Høgskulen på Vestlandet

Kroppsøving 3, emne 4 - Masteroppgave

MGUKØ550-O-2023-VÅR1-FLOWassign

Predefinert informasjon

Startdato:	01-02-2023 09:00 CET	**Termin:**	2023 VÅR1
Sluttdato:	15-02-2023 14:00 CET	**Vurderingsform:**	Norsk 6-trinns skala (A-F)
Eksamensform:	Masteroppgave - Bergen		
Flowkode:	203 MGUKØ550 1 O 2023 VÅR1		
Intern sensor:	(Anonymisert)		

Deltaker

Kandidatnr.:	202

Informasjon fra deltaker

Antall ord *:	30152

Egenerklæring *: Ja

Jeg bekrefter at jeg har registrert oppgavetittelen på norsk og engelsk i StudentWeb og vet at denne vil stå på vitnemålet mitt *: Ja

Jeg godkjenner avtalen om publisering av masteroppgaven min *

Ja

Er masteroppgaven skrevet som del av et større forskningsprosjekt ved HVL? *

Nei

Er masteroppgaven skrevet ved bedrift/virksomhet i næringsliv eller offentlig sektor? *

Nei

Høgskulen på Vestlandet

Master Thesis

Bodily Learning in Physical Education: A Phenomenologically Inspired Operationalization

Kroppslig Læring i Kroppsøving: En Fenomenologisk-inspirert Operasjonalisering

Espen S. Dyngeland - Kandidat 202

Teacher Education and Training –

Student research program// Physical education

Faculty of Education, Arts and Sports

Supervisor: Gunn Helene Engelsrud

28.02.2023

Jeg bekrefter at arbeidet er selvstendig utarbeidet, og at referanser/kildehenvisninger til alle kilder som er brukt i arbeidet er oppgitt, *jf. Forskrift om studium og eksamen ved Høgskulen på Vestlandet, § 12-1.*

Acknowledgements

Firstly, I wish to thank my wonderful supervisor Gunn H. Engelsrud. Our meetings have been the highlights of my time working with this thesis. Your immense interdisciplinary insights have been crucial, and I have never felt that there is a single scope within this thesis which you did not already master. Outside your professional contributions, your always friendly and warm attitude has been much appreciated in our work together. I would also like to thank you specifically for arranging a seminar where you challenged me to present my thesis and its findings.

A big thank you to those involved in the student research program (Forskerlinjen). Being the first iteration, I would like to thank my fellow students with whom I could always share my frustrations in our journey together. Thanks to our "leader" – Hege Eikeland Tjomsland. Your compassionate consideration for your students in cohort 1 has been greatly appreciated.

I would like to thank my close friends and not least my family, for not caring particularly much about what I was writing my thesis about, which has allowed me to talk and think about any-and-everything else than my project.

Finally, the biggest thank you goes to you, Marie. Thank you for supporting me throughout my entire teacher-education, in both ups and downs! You are somehow always able to produce a solution to any and all problems I have encountered in this process (of which there have been many!). Even though far removed from your field of expertise, your thoughts, reflections and not least support have been absolutely crucial.

Espen S. Dyngeland
February 2023

Abstract

The theme of this thesis is the concept of *bodily learning*, and how it is presented within the Norwegian curriculum of physical education. Currently there is little agreement on what bodily learning within physical education represents for the scientific community, nor how the teachers of the subject can work with operationalizing the concept. The aim of my study is to contribute to a meaningful, theoretically- and scientifically viable operationalization of the concept.

Within the curriculum, bodily learning is defined as "referring to" three different components, *Motoric learning, Joy of movement* and *Body awareness.* I will maintain a phenomenological approach throughout my thesis, suspending my analytic gaze, and keeping an open mind towards new insights I may encounter throughout my analyses. As such, my entire thesis may be regarded as a phenomenological exploration of bodily learning's definition in the curriculum. I utilize two methods for achieving my aim presented above. Firstly, I will conduct an *exploratory literature analysis*, where I will be turning to interdisciplinary literature to get a grasp of the theoretical development and roots of the individual components. Secondly, I will build on what I have learned in the first analysis and review the same components through a Husserlian-phenomenological rubric, formulated by Lanei Rodemeyer (2020).

In short, through my analyses I find that bodily learning's definition in the PE-curriculum leaves ample room for the concept being understood as a holistic, embedded and multileveled construct. This contrasts with the sentiment of the scientific field, which proposes that bodily learning in physical education is narrowly defined. Through what I have learned, I am able to point to concrete practical implications towards my finding contribute to teachers' understanding of the concept and support their navigation in different physical education contexts. Regarding bodily learning as more than the sum of its components as they materialize in the pupils' active consciousness, allows for teachers to understand pupils' rich and complex existence as moving bodies in the world, beyond narrowly expressed interpretations that have permeated physical education historically.

Sammendrag

Temaet i denne oppgaven er «kroppslig læring» og hvordan det blir presentert som kjerneelement i den norske læreplanen for kroppsøving. For øyeblikket er det liten enighet om verken hva kroppslig læring innenfor kroppsøving representerer som vitenskapelig begrep, ei heller hvordan det kan operasjonaliseres i praksis. Målet med studien min er derfor å sette lys på dette begrepet teoretisk, for å deretter bidra til en vitenskapelig begrunnet operasjonalisering som kroppsøvingslærere kan dra nytte av.

I læreplanen defineres kroppslig læring som at det «handler om» tre forskjellige komponenter. De er *motorisk læring, bevegelsesglede og kroppsbevissthet.* I avhandlingen har jeg en fenomenologisk fremgangsmåte, som innebærer en kritisk og refleksiv holdning til de innsikter og funn som blir funnet i mine analysene. I tråd med dette kan denne avhandlingen som helhet anses å være en fenomenologisk utforskning av kroppslig lærings definisjon gitt av Kunnskapsdepartementet. Først undersøkes de tre komponentenes teoretiske ståsteder og bruk i vitenskapelig litteratur, både internasjonalt og nasjonalt, samt i og utenfor kroppsøving. Deretter bygger andre analyse på funnene av den første, hvor de de tre komponentene blir undersøkt i et fenomenologisk rammeverk basert på Edmund Husserl, formulert av Lanei Rodmeyer (2020).

Det blir gjennom analysene tydelig at formuleringen i kroppsøvingslæreplanen kan i stor grad anses som en operasjonaliserbar definisjon innenfor de fenomenologiske rammene, begrepsapparat og verdensforståelser denne oppgaven opererer i. Kroppslig læring kan forstås som en helhetlig prosess, som anser eleven som følende, opplevende og kroppslig subjekt. Dette funnet samsvarer ikke med sentimentet i annen forskning på kroppslig læring i kroppsøvingskontekst, hvor flere peker på at definisjonen gitt i læreplanen er snever og ekskluderende. Diskusjonen viser at å arbeide med kroppslig læring som helhetlig fenomen, og noe som foregår flere plasser enn innenfor den aktive, verbaliserbare bevisstheten til elevene er både mulig og hensiktsmessig. Dette illustreres på to måter. For det første gir læreplanen som nevnt rom for en slik forståelse i den definisjonen som foreligger. For det andre vil en slik måte å arbeide med kroppslig læring som kjerneelement kunne motvirke feilforestillinger om faget, som ofte stammer fra historiske drønner (faget som et idrettsfag), eller politiske trender (faget som et helsetiltak), og videre legitimere faget som et læringsfag i norsk utdanning.

Contents

Illustrations

1. Introduction

1.1 Background

The Norwegian curriculum has recently undergone a substantial reform by the name of *Læreplanen for Kunnskapsløftet 2020,* hereby referred to as LK20. Within this reform, all competence aims for every subject were renewed. In addition, entirely new sections were added, such as the *Core curriculum – values and principles for primary and secondary education, Principles for education and all-round development,* and most notably for my thesis: *Core elements* for each subject. I will share my operationalization of core elements in detail later in this thesis. What is necessary to know at this point is that core elements are supposed to permeate and be a focal area within the subject to which they belong. Physical education has three core elements after the curriculum reform, those being *Movement and Bodily Learning, Participation and interaction in movement activities* and *Outdoor activities and nature wandering.*

My thesis is concerned with *Bodily learning,* as the part of a core element within the Norwegian curriculum. The aim of my study is to contribute to a meaningful, theoretically- and scientifically viable operationalization of the concept. Seeing as there is little unison in the scientific community as to how to understand bodily learning, while the concept at the same time being included as a core element, this task is an important one. The core element reads as follows:

(…) Physical education opens for bodily learning through playing and practicing in outdoor life, dancing, sports activities, and other activities involving movement. Bodily learning refers to developing all-round motor-skills and awareness of the body and stimulating the joy of movement (Ministry of Education and Research, 2019).

1.2 Terms and concepts

Bodily learning is also referred to as *embodied learning* in some of the literature I will be reviewing in my thesis. However, I choose to refer to the term as bodily learning, due to the Norwegian Directorate of Education and Training using this wording, which will be the most important source I draw upon in my thesis (Ministry of Education and Research, 2019).

An important note while undertaking bodily learning in the context of the Norwegian curriculum is that although newly implemented, the concept of bodily learning (embodiment) in and of itself is not new, nor is it limited to the field of physical education. Steven Stolz (2015) argues that the concept of bodily learning, as it is presented in physical education, is

greatly influenced by the "embodiment-movement", often referred to as a "bodily turn" in sociology. In his article, Stolz is referring to the concept of bodily learning in a broad context, as a counterpoise to the psychological and cognitive philosophy which has dominated the understanding of learning throughout the 20th century (Stolz, 2015). I will contribute with new insights towards how bodily learning, as it appears within the Norwegian curriculum for physical education, can be understood and operationalized by the practice field. My intention is to delve deep into the presuppositions and preconceptions of how *learning* in and of itself is understood. However, the same presuppositions and preconceptions will play a part in both contextualizing my thesis, as well as contextualizing where the bodily learning "comes from" when included in the curriculum for physical education.

