the literature (adapted from Blumberg, 2019, 207-209)

<i>Instructional or Pedagogical Technique</i>	<i>Brief Description</i>
Backward course design	<i>Start planning course with desired outcomes or endpoints, not content</i>
Collaborative note taking	<i>Students share their class notes for peer correction</i>
Concept map	<i>Student represent hierarchical relations to integrate content</i>
Engage with reading assignments	<i>Answering questions before class, in class; students compare their answers to those questions, first in pairs and then in trios; students correct their written answers</i> <i>Reading notes that form the basis of class discussion</i>
Flipped classroom	<i>Content disseminated outside of class time; students apply content to solve problems or complete tasks during class time</i>
Instructional design framework	<i>Having students set personal learning goals</i> <i>Supporting students through scaffolding</i> <i>Using peer review</i>
Jigsaw	<i>Reviewing one major aspect of the content in small groups, then going into group where members have reviewed all aspects and solve new problem</i>
Non-individualized, standard feedback	<i>Giving students detailed grading rubrics specifying criteria with unacceptable to excellent standards defined</i>
Paired in-depth discussions on content	<i>Students, after reading the material, in</i>

	<i>pairs debating their perspectives, synthesizing material</i>
Problem-based learning (PBL)	<i>Students discussing real problems and identifying what they need to learn to solve problems; students dividing the learning tasks and coming back together to synthesize and solve the problem</i>
Repeated testing as an effective study technique	<i>Students taking several practice exams spaced over the time where the class is working on the content</i>
Small groups working on problem-solving or projects or tasks	<i>Students getting explicit directions on their tasks in the small group work; students held individually accountable for their work</i>
Using popular culture to make unfamiliar or abstract content understandable and relevant	<i>Music, media, film, popular culture or literature used as analogies helping students understand the content</i>
Online Instructional or Pedagogical Techniques	Brief Description of How it Is Used
Blog	<i>Assign prompts for students to respond to; students need to respond to other students' posts; students can also post on new topics</i>
Discussion board or online or forums	<i>Students responding to questions about content helps them formulate well thought out and quality responses; students can continue in-class discussions out of class</i>
Disseminate information outside of class; flipped course	<i>Readings, videos, websites can be posted on the course's learning management system website; students are responsible for learning these materials</i>
Electronic portfolio	<i>Students select samples of their work and reflect on their learning and progress toward meeting learning goals</i>

Non-individualized, standard feedback	<i>Instructor gives students detailed grading rubrics specifying criteria with unacceptable to excellent standards defined</i>
Peer review	<i>Students provide detailed feedback on drafts completed by their peers</i>
Repeated testing as an effective study technique	<i>Students take several practice exams spaced over the time where the class is working on the content</i>