Bodily learning in the Norwegian curriculum is stated as "referring to" *developing all-round motor-skills and awareness of the body, and stimulating the joy of movement* (Ministry of Education and Research, 2019). I will throughout my thesis refer to these three terms which bodily learning is "referring to" as "the components" of bodily learning, specifically tied to the Norwegian physical educational context. These three components will play a central role throughout my thesis and will be the main subjects of my analyses. I refer to the components as such:

Developing all-round motor-skills as ***Motoric Learning***
Awareness of the body as ***Body(ly) Awareness***
Joy of movement as ***Joy of Movement***

The altering of the wording is done solely based on simplicity for the reader and does not constitute a change in the meaning of the concepts.

1.3 Intention – driving force

One important source of inspiration is the review study by Østern and Bjerke (2021), researching bodily learning's prevalence in Norwegian literature. The review-study concluded with the term having its roots in up to seven different theoretical traditions. The study is published in the first part of a book, named *Kroppslig læring* (Bodily learning) (own translation). In the different chapters, 31 authors exemplify different contexts and situations in where bodily learning can take place. The book is not limited to physical education, nor is it only pertaining to Norwegian contexts. Some of the circumstances in where bodily learning is explored within the book are within language learning, within the digital landscape and within crafting with your hands, to name a few. In the literature within Norwegian contexts, analyzed

by Østern and Bjerke (2021), bodily learning is viewed as being both a versatile and adaptive concept. However, I wonder if the term's apparent flexibility and widespread use may rather be a case of the concept suffering from too little specificity and lack of critical and thoughtful analysis of the definition given by the Norwegian Directorate of Education and Training. Note that the book I am referring to is not only concerned with bodily learning as it appears in as a core element within physical education.

How the limits, boundaries, and potential for when a concept such as bodily learning are understood as meaningful is, from my readings of the review study, vague and difficult to pinpoint, which is reflected in their conclusion as well. There is a gray area as it pertains to when a term or concept is being used interdisciplinary, which is often positively loaded, or when it is being used loosely or uncritically. There are endless examples of concepts, terms and ideas crossing the boundaries of different scientific fields, and as a result taking on slightly or completely different meanings. Often such practices are regarded as wise and as mentioned, interdisciplinary. However, my starting point is that vagueness should not necessarily be regarded as a strength, nor should difficulty to understand and contextualize a concept be regarded as a weakness. In line with this, I suspect that researchers undertaking examining bodily learning are not upholding a necessary division between bodily learning as represented in the norwegian curriculum and bodily learning as an international research concept. In other words, it is important to make it clear whether one is exploring bodily learning and its broad international body of research relating to the embodiment-movement, or exploring the definition given by the Norwegian Directorate of Education and Training. The state of the matter as bodily learning within physical education is concerned, is that teachers (and researchers) are given a definition by the Directorate of Education and Training, which must be operationalized to be meaningful. Within that definition, methods in where physical education "allows for" bodily learning, as well as three components which bodily learning supposedly "refers to", are included. I will be mindful of upholding this division between what is explicitly stated by the Directorate of Education and Training, and what is found in literature and or theoretical history. That is not to say that what is stated within the curriculum is not to be interpreted and analyzed, which it is and will be in my thesis. However, to get a grasp of a viable operationalization of bodily learning in the Norwegian physical educational context, it is important to stay true to the curriculum, and not only lean on the international body of research.

Another key found in Østern and Bjerke's review study, which also sparks motivation in me examining bodily learning, is that the concept goes undefined in over 50% of the cases in which it is mentioned in the Norwegian context. One possible interpretation of this finding is that researchers might take for granted that there is a common understanding for what bodily learning is. However, as Østern & Bjerke (2021) also point out, the cases where definitions are given can vary in their theoretical positioning being from up to seven different fields.

The unclarity I discovered in my readings of LK20, and the book Kroppslig Læring contribute as a driving force for wanting to write my master thesis about bodily learning. However, my thesis will also touch upon bodily learning in the general sense, employing a phenomenological framework and drawing on international literature from a variety of fields.

1.4 Layout

The layout of my thesis will from this point on be comprised of a presentation of the problem area and research questions of my thesis. Thereafter, I include a contextualization of my thesis´ relevance in different prominent discussions within fields relevant to physical education. Here, I will touch upon the different types of argumentations for physical educations legitimacy, such as the health-perspective, sport-perspective and learning-perspective. Thereafter, I will present previous research conducted on *bodily learning* explicitly in both the Norwegian context, as well as internationally. Chapter 4 contains an explanation and justification of the theoretical frames upon which the thesis is built. My thesis is in its entirety inspired by phenomenology in both contents and methodology. Chapter 5 presents the method I will be utilizing to answer the research questions I have presented above.

My analysis is two-part, in the sense that I begin by addressing research question one, where I conduct an exploratory literature analysis on the three components of bodily learning within the curriculum. The second research question in answered by reviewing the same components in a phenomenological framework, which allows for viewing individuals in a broad sense, accounting for both intergenerational, relational aspects, as well lower rudimentary sensory experiences. This framework in formulated by Lanei Rodemeyer, based on Husserlian phenomenology (Rodemeyer, 2020). After my analyses, I discuss all my findings in a shared chapter, tying together what "loose ends" are left in my thesis. Lastly, I finish my thesis by summarizing the most important findings through my analyses, and how they relate to the practice field. Thereafter, as customary, I give a brief look ahead in suggesting in what ways

the field of physical education can benefit from the knowledge on bodily learning *based* on my analyses and findings.

2. Problem Area and Research Questions

The problem area in my thesis is "bodily learning" and its inclusion within the Norwegian curriculum for physical education. The aim of my study is to contribute to a meaningful, theoretically- and scientifically viable operationalization of the bodily learning. My intention is to illuminate aspects that can easily be taken for granted or forgotten in working with curriculum-concepts. The subject of my analyses will be the wording in the curriculum with particular emphasis on the three terms bodily learning "refers to" (wording from curriculum).

In December 2022 I attended a seminar at Høgskulen på Vestlandet – Bergen, called the "ACTivate Congress". In his talk, Andrew Daly-Smith of the University of Bradford, noted that the researchers within social- and educational sciences are prone to taking what others have done and "reinventing" it. As opposed to the famous "standing on the shoulders of giants", he remarked that social- and educational scientists too often "stand on each other's faces". This resonated with me, and I will be mindful in not attempting to re-invent bodily learning, but rather re-tell or re-think how teachers and researchers understand it. I will draw and build on existing scientific works, and theoretical frameworks to gain *new* knowledge about bodily learning, rooted in what has already been done by other researchers. For this reason, I have chosen to theoretically ground my thesis in Rodemeyer's Husserlian phenomenological framework, which I have been inspired from and find exiting to activate as a lens for my investigations and use in further discussions of my findings.

2.1 Research Questions

Based on the problem area explained above, I have formulated two research questions, which are as follows:

Rq1: *From which theoretical fields do the three components of bodily learning stem, and how are they used in scientific literature?*

Rq2: *How do the three components of bodily learning materialize through the phenomenological rubric of Lanei Rodemeyer?*

Through Rq1 I will be able to analyze the different components' theoretical background, as well as their use in modern literature, which by extension gives me insights into from which fields they are most often applied. Rq2 will build on the insights gained through Rq1, in the sense that the theoretically driven analysis gives ample opportunity to view the findings of Rq1 in a different light/framework, with different concepts and terms for describing the

findings. In combination, answering the two research questions will contribute to new insights which teachers of physical education can draw on when working with bodily learning in the practice field. In sum, both of my analyses, and the conceptual apparatus of my theoretical framework, will contribute to broadening the understanding of the pupil as a subjective bodily actor in the world, which influences the understanding of bodily learning.

2.2 "The root of the issue"

As deducible from my research questions, I have chosen not to turn to the practice-field, but rather delve deep into theoretical groundwork, relevant research literature and policy documents. In order for concepts to be relevant for practice, theoretical understanding plays a crucial role. I do not wish to operate within a typical theory-practice-dichotomy, rather I see this issue as two different argumentations towards the same end. The reason for me choosing the "theoretical" path, as opposed to approaching professional teachers for example, is because I argue that the concept bodily learning has not explicitly materialized as a concept in the field of physical education. However, the way I see it, the curriculum has only recently acknowledged something that has always been, and always will be (bodily learning/embodied processes). Bodily learning has not "appeared" in physical education through its implementation in the curriculum. Rather, my phenomenologically rooted view is that bodily learning has always been present in physical education, whilst the curriculum is now just "catching on" by acknowledging it. The initial "burden" so to speak, lies therefore not on teachers to understand and operationalize the term, but firstly on the curriculum and scientific field surrounding it to clarify its inclusion. This is the reason for me turning to literature and philosophy, rather than empirical data such as interviews of physical education teachers asking questions such as "how do *you* understand bodily learning". I argue that the *root of the issue* in this case lies within the curriculum and scientific field itself, not with the teachers. As such, when attempting to learn more about bodily learning within physical education in Norway, it is beneficiary to lay a groundwork of knowledge, as well as a framework for how bodily learning can be understood, before turning to the practice field.

3. Relevance

This chapter will consist of identifying and discussing my thesis' relevance, with particular emphasis on different discussions and debates surrounding physical education and its role as a school-subject.

3.1 The Curriculum

3.1.1 Teachers' expectations from the curriculum

Extensive work goes into formulating a curriculum, with teachers, researchers, politicians, and others being included in the process of its creation. Teachers are opinionated about curriculums, seeing as their purpose historically has been to regulate what pupils are to learn (Mausethagen & Mølstad, 2014). In Norway, the teachers have been given what Mausethagen and Mølstad (2014) describe as "a license to teach", meaning that they have had a great deal of autonomy as to what happens in their classroom (or gymnasium/outdoors etc., as far as physical education is concerned). Mausethagen & Mølstad (2014) ask how teachers in Norway view the curriculum in relation to their professional development. The teachers (N=2205) were asked to rank the importance of different skills and competences that were important for succeeding while working as a teacher on a scale from 1-6. Out of eleven different skills/competences, "knowledge about curriculum-analysis" was ranked the lowest, with an average score almost a whole point lower (4.2) than the next skill/competence (p.8).

Even though teachers do not value knowledge about curriculum analysis as high as other educational skills, they still have strong opinions as to what a curriculum should and should not entail (Mausethagen & Mølstad, 2014). One resounding sentiment is that teachers do not wish to have their autonomy of teaching-methods tampered with in the curriculum. However, with regards to the contents of what the pupils are to learn, the teachers would like clear and direct guidelines (p. 15). In other words, teachers in Norway report that they want the contents of the curriculum to be clearly defined and easy to understand, whilst they themselves can control which method said contents are to be taught in (Mausethagen & Mølstad, 2014).

The findings of Mausethagen & Mølstad (2014) are not in compliance with how Østern & Bjerke identify bodily learning, which they describe as "unclear" in content. Furthermore, the definition explicitly states what activities the concept is "allowed through" (Ministry of Education and Research, 2019), leaving bodily learning as polar-opposite of what teachers describe they want from the curriculum.

3.1.2 A matter of principle – core elements

It is important to note that bodily learning is not included as a learning-outcome, but as a *core element.* The Norwegian Directorate for Education and Training states that the core elements should be *the most important subject-matter the pupils should work with in their education* (Directorate of Education and Training, 2019a, p1). Furthermore, the core elements should contribute to the pupils over time developing an understanding of themes and contexts within the subject (Directorate of Education and Training 2019a). The combination of these two wordings from the Directorate of Education and Training will serve as my definition of "core elements" throughout my thesis.

However, in the wording of Mausethagen & Mølstad (2014), what is regarded as "clear" is subject for discussion. Teachers want "clarity", whatever that may entail, in curriculums and the concepts within them, to adapt their teaching accordingly (Mausethagen & Mølstad, 2014). A proper theoretical exploration and understanding of any core element in any subject will be of relevance to the subject in where the core element is featured. Standal notes in a podcast (titled Physical education-podcast), that some argue that the very best concepts and scientific terms are the ones that are disputed (Jåbekk 2020-2022). He goes on to say that having multiple understandings of a term means that many different perspectives upon and around the concept will be illuminated (Jåbekk 2020-2022). The fundamental reasoning for me to conduct a basic operationalization of bodily learning is that the Norwegian Directorate for Education and Training (2019a) explicitly state that the core elements are the most important subject-matter. When my initial questioning illuminated that the term bodily learning was positioned as "important" while at the same time being broad (or even unclear), it gave my thesis a clear direction. It is also important as a matter of principle, to further explore and illuminating any term which is being used in an academic context.

3.1.3 Viewing pupils as acting subjects

The new curriculum, LK20, is a competence-based curriculum (Borgen & Engelsrud, 2020), unlike the curriculum it replaces (LK06), which focused on the teaching and subject-matter (Andreassen 2006). Standal (2015) points out that the wording in the definition of bodily learning in the curriculum is unclear in whether it is taking the *pupil as a subject* into account or not. He problematizes the difference between the concepts as activity, action, and cultural practice (Standal, 2015.), all of which could be incorporated into the current definition of bodily learning. Incorporating these different terms will have different implications for what the bodily learning would represent, some of which contrasting with one another. Borgen &

Engelsrud also point out that the curriculum seems to be ambivalent in their perspective of the learner (2020). The new curriculum often nominalizes words so that the normally active action which a verb refers to is rather made into a noun, which the pupils are to "achieve". An example of this is "participation", instead of "participate" (Borgen & Engelsrud, 2020). The result of this frequent nominalization is unclarity to whether the pupil is regarded as an active subject experiencing the actions a verb would entail, or an object which is to achieve "goals" set by the curriculum. Viewing and regarding the pupils as thinking, participating, feeling, and living *subjective* bodily beings, or as objects which are to "achieve" feelings and participation, will be at the heart of my thesis.

3.2 Legitimization of Physical education, Mind – Body - Dichotomy

There has been a concurring debate on legitimization of physical education. The discussion concerns physical education as a subject with a goal beyond that of keeping children physically active as health promotion (health perspectives) and motoric and sports skills acquisition (Kirk, 2010). Further researchers has for a long period criticized physical education for being strongly connected sport perspectives while educational perspectives have been left on the margin.

Physical education as school subject is often referred to simply as "gym", "sports" or other marginalizing terms, by laymen, teachers, and researchers alike. In the Norwegian context, the subject is obligatory from first through 13th grade. The school subject has concise competence aims in which the pupils are to be evaluated, and from 8th grade and on, receive a numbered grade, equally weighted to those of every other subject. Still, in 2018, about half of the individuals teaching the subject lacked the necessary education to do so (Biljana, 2019), placing physical education among the absolute lowest of all subjects in terms of teacher-competence-rate in Norway.

Borgen et. al. (2020) explains that physical education is prone to unclear boundaries towards other health and activity initiatives from the government. An important distinction between activity-initiatives and physical education is that the activity-initiatives do not have competence aims, and by extension do not require competent (educated) teachers to teach (Borgen et. al., 2020). The curriculum is formulated in a political/educational context and the orientation towards "learning" is central to the formulation as written in the curriculum. The subject is also sometimes mistaken as a "break" from the ordinary "theoretical" subjects. Østerlie (2020-2022) notes that physical education is also by some regarded as a sort of

medication for lack of motivation in said subjects, and as mentioned inactivity in society in general.

Closely connected to viewing physical education as a learning-subject, as opposed to an activity, health- or sport-driven one, is how teachers and scientists within the field view the body, which ties into the object/living subject discussion above. The body has traditionally been viewed as comparable to a vessel for the mind or a machine, within the subject (Moen & Rugseth, 2018), with inspiration taken from philosopher Renes Descartes (1596-1650).

René Descartes viewed the humans as a twofold being, dividing the body and the mind (Descartes, 2008). He inherently believed that the body was not to be trusted, since the senses may deceive and mislead you. The only thing that could be trusted was the doubt in- and of itself. The doubt was a matter of thought, and the rational thoughts have nothing to do with the (untrustful) body but was rather based in cognition. It is this logical reasoning that led to his famous Cogito-statement – *Cogito ergo sum!* – or *I think, therefore I am*! This statement has been hugely influential in western culture and language (Sæle & Hallås, 2020), with education being no exception. With the cogito-statement as infused in western thinking as it is, the body is often spoken about as being something you *have* and something that you can *use*. The legs are *used* for walking just as the eyes are *used* for seeing (Sæle & Hallås, 2020). Another well-known example in everyday speech is dichotomous word pairs such as mental and physical, body and mind, which both are closely related and often used within a physical educational context. In the English language there is even a divide between the concept of *feelings* pertaining to the body's ability to feel, and *emotions* which are solely the work of the mind (Sæle & Hallås, 2020). The embeddedness of such language in everyday speech, as well as in academic texts, is important to highlight when discussing how the mind-body dualist "paradigm" effects all aspects of physical education (even its very name). Furthermore, seeing as *the body* is so central in the wording of bodily learning, the body-paradigms has particular influence on how to understand *bodily learning* as well.

It should be noted that even though it is widely argued that Renes Descartes is the "reason behind" this understanding in western culture and philosophy, some scholars suggest that this understanding may be based on faulty pretenses. Geir Kirkebøen argues that it is the *interpretation* of Descartes which is flawed (2001). He writes that Descartes was without a doubt a dualist, but a more nuanced than what may first been assumed. In his article, *Descartes' embodied psychology: Descartes' or Damasio's error?*, Kirkebøen is responding to a famous piece, written by Antonio R. Damasio, titled *Descartes Error* (1994) – the "error" in

this case referring to the dualistic interpretation of the mind and body. I include this to illustrate that even though Descartes no doubt has had great influence, it is there is dispute as to whether his works were interpreted as intended.

The division between physical and mental, versus an integrated and broad understanding of what the body/mind represents will be at the essence of this paper. However, I will not focus on what processes, nor which scholars who may be responsible for the "dualistic understanding". Even though some scholars may disagree upon which processes led us to the dichotomous understanding (Kirkebøen, 2001; Damasio, 1994, 2001), there is little debate about whether western educational philosophy was/is within a dualistic paradigm as already explored (Sæle & Hallås, 2020, Sæle, 2021).

Education is one facet of society that is particularly influenced by this *cartesian dualism,* due to the implications this view has on the concept of knowledge. Upholding the cartesian dualism implies viewing knowledge as something only concerning the mind, which can be argued has been the case in western educational philosophy historically. The dualistic view has had a big impact on physical education specifically, seeing as the subject incorporates both knowledge and the body (Kirk, 1996). Physical education with a cartesian understanding of the body is prone to focus on what the pupil is *doing*, rather than subjectively experiencing. Applying a dualistic mindset towards the body in physical education has been heavily criticized (Stolz, 2014; Standal, 2015), due to it not taking the learner and their feelings and relations to the subject matter into account. The learning-situation is diminished to regarding the body as machinelike, solely performing actions, rather than a pupil intending to learn (Sæle, 2017). Although recognized as problematic, this dualism has still had a significant impact on the subject for years, defining both practical teaching situations and the language used in and about the subject (Moen & Rugseth, 2018).

Upholding the mind-body-dualism in physical education also implies viewing the subject as a facet for pupils to train and develop their bodies' physiological traits, such as endurance, coordination, and other motoric skills. This influence of sports and physiology on the physical education is not new, nor is it to be considered as objectively negative. The phenomenon was explored by Borgen et. al. (2020), and even specifically mentioned in a statement from the Directorate of Education and Training during the implementation of the new curriculum. In this article, the Directorate states that:

The subject allows for diverse movement-activities. There is a pivot towards a less sports-oriented subject, however keeping sports still present within the term movement-activities (Directorate of Education and Training, 2019b) (own translation).

In this formulation, sports-oriented activities still have a part to play in the school subject, although less explicit than before the reform.

4. Previous research on bodily learning

4.1 Norwegian context

The first work which I will attend to is the review-study of Østern & Bjerke (2021). They note that there is a significant increase in articles mentioning the term bodily learning in the Norwegian context, and attribute this to the inclusion of bodily learning in the curriculum for physical education. The first part of this study is a systematic literature review, seeking to discover all available uses of the concept in Norwegian research literature. Secondly, they conduct a qualitative analysis of the material. The result of their review was 119 different publications, in where 18 were peer-reviewed (Østern & Bjerke, 2021). 77% of their results were master theses, which makes sense due to its recent inclusion in the curriculum. Out of the 119 results, 39% were written within the field of physical education (Østern & Bjerke, 2020), being the most prominent field. The second most prominent field in where bodily learning is used, is health-related fields, although only half as prominent as physical education (Østern & Bjerke, 2021). It is notable that health-related fields are runners up as the most prominent field, seeing as the two fields often coincide, although as mentioned, frequently at wrong premises. The fact that the two fields, physical education and health-related fields again seem to be unable to avoid each other, may be interpreted as further indication of seemingly overlap between the two (tying back to the discussions of the legitimization of the subject as a health-initative).

Key findings in this review-study are that the concept and term of bodily learning is undefined in 55% of times when it is mentioned (Østern & Bjerke, 2021). This means that the writers of the different works are taking for granted that the definition is known and agreed-upon by the readers of their work, which we know to be false due to the concept's ambiguous nature. Further, when the term is defined, it is defined in many ways, where Østern & Bjerke identify up to seven different theoretical traditions in the definitions (2021).

As stated, the review study of Østern & Bjerke is included in the anthology *Kroppslig læring*. The second chapter of the book is written by Thomas Dahl, with the title "The brain is not alone - all learning is bodily learning" (own translation). In this chapter, Dahl does a lot of "heavy lifting" in contextualizing the bodily learning both nationally and internationally. He comments that the concept is new within the curriculum, but not new in modern educational theory (Dahl, 2021). He refers to an OECD report (which I will explore in detail later), which highlights bodily learning along with for example gamification, multiliteracies and

computational thinking as new and growing forms of learning (Dahl, 2021). Dahl continues to logically deduce that the implementation of bodily learning within the curriculum in Norway, and internationally within the OECD report must entail that bodily learning should be and is something entirely different than "regular" learning (Dahl, 2021). Dahl's train of thought concludes with the statement that all learning is bodily learning, and that the division of the two is based on "the error of Descartes" (Dahl, 2021).

Within the same book, *Bodily Learning* (own translation), there are two chapters which explicitly mention physical education in their title. I choose to only review the chapter by Vedul-Kjelsås & Elnan (2021). This is because the other chapter explicitly referring to physical education (chapter 18) regards itself only with the wardrobe-situation prior and after the physical education lesson, which is not the scope of my thesis. Both chapters are in the books third and final "part", named *Practices in Bodily Learning* (own translation). Although mentioning physical education explicitly, chapter 17 by Vedul-Kjelsås & Elnan (2021) titled *Bodily learning to promote teacher-students understanding of including physical education* (own translation), focuses on teacher-students, and not the pupils themselves. Due to the chapter not focusing on the pupils specifically, the chapter does not significantly contribute to my thesis. The reason for this is that although the field is the same (physical education), I am particularly concerned with bodily learning as it materializes in the curriculum of physical education. The teacher-students, although learning about the curriculum, do not "follow it" so to speak, and therefore this chapter is referring to bodily learning as a broader phenomenon, not specifically related to the curriculum. This relates to a point I have already addressed, which is the importance of maintaining clarity regarding which context bodily learning is discussed in, either pertaining to the "embodiment-movement" or the curriculum of physical education.

An interesting note from the chapter is that the authors specifically state that their contributions draw on relational and phenomenological thinking. This is not of substantial interest in a vacuum (seeing as many studies of bodily learning does so, e.g., Gunn Engelsrud (2020) in the very same book, or Standal (2015) in his *book Phenomenology and pedagogy in Physical Education*). However, in the context of this anthology, it indicates the opposite of the findings in the review study of Østern & Bjerke (2021), which states that the field of physical education is prone to referring the to the term based on Arnoldian movement-pedagogy, with dualistic connotations.

4.2 Bodily learning in physical education internationally

In the discussions on bodily learning in physical education, Peter J Arnold must be accounted for. As already made clear by the Norwegian mapping study referring to his works, Arnold has been influential in the development of physical education, and the understanding of education and movement in general. Arnolds two most seminal works contributing to the understanding of physical education are *Meaning in Movement Sport and Physical Education* (Arnold, 1979) and *Education, Movement and the Curriculum* (Arnold, 1988). Within these books, he formulated what has later been referred to as Arnoldian movement-pedagogy (or physical education), which is famously referred to as education *in*, *through* and *about* movement. As such, Arnold contributed with a nuanced understanding of movement-context in education, whilst his contemporaries more often viewed movement and physical education as something subordinate the cognitive activities which were taking place in a traditional classroom. Arnoldian physical education can be summarized as such:

1. Education "in movement" upholds the view that engaging in movement activities and physical activity is a worthwhile undertaking. This means that no further subject matter than the activity is needed to achieve an outcome which is to be regarded as normatively positive. In a physical educational context this can be understood in a couple of ways. First, the movement is as stated in and of itself worthwhile, seeing as the activity is beneficial from a health-perspective. Secondly, the pupils can act and interact with ether fellow pupils as well as the activity at hand, making outcomes possible such as social learning or for example strategies and problem-solving within the given activity (Arnold 1979; 1988).
2. Education "through movement" has a functionalist way of understanding movement and physical education. What this means is that the movement is now a means to an end, and not the result in and of itself. Pupils can therefore be experience and acquire understandings, capacities, and attitudes due to participating in and studying the physical understanding. (Arnold 1979; 1988; Brown & Penney, 2013).
3. Education "about movement" is probably the level of Arnoldian physical education which is most closely related to bodily learning. Brown (2008) describes that the actor within this level is allowed to actualize him or herself in bodily related contexts, which contributes to their understanding of their own embodied consciousness (Brown & Penney, 2013).

The formulation of the lattermost "level" of Arnoldian movement education by Brown (2008) and Brown & Penney (2013) seem to be within the realm of the curriculum's definition in 2019, as pointed out by Østern & Bjerke (2021). Standal (2015) points out that Arnold may be the earliest clear example of phenomenology being applied to physical and sports education. Standal argues that Arnold saw the possible benefits of including the lived bodily experience, and the individual's own understanding of it to the study of movement (2015). However, Arnold's work was by his contemporaries widely criticized, and phenomenological studies of physical education hardly refer to him (Standal 2015). However, works such as Brown & Penny (2013) and Brown (2008) as referred to above, have revisited Arnold and argued for his contribution to the meaning-making potential of movement. Arnold also challenged and criticized his contemporaries, stating that their assumptions were based on dualistic frameworks, which should be acknowledged (Standal, 2015). Arnold's writing moves away from a dualistic understanding of the body when discussing movement-activities. However, as Standal points out, even though Arnold may be viewed as a counterweight to a cartesian-dualistic and bordering behavioristic contemporaries such as David Best for example, Arnold's phenomenology was underdeveloped (Standal, 2015), which may have influenced the fact that it did not "catch on", so to speak. Arnold also elaborates his positions in for example education "in" and "about" knowledge, using a dichotomous "intrinsic and extrinsic" word pair, where the former is to be regarded as "cognitive", and the latter "practical", which would make his attempt at shifting the focus from dualistic to holistic mute, due to employing such language himself. No matter Arnolds critique either by modern scientist or his contemporaries, Arnold's work has had, and still has a strong influence on physical educational literature (Østern & Bjerke, 2021).

4.2.1 International mapping studies

Embodiment within physical education has also been explored in a review study internationally, notably the narrative review of empirical studies in English research literature done by Aartun et. al. (2020). Reviewing 42 different empirical studies, they identified two thematical components that within these studies proved to be especially prominent. The first component is bodily learning (in their case embodied pedagogies) allowing for critical thinking for the pupils. This is done through challenging "taken-for-granted" assumptions and understanding about gender, health, and body ideals (Aartun et. al 2020). Studies which viewed critical reflection generally have foundations in feminist- and critical theory and tend to be descriptive about pupils' experiences. However, some studies are more "proactive" in a

sense and attempt to describe *how* physical education can be inclusive and empower those who feel marginalization in or through the subject. These studies also tend to have theoretical roots in feminist post-structural and critical theories. The other component which is highlighted in the article is exploring (new) movements and the possibility meaningful experiences. The authors highlight the Movement-oriented-practicing (MPM) model for physical education, outlined by Aggerholm, Standal, Barker, and Larsson (2018), as a model that may be utilized with an embodied framework to allow for reflection and discussion about pupils' acquisition of movement skills (Aartun et. al., 2020). The study is beneficial in pointing out how the *embodied pedagogy is regarded and used in empirical studies*; however, the article does not speak directly to the concept in question of this study, bodily learning. Nevertheless, I chose to include the study, due to its findings' thematic overlap with my own study.

Hegna & Ørbæk (2021) have conducted another international review-study, titled *Traces of embodied teaching and learning: a review of empirical studies in higher education.* The authors draw upon the similar sources of understanding of embodiment as I do, and will present in my next chapter, namely the levels of constitution of embodiment as formulated by Lanei Rodemeyer (2020). They state that Rodemeyer's framework is fittingly broad in the sense that it represents a unifying perspective on embodiment. A unifying perspective on embodiment means that both the history, relations, experience as well as physiological and bodily processes that goes unnoticed for consciousness is positioned in the same perspective/theory. The authors note that research on embodiment often appear as fragmented in the research literature, which indicates that there are limited discussions across different fields (Hegna & Ørbæk, 2021). The lack of knowledge-building across fields is something Hegna and Ørbæk made me further aware of. Seeing that the review study is built up solely on empirical studies, many of the works which I have and will continue to draw upon are not included in the review, due to them not necessarily being empirical studies.

4.3 Taken for granted?

Until now, my reading indicates that there are two levels of the definition of bodily learning which is being taking for granted in the review studies. This counts for both in the Norwegian- and international contexts. The first was detected by Østern & Bjerke (2021), wherein 55% of cases they examined did not define the concept bodily learning. One possible outcome of this is that the 65 authors might have 65 different understandings of bodily learning, which they all view as equal for everyone. The consequence of this would surmount

to that over half of the authors in the Norwegian context are discussing and researching a concept upon there is no agreement as to what said concept represents.

The second level of bodily learnings' meaning being taken for granted is done by the researches who conduct the review-articles. Aartun et.al. (2020) implicitly state that their study has no intentions of figuring out what the concept *is*, but rather just to map empirical studies and their findings (p. 2). Østern & Bjerke attribute meaning to, and theoretically place the concept. In the three review studies, Hegna & Ørbæk (2020) stand out, due to them having grounded their preconceptions and understandings of what embodiment/bodily learning is, prior to conducting their review. The part which I am particularly interested in, regarding the study of Østern & Bjerke (2021), is their description of which theoretical standpoint the studies within physical education belongs to. Østern & Bjerke (2021) connect the description of bodily learning in the curriculum of physical education to the theoretical views of Arnoldian movement-pedagogy, expressed in Norwegian through Ommundsen (2013). Solely based on this, they conclude that the formulation of bodily learning within the curriculum must be attributed to that same theoretical standpoint. Their argument is that the curriculum is developed by researchers and policy makers from within the field of physical education, and therefore is likely that argumentations and theoretical standpoints of the articles overlap with the curriculum.

Østern & Bjerke (2021) argue that Arnoldian perspectives can be found in the curriculum, due to many articles leaning on Ommundsen (2013), which in turn leans on Arnoldian movement-pedagogy. However, curriculum development is as previously stated, a vast and complicated process. To assume that a definition with such important implications for physical education stems from a certain theoretical standpoint should not be done lightly. There are multiple agents represented in the development of curriculums, not only academics from the field. Furthermore, there are only 46 articles from physical education to draw on in their review study, many of which being master theses. It is therefore impossible to deduce whether any of the authors of these works about bodily learning within physical education contributed to the curriculum development at all.

My final concern lies with utilizing Ommundsen (2013) as a proxy for the field of physical education. The reason for this is as Østern & Bjerke themselves mention in their article that Yngvar Ommundsen, though an educated teacher, has in his academic career focused on the fields of sports psychology and cognitive effects of physical activity – not physical education. That is not to say that his work would not be able to contribute to the understanding of bodily

learning as a rule, but in this specific review he is referred to as a central premise provider, which is subject for critical discussion. The article by Ommundsen which Østern & Bjerke is referring to is titled *Physical-motoric skills through physical education – an important contribution to wholesome Bildung and learning in school* (own translation) (Ommundsen, 2013). Ommundsen highlights *physical-motoric skills*, and he only mentions bodily learning once throughout the article and even then it is hyphened as "practical-bodily learning". The article is also written before bodily learning was included in the curriculum, further undermining the connection between the two.

Formulations like "practical-bodily-learning" and "physical-motoric-skills" (Ommundsen, 2013) are examples of terms belonging in physiological fields and should not be confused with the bodily learning of physical education (Standal, 2019). In concluding remarks concerning the perspectives of Arnold through Ommundsen (2013), Østern & Bjerke (2019) comment that this understanding of bodily learning is used to view the concept as learning *in*, *about*, and *through* movement, specifying the terms *physical* and *active learning*. If (and in this case, when) the term is reduced to the physical and active learning, the term in and of itself can be considered redundant, seeing as terms such as *physical active learning* (PAL) have a rich body of independent research. However, physically active learning (PAL) represents a vastly different concept in subject-matter than physical education. In his article, Ommundsen (2013) is prone to upholding the dichotomous mind-body dualism à la that of Renes Descartes, which further illustrates its impact on the subject throughout time, as previously argued.

When it comes to the international study of Aartun et. al. (2020), mapping the use of the concept can be very beneficial to get an overview of what the bodily (or embodied) learning is being used as or for in physical education. This is also reflected in the article, where they specify that this study asks what characterizes empirical research on the topic, as well as what implications this may have for teaching and learning – as reflected in the literature (Aartun et. al., 2020). Therefore, the mapping study does not clearly define nor operationalize the term that they are mapping. On the contrary, it rather mentions the fact that the concept, and research done upon it, is broad and has had varied focuses. The broadness of the concept is also reflected in the Norwegian study (Østern & Bjerke, 2021; Aartun et. al., 2020), but as argued above, it is hard to draw a line between broadness (positive) and vagueness (negative).

The review-studies of Østern & Bjerke (2021), as well as Aartun et. al. (2020), although excellently designed and disseminated, have in my view started in the wrong end. As I stated

in my introduction: Mapping a concept and its uses without any clear indications as to what the concept means or represent is challenging. The thought that the mapping alone might give indications as to what the concept is being used as, and therefore means in practice, is justifiable. However, without a theoretical base, nor any definition of the term as inclusion criteria, studies run the risk of reproducing the same sentiment of the broadness of bodily learning repeatedly. In the context of the curriculum, and therefore more closely related to Østern & Bjerke's design: Seeing as the term is included in the curriculum through a top-down process, researchers should be wary of turning to the practical field in search of a definition, due to the concept not being developed because of something happening in the field. It is important to note that none of the review studies focus specifically on bodily learning as it is presented in the Norwegian curriculum for physical education, which is my research interest. Østern & Bjerke do of course discuss the definition, but as stated, their review first and foremost draws on inductive findings from the available uses in scientific literature. Therefore, the studies are not "obligated" so to speak, to justify bodily learning as a curriculum core element, which is my undertaking.

4.4 All learning is bodily learning

Some scholars, like Thomas Dahl, regard all learning as being bodily – and by extension all knowledge as embodied knowledge. Thomas Dahl states that *Ludvigsen-utvalget*, the committee responsible for renewing school subjects and the curriculum, consider thinking and learning in a dualistic sense, and favorize cognition. He goes on to exemplify:

Dividing learning into bodily and non-bodily entails that we can divide the head or mind from the body, and that some learning happens in the head (without the body), and some in the body (maybe without the head) (Dahl 2021, s. 32) (own translation).

His logic is that the inclusion of bodily learning as something opposed or "other" than "normal" learning must mean that "normal" learning can happen "without the body". However, as pointed out by Øyvind Standal, even though the head is connected to the body, it is not necessary to consider all learning bodily, nor is it favorable (Jåbekk, 2020-2022). To paraphrase Standal; even though you are within logical boundaries in saying that all learning is bodily, it does not contribute positively to the understanding of bodily learning (Jåbekk 2020-2022). However, I suspect that Standal and Dahl are viewing bodily learning from different perspectives here. Standal is pointing to there being forms of knowledge which are

not characterized nor determined by movement, while what Dahl is problematizing is of a more existential nature.

Although Thomas Dahl's reflections on how the cartesian dualism has influenced the way learning as a cognitive action is widely accepted within the educational context, Dahl proposes that the "alternative" should be regarding all learning embodied/bodily. He points to that although Descartes is most famously credited for being a philosopher and a "thinker", it is often overlooked that he was also knowledgeable within traditional "hard sciences", and even studied medicine in Leiden (Dahl, 2021). Dahl argues that Descartes might be colored by his experiences learning about the human anatomy from a health and anatomic point of view, and thereby be susceptible to attributing the abstract functions of the body to the brain, while the other organs had other responsibilities. In further exploration of the Cartesian dualism and its relation to the new Norwegian curriculum, Dahl deconstructs the famous Cogito-statement, and argues that its meaning has been lost (Dahl, 2021). In short, Dahl argues that the statement has somewhat been lost in translation, in where the verb to know (cognoscere) has been translated to the English "know", which since has been understood as to know something "cognitively". It is however better understood in the sense where "knowing" is achieved through experiencing and even feeling (Dahl, 2021).

4.5 A definition - OECD

The Organization for Economic Co-operation and Development (OECD), publishes a series of books titled *Educational Research and Innovation.* One of these books is called *Teachers as Designers of Learning Environments* in which there is a full chapter dedicated to bodily learning (worded as *embodied learning* in their case). Thomas Dahl refers to the chapter in his article, and as mentioned above, bodily learning is highlighted as one of a handful of "new" learning forms. This chapter is a thorough exploration of bodily learning including headlines such as *definition, combinations, content,* and *context* (Paniagua & Instance, 2018), to name a few. It defines bodily learning as closely related to situated learning – which is learning the action within the situation in which it is to be used. This is also reflected in the Norwegian review-study, where the theory of John Dewey is one of the seven theoretical frameworks identified (Østern & Bjerke, 2021). Dewey represents theories pertaining to holistic Bildung, and learning with a hands-on-approach, often referred to as "learning by doing". The OECD-article also states that:

"*… the main idea is that students who consciously use their body to learn are more engaged than those who are at a desk or a computer*" (Paniagua & Instance, 2018, p. 2).

As well as

"*Body and mind work together in learning, action and thinking take place simultaneously, the physical and the ideal are in dialogue, reality and imagination are intertwined, the living body and the lived body are united in forming human consciousness*" (Paniagua & Instance, 2019, p. 2).

There are several points to be aware of in the way this chapter defines and presents bodily learning. Firstly, in the bullet-point-presentation of what the pedagogical principles of bodily learning are, they refer to the work of Svendler et. al. (2013) named *Young people's embodied voices: Experiences and learning in dance education practices across the world*, which as revealed in the title, concerns itself with dance education. The connection between dance and bodily learning is well represented in research literature (see Svendler et. al., 2013; Jusslin, S., & Forsberg, L. 2021; Bradley, et. al., 2013). However, here, viewing the concept of bodily learning as the same within dance education and physical education is done without critical reflection by the authors. Secondly, as already explored, the literature is in unison regarding bodily learning representing something either "more" or "different" than physical-motoric skills or physical active learning (Kirk, 2010; Borgen et. al., 2020) and does thereby not fit into dichotomous language attributed a dualistic understanding of the body/mind. To further illustrate why bodily learning should not be regarded as the same as physical motoric skills, is apparent within the Norwegian curriculum (Ministry of Education and Research, 2019) where *motoric learning* (the learning of motoric skills) is one of the components used to describe bodily learning. However, the OECD article uses the same conceptual language as the authors themselves attempts to distance themselves from, multiple times. There are several examples of this happening within the "Definition" chapter, as quoted above: *body and mind work together* and *action and thinking take place simultaneously* (Paniagua & Instance, 2019, p. 2). This is also the case in the description where "using the body to learn" is contrasted with "sitting at the desk or computer", which suggests that movement in and of itself is the goal. Furthermore "using the body" indicates that the body is something human beings *have,* rather than *are.* Since OECD policy transcends borders and is international the term bodily learning as it appears in the Norwegian curriculum may have drawn inspiration from the same place as the OECD-article, if not the article itself. I will return to this OECD-work and its specific wording in my discussion-chapter.

5. Theoretical frames

5.1 Phenomenology

Phenomenology is a philosophical European tradition widely described across various bodies of literature.[1] The tradition has had significant influence worldwide on thinking, research, architecture, art, culture, and other branches of the humanities (Bengtsson 1999). I build my theoretical framework on some elements from Edmund Husserl's (1859–1938) phenomenology. In a broad sense, phenomenology is viewed as a methodology for philosophy, which serves as a tool for many sciences (Stolz, 2015). Reeder (2010), in his understanding of Edmund Husserl's phenomenology, states that

Phenomenology is a philosophical movement based upon a self-critical methodology for reflectively (reflexively or introspectively) examining and describing the lived evidence (the phenomena) which provides a crucial link in our philosophical and scientific understanding of the world (p. 21).

As implied above, phenomenology is an expansive concept which will materialize as quite different depending on the context and aim of its use. My research context is educational, specifically pertaining to physical education. Husserl, when developing and describing his philosophy imagined it as not necessarily "fitting in" the positivistic hard sciences contemporary hegemony, but rather to transcend and encompass them (and others) (Behnke, 2008). Phenomenology set out to be a grounded "first philosophy" in which other fields and sciences could adapt, rather than the more commonly widespread vice-versaness (Behkne, 2008).

Researchers who situate their research within phenomenology discuss whether one should regard different "branches" of phenomenology, Husserlian and Heideggerian respectively, as dichotomous. This discussion may stem from Kerry and Armour (2000), who presented the terminology (p.2), whilst Standal & Engelsrud note that their assumption is made on wrong premises (2013). Standal & Engelsrud (2013) argue that the position that there exists such a division in the different branches of phenomenology as argued by Kerry and Armour (2000) is due to their lack of distinction between phenomenology as a philosophy and as a method for qualitative research. I choose to include this discussion to illustrate the distinction between

[1] To mention some in addition to Edmund Husserl and Merleau-Ponty; Martin Heidegger, Simone de Beauvoir, Jean Paul Sartre, Paul Ricour, Alfred Schütz, Hans-Georg Gadamer, Georg Friedrich Hegel, Hannah Arendt, Emanuel Levinas.

phenomenology as a method for qualitative research and as a method for philosophy. Furthermore, Standal (2015) states that utilizing phenomenology as a theoretical framework can be problematic if not explicitly stated the intentions of including it.

Within physical education, Connolly (1997) argues that phenomenology can be viewed as a threefold phenomenon. Phenomenology can either be used as a theoretical framework, which would allow for philosophical analysis of topics pertaining to the subject, likewise to the wording of Standal (2015). It can be used as a method to research topics within physical education, and lastly, it can be viewed as an applied phenomenon which can be used in practical teaching situations (Connolly, 1997). Leaning on Connolly's chosen wording, due to his field being physical education, phenomenology will first and foremost be the theoretical foundation upon where all my arguments and reasoning within the analysis-chapter will be rooted. The data and research will be viewed through the meta-lenses of phenomenology as a philosophy. Concerning bodily learning specifically, phenomenology has been pointed to as being a particularly apt standpoint for analysis of embodied processes within physical education (Brown & Penney, 2013). The reason for this is that the subject's somewhat turbulent relationship to cartesian and dualistic mind / body theories leads to certain forms of knowledge being prone to marginalization (Tinning, 2004). However, Fahlberg & Fahlberg (1994) note that one should be careful in regarding embodied processes within physical education as an "either or" situation, and rather accept that the two different epistemologies can contribute in different ways. As such, the historically dominant dualistic perspective can benefit greatly from what they identify as an "holistic", phenomenological point of view (Brown & Penney, 2013), and vice versa.

5.2 Husserl's five levels of constitution

Lanei Rodemeyer is a Husserlian scholar, who formulated a rubric based on what she understood as Edmund Husserl's five levels of embodiment (Rodemeyer, 2020). The levels are ranked from highest to lowest, which is not to be understood as a hierarchy, but different ways in which people experience themselves, others, and the world. The levels are all present at once and can only be separated for analytic reasoning and research. In other words, these levels and the experiences any individual has are all embedded and cannot be divided in the lived world, as they can in theory. Dividing them theoretically can however, as Rodemeyer states as well, give valuable insights into the "practical" lived world.

In her article *Levels of embodiment: A Husserlian Analysis of Gender and the Development of Eating Disorders*, Rodemeyer uses the levels in her work on analyzing eating disorders as a phenomenon. She goes on to elaborate that her rubric can be used to gain knowledge about other phenomenological issues as well. She argues that many who work and have studied and worked with Husserl's phenomenology might have underestimated the systematicity of Husserl's different levels of embodiment, and by extension their viability as analysis-tools. The levels that she has organized, from extensive reading of Husserl's work, appear as through a constitution of five levels, here mentioned from highest (society) to lowest (physiology): *Intersubjective Community, Interpersonal Intersubjective, Active Constitution, Passive Synthesis, Hyletic Flow*. Rodemeyer uses wording such as "higher and lower", however, this is not to be understood as normatively loaded as "better and worse" (Rodemeyer, 2020). I will in the next section explore each level of constitution in the order as Rodemeyer has envisioned them.

5.2.1 Intersubjective community

Intersubjective community is that which develops and is dependent of developing within one or multiple cultures of subjects (Rodemeyer, 2020; Husserl, 1970). It can be regarded as historical and intergenerational meanings and thoughts, permeating individuals in unison, collectively. This level is not to be mistaken with the next level down, interpersonal intersubjectivity, which is similar in some respects but differs critically in that it entails something other than the one-on-one level of intersubjectivity. Examples of intersubjective community is values such as those entailing the body, gender, language and how any individual understands sensory inputs. This level speaks to the habits, ways of thinking and how one experiences different situations based on constituted meanings given to the individual intergenerationally.

5.2.2 Interpersonal intersubjectivity

The interpersonal intersubjective level describes a meeting of individual subjects' emotional and empathic constitutions of worlds (Rodemeyer, 2020). Although shared and interpersonal, the level's main emphasis lies with individuals' objective view of the constellation of the people and environment they surround themselves with. Therefore, it differs greatly from the level above, seeing as the level concerns itself with the individual's perception of others through their bodies (Husserl, 1999; Rodemeyer 2020), rather than cultures of individuals. A key concept to keep in mind while utilizing this level for analytic purposes is the relational aspect of individuals and/or groups of individuals.

5.2.3 Active constitution

The next level is active constitution. Although called active, Rodemeyer points out that much of the activity is in this level passive as well. The distinction between active and passive for Husserl does not concern itself with the expenditure of energy (Rodemeyer, 2020). The terms active and passive rather speak to the state of the individual's consciousness in the situation. Active constitution is therefore referring to the meaningful contents of the consciousness. In other words, what is actively within the consciousness of the individual (Rodemeyer, 2020). It can therefore be regarded as the least abstract of the levels of constitution.

5.2.4 Passive synthesis

Passive synthesis addresses the work and experiences which goes unnoticed for consciousness. That is not to say that these subjects of perception are any less real nor any less valued than those of active nature, but they differ. To reiterate the dichotomous pair active and passive in Husserl's view, active constitution refers to that which is noticed by the consciousness, while the experiences at the level of passive synthesis is not. Rodemeyer states that this includes embodied habits and exemplifies that the way an individual processes and acts upon input materializes at this level. This level also entails the contents of consciousness and the interplay between that of active and passive nature (Rodemeyer, 2020). In other words, this level includes habits which to the individual actor have become so embodied that even though they may require "active" actions which the sensory spectrum and consciousness *can* detect, it merely does not - due to its level of embeddedness. Imagine how an individual moves while for example navigating through a crowded street. The individual is often not consciously, cognitively aware of how one's body relates to their environment, however people do not tend to trip over small curbs, nor collide into other individuals walking alongside them. Within this conceptual apparatus, the different individuals in this crowded street are negotiating and co-existing within the level of passive synthesis.

5.2.5 Hyletic flow

The lowest level of experience is hyletic flow. Experiences at this level are *primordial,* which means that the sensory inputs are not yet attributed *meaning* (Rodemeyer, 2020). In their most elementary form, this can be regarded as sensory input at a cellular level (Williford, 2013). To illustrate what is experienced at this level, imagine the possibility of experiencing a sensory input such as someone touching your shoulder. What materializes at this level is solely the cellular experience and sensory inputs which moves from the individual's shoulder, to its brain and throughout the central nervous system, without the individual yet being *actively*

conscious of this input, nor attributing meaning to the experience. However, experiences at this level does not need to be understood as active in the sense of energy-expenditure, as problematized in the two levels above. A different example of primordial experiences which illustrates this is how *interkinaesthetic* experiences can impact ones embodied being, such as for example being in proximity of a *friendly presence* as described by Behnke (2013).

5.2.6 Levels of constitution

The five levels of constitution speak to different levels or "places" where individuals' experiences are placed and lived. Although explained systematically and separately above, the levels can only appear as separated analytically. Perceiving oneself and being in the world also happens through internally bodily processes that include memory and rudimentary associations. The different levels of constitution of embodiment are materializing in the body, movements, expressions, language, gestures, feelings and as the way people are in the world as living and lived. Different experiences may also move from level to level or be applicable in different levels simultaneously. In other words, the levels theoretically, as in this thesis, serve to widen the understanding of how bodily learning operate and manifest. I will utilize the levels as "lenses" to view the different components of bodily learning through, which I will explain in detail in the next chapter.

6. Methodology

6.1 Creating one's path as a researcher.

The method for answering my research questions has in great part been inspired by the likes of William-Olsson (2014) and Borgen & Engelsrud (2022) in viewing the method like the Greek *methodos. Methodos* means the path travelled or to travel a path (William-Olsson, 2014). I take inspiration from Kvale & Brinkmann (2015) and Borgen & Engelsrud (2022) who utilize the metaphor of either walking an already established path or creating a new one altogether. I find myself in the middle of these two metaphors. I will be applying the established framework of Husserl through Rodemeyer (2020), and thereby I will be walking an already established path. However, there is very little thematic overlap between Rodemeyer's analysis of eating disorders and gender and my analysis of the components of bodily learning. Furthermore, I have very few studies to draw from that explore the definition of bodily learning from the Norwegian curriculum specifically. As such, regarding thematic considerations in both content and design, I am walking a new path all together. Assche et.al (2023) note that there is an acute need for adaptations and fluidity in research method and theory. Seeing as I do not adhere to one specific titled methodology, I would classify the method(s) which I am utilizing within my thesis as adaptive methods. The authors note that adaptive methodology is fitting, and even necessary in contexts such as where the field has been experiencing lackluster results in researching certain phenomena, or the realization that something has been investigated from the wrong angle (Assche et. al. 2023, p. 39). I would not go as far as to say that research on bodily learning has only given in lack-luster result (in the wording of Assche et.al. 2023), I will however argue that new angles and perspectives could benefit research on bodily learning greatly.

It is important to note that the different levels of constitution of embodiment are very much prominent in phenomenological research, however as Rodemeyer states in her article; it is not widespread to regard Husserlian phenomenology in such a systematic manner (2020). Her work is based on extensive studies of Husserl work, which she has given form in her article. I will throughout my analysis point to examples from research where I relate my findings to similar sentiments in other scientific works.

Both of my analyses, although different in how I organize them, are colored by my phenomenological methodological approach towards my research questions. I will, in Merleau-Ponty's wording, return to "the things themselves" (the definition within the

curriculum), and utilize a phenomenological methodology that invites for critical reflections upon assumptions which I have identified as being taken for granted. Although I utilize the terms *analyze* and *analysis,* that wording is solely based on the formal and informal expectations towards a master-thesis, and for simplicity of the reader. A more fitting wording of what I entail to do throughout my "analyses" within a more phenomenological language apparatus is *describing* what I find. Reverting to my descriptions earlier, I will not explain, nor analyze (Merleau-Ponty, 2012) what I find on the path I am walking (Kvale & Brinkmann, 2015; Borgen & Engelsrud, 2022), I will solely *describe* the findings as they appear to me, while utilizing the methods I will outline below. Dahlberg & Dahlberg refer to Husserl's work where they utilize formulations such as suspending the natural attitude of how the researcher encounters the world. This overlaps with my introductory arguments that bodily learning's definition in physical education has been taken for granted. In their article *Phenomenology of Science and the Art of Radical Questioning,* Dahlberg & Dahlberg point to the fact that blind spots in scientific research often are not a result of *not knowing enough,* but rather the result of *we knew or assumed too much.* Husserl (1970) is quoted in stating that much of the research of his time was standing on "unquestioned presuppositions". This ties closely into what I have identified as certain presuppositions being taken for granted in research in and around bodily learning within physical education. Phenomenological radical questioning will permeate my thesis, grounded in inspirations taken from Borgen & Engelsrud (2022), Merleau-Ponty (2012), Dahlberg & Dahlberg (2020), and Husserl (1970).

My research questions already point to which methods I will be utilizing to illuminate and answer them. The two methods I will be utilizing to find out more about the bodily learning is firstly an exploratory literature analysis where I draw inspiration from Frederiksen, et. al. (2018). Thereafter I will apply Rodemeyer's five levels of constitution for further analysis, as I will explore in detail below.

6.2 Exploratory literature analysis

The intention of my first analysis is to identify how researchers use the different components of bodily learning as found in the curriculum. Further, I hope to discover within which theoretical fields the concepts have their roots. Connected to this, I will attempt to see in what ways the different concepts have made their way into the field of physical education. I choose to call this part an exploratory literature analysis, due to the analysis is being an *exploration,* related to that of walking a path which has never been walked before (Borgen & Engelsrud, 2022). I draw on Frederiksen et. al. (2018), who state that an exploratory literature review is

concerned with width as opposed to depth. Further, the authors argue that such an analysis can be very beneficial to conduct, prior to more comprehensive (depth) analyses – which coincides with how I have laid out my thesis. As such, I consider my approach as an inductive analysis, where I seek out relevant works from many different fields, in order to learn as much as possible about the different components. Researchers adhering to phenomenological approaches do not take neither scientific knowledge, nor everyday knowledge for granted, but follow the research questions (the thing itself/the phenomenon) (Bengtsson 2005). In my case, this means to follow the three concepts which bodily learning is defined by in the curriculum.

Seeing as my chosen method for this analysis is an exploratory one, and not a systematic literature review, I have hand-picked specific works which speaks to the meaning-bearing dimension of the concepts, and their theoretical backdrops. Considering this analysis, I will also discuss in what way the three different concepts relate to the different perspectives on movement, as well as how I relate to discussions about the legitimization of physical education as a curriculum- and researched-based subject. The choice of method is of course debatable, especially pertaining to selection of which scientific works that I chose to pursue or not (selection). Seeing as the selection determined not by "objective" factors, such as predetermined search words, but rather "subjective" measures of me as a researcher, one might critique the replicability and validity of this analysis. However, as stated above, this thesis and its findings is a subjective undertaking, including factors such as me walking a path, doing the work of mind, while bringing the reader along. Thus, validity is gained through my transparency in this fact. Furthermore, although my analyses are based on empirical data (the definition from the Directorate of Education and Training), my analyses are most fittingly attributed as a phenomenological theoretical analysis of the terms and concepts within the curriculum, while drawing on literature. Neither the literature, nor the definition in and of itself, are the drivers of my analysis, and there is therefore no intention in making my study replicable, which one might expect from a systematic literature review.

6.3 Theory driven analysis – The levels of constitution as a tool for analysis

The second part of my analysis is a theory driven analysis. Here, I will utilize the different levels of constitution as "lenses" to view the world (components) through. My analyses do not aim at "teaching teachers to teach" *bodily learning*. Rather, I hope to illuminate and develop an understanding of bodily learning rooted in specific aspects of theoretical framework based on Lanei Rodemeyer's work on concepts from Husserlian phenomenology. As already stated, within phenomenology, the body (and embodiment) is understood as lived experiences, both

subjective and intersubjective (Engelsrud, 2020). Ny analysis will be based on and colored by this. However, this is a deliberate choice. Explicitly stating and rooting my analysis within a phenomenological theoretical positioning gives the analysis the value of being grounded and therefore allowing for terms and concepts to be discussed clearly, which I argue has been lacking when it comes to bodily learning in physical education.

An important note which will become clear while reading my analysis, is that different terms and concepts take on different meanings within the different levels of constitution. This is one of the central discoveries and the very point of utilizing the levels as tools for my analysis. However, it may therefore seem that I am contradicting myself when discussing different concepts through different "lenses". Tolerance for ambiguity is an important part of phenomenological practice, which Rodemeyer also points out was the case for Husserl:

This leads not only to confusion, but it also gives the impression that Husserl is equivocating between multiple definitions of the same term, or that he might be contradicting himself, when in fact, he is not. An understanding of how Husserl moves through these levels in his analyses can hopefully avoid any such misinterpretation (Rodemeyer, 2020, p. 237-238).

I will frequently utilize headings in attempt to bring the reader along for the ride, through the different levels of constitution. This will hopefully contribute to clarify my position within the theoretical framework, as I draw parallels from my findings to similar findings in research literature. I also add practical examples to elucidate the meaning and relevance of the understanding as I go, in attempt to relate my findings to the practice field.

6.4 Reflections upon my role as a researcher

My choices as researcher and writer are based on that I rely, and critically reflect upon presuppositions, not only within educational sciences, but also cultural-defining understandings of what being a living body while interacting with one's surrounding environment entails. At certain points, I am left with a lack of confidence towards my voice engaging with the expansive material. However, in discussion with colleagues I have concluded that this lack of confidence and outline is a symptom of the necessity of addressing the questions I am asking within my thesis. The practice of viewing insecurity as an advantage has been explored by for example Standal (2008) and Ørbæk & Engelsrud (2019), both of which I will draw inspiration from in a quality over quantity approach; asking the right questions, as opposed to answering the wrong ones.

It is important to note that I am a student in a five-year integrated teacher-education, with a specialization in physical education and scientific-theory. From such a position, I *am* not, nor am I *attempting to be* a philosopher, and after submitting my master thesis I will "solely" be an educated teacher. However, Standal (2015) argues that that non-philosophers should also engage in the philosophical terrain, especially when it pertains to the field of their expertise. Standal points out that the balance between not pretending or attempting to be a philosopher, while at the same time drawing on philosophical work and perspectives is a difficult process, that if done in a good way could lead to productive insights. In my analyses and subsequent discussions, I will draw inspiration from Standal's book *Phenomenology and Pedagogy in Physical Education* (2015) when it comes to the relationship and balance between my "expertise" in physical education and novice-ness in philosophy, most prominently phenomenology.

7. Analysis

The first part of my analysis consists of an exploration of the following excerpt from the Norwegian Directorate of Education and Training:

Bodily learning refers to developing all-round motor-skills and awareness of the body, and stimulating the joy of movement (Ministry of Education and Research, 2019).

I will explore different definitions of the three concepts (components) in literature, and relate those definitions to traditions, knowledge positions, contexts, and theories from where they stem. I will also view the three components in different relevant contexts and relate them to the perspectives which have permeated physical education, as discussed above. The three terms are *motoric learning, joy of movement, body-awareness*.

7.1 Exploratory literature analysis

7.1.1 Motoric learning

When searching scientific databases (ORIA, Scholar, ODA) for "Motoric learning" the most prominent articles and journals stem from fields such as medicine, neuroscience, and sports. How motoric skills are learned and acted upon has a rich theoretical background, which is integral to account for when attempting to understand from where the term originates. Paradoxically, yet thematically fitting for this paper, much of the development of the term is made by cognitive psychologists attempting to figure out how "learning" as a whole works. I will in the coming paragraphs explore different historical understandings of the term.

Adams "closed loop" theory, although formulated in 1971 is still influential in how motoric learning is understood. Richard Magill describes closed loop theory as a system in where the actor has a reference movement, to which subsequent movements can be compared, to enable an action being carried out as planned (2001). Repetition of movements are therefore preferable, which gives a broad basis for evaluating and adapting to perfection of the skill. The closed loop theory, as contemporary considerations should suggest, is influenced by a behavioristic way of understanding how humans act and learn. The feedback + adaptation process is closely related to what behavioristic theories of learning and skill acquisition refer to as stimulus – response. Critique was raised against closed loop theory, especially concerning how much an individual can "store" in their mind at any given time. The fact that the closed loop does not account for how new movements are learned, but only how to perfect those already known, was also pointed to as a weakness in the closed loop theory. As a

response to the critique, Richard Schimdt developed a "Schema-theory", which although closely related, accounts for the initial criticisms of closed loop (Schmidt, 1975). Schema theory presumes that different schemas within the mind include different sets of movements, and partial movements, which in turn can be combined and activated at different points in time. As such, movement-schemas can therefore be combined in order to improve an existing skill or movement, as well as combine and work together to create new ones. The new movements and schemas can in turn can be utilized in combinations with others, creating an infinite potential of movements to learn.

However, more recently Dynamic Systems Theory by Thelen & Smith (1994), seem to be the latest paradigm-shifting contribution to the development of the term motoric learning. In short, dynamic systems theory take better account for multiple factors pertaining to and affecting movement. Russian physiologist Bernstein's "degrees of freedom" are utilized in order to get an oversight of to which degree an individual is able to coordinate different joints and muscles (Kugler et. al., 1980; Bernstein, 1967). Furthermore, Dynamic System Theory sheds light on not only the factor of working with movements after some kind of input, but also the sensory-dependent experience of experiencing and realizing what needs to be changed. In a greater sense than the theories previously presented, the actor is viewed in combination with its own sensory perception and environment, resulting in a holistic understanding of the phenomenon. This is reflected in many works, indicating a shift of focus from the nervous system towards the individual holistically, and the environment it acts in (see Shumway-Cook & Woollacott, 2016; Larin, 2000; Hadders-Algra, 2000).

In medical literature, the term is frequently used as a baseline for measuring different stimuli/input. An example which illustrates this is Walker et. al. (2002), who performed a clinical study measuring sleep and its effects on motoric learning. His operationalization of motoric learning materialized as "the rate at which the right-handed participants of the study were able to type numbers accurately and quickly with their left (weak) hand" (Walker et. al., 2002). The learning of that motoric skill has no other purpose than to act as a tool of measuring the impact of another stimuli – in this case sleep. In sports and physiological studies, a commonly used definition is that of Schmidt & Lee (2014), which highlights changes in internal processes which come to fruition when attempting different movements. Magill & Anderson (2007) state that motoric learning is characterized by lasting changes in an actor's ability to perform a skill or movement, as a result of direct practice or indirect experiences. In an article published in 2022 called *Applying the Principles of Motor Learning*

in Preventative Programs of Overuse Injuries in Young Athletes: A Scoping Review, the authors draw on both Schimdt and Magill & Anderson, explicitly defining motor learning concepts as *principles of practice* for skill acquisition, performance enhancement or permanent changes in motor behaviors. The principles include variability, deductive or inductive learning-methods, adaptations and more (Shafizadeh et. al, 2022). It is clear from the different applications and theoretical definitions through time that a pattern in use emerges, emphasizing lasting changes in actors' ability to perform actions/skills/movements.

When searching for "motoric learning + physical education" the results are varied in the sense of what part motoric learning is to play in the subject. In the Norwegian context, searching for those two concepts together often results in the work of, or referring to, Yngvar Ommundsen. The title of Ommundsen's article is *Physical motoric skill through physical education – an important contribution to pupils holistic Bildung and learning in school* (own translation) (Ommundsen, 2013). Another article, *Contradicting goals in physical education in Norway – an analysis of curriculums in the period from 2006-2015* (Lyngstad, 2019), leans on Ommundsen when discussing motoric learning (Lyngstad, 2019). There are many articles that mention either motoric learning or the learning of motoric skills within physical education. However, in many of the articles, the term is applied similarly to the sports- or medical sciences, where motoric learning is used as a form of measurement. Hayley Fitzgerald concludes in her article *Still feeling like a spare piece of luggage? Embodied experiences of (dis)ability in physical education and school sport,* that are defined as:

"…articulations of (motoric) ability need to be recast and understood in ways that extend beyond narrowly defined measures of performance and normative conceptions of what is it to have a sporting body." (Fitzgerald, 2007, p. 1).

Nonetheless, Fitzgeralds article predates those of both Ommundsen (2013) and Lyngstad (2019), who both lean on Arnold. Arnold, through Ommundsen is identified as the reference point in 38% of the eligible works in Østern & Bjerkes mapping study on bodily learning's use in Norwegian scientific literature (2021). Ommundsen is leaning on the theoretical framework of Arnold, which considers physical activity as a valued part of the subject in and of itself (Østern & Bjerke, 2021). Ommundsen`s use of motoric learning is as a general concept for movement and not specifically tied to its inclusion as a component of bodily learning. To clarify, Ommundsen's work predates the inclusion of bodily learning in the curriculum, and it may not be the intention to apply this operationalization of motoric learning, to the one in bodily learning. To summarize this point, it is unclear which of the

many different operationalizations of motoric learning is being referred to within the definition of bodily learning.

If attempting to situate motoric learning in the prominent perspectives on physical education, those being the "movement/sports" perspective versus the "learning"-one. Motoric learning fits in the movement/sports perspective due to its ties to physiological and sports-fields. The term concerns itself more with actions, and not with the emotions nor subjectivity of the subject. However, in for example dynamic system theory, the interplay between the subject and its environment is highlighted. The term includes the concept of learning, however that which is being learned is strictly within the "physical" dimension. Vedul-Kjelsås & Haga (2021) contributes with a chapter in the anthology *Bodily Learning*, with the title *Bodily learning as motoric competence*, referring to the physical education curriculum. In this article the authors raise the question *"How can teachers guide and allow for bodily learning in a way that promotes motoric learning?"* (Vedul-Kjelsås & Haga 2021, p. 63). In this chapter, bodily learning and motoric learning are used around and about each other. The argumentations within the different parts of the chapter are mostly drawing on justifications used for motoric learning, while bodily learning is taking a backseat. Thereafter the authors view bodily learning through an interpretation of dynamic systems theory, as I have explored above. However, the reasonings that appear when attempting to utilize bodily learning within a framework developed for motoric learning, is that the two terms homogenize. In other words, they are no longer separate, but rather referring to the same.

If viewing the motoric learning word by word in a vacuum semantically, and disregarding literature and theory, it is easy to imagine that motoric learning is central to bodily learning, or even referring to the very same thing (as in Vedul-Kjelsås & Haga, 2021). If regarded as dualistic concepts, both bodily learning and motoric learning are concerned with the learning of something "physical" – either motoric, or bodily. This may be by deliberate consideration and design but may very well come from a common-sensical standpoint, seeing as the two terms may easily be mistaken as interchangeable.

7.1.2 Joy of movement

Unlike the two other components of bodily learning within the curriculum, joy of movement is the only one which is also mentioned in the "subjects' relevance and central values" chapter from The Norwegian Directorate for Education and Training. The formulation reads as follows "Physical education is a central subject for stimulating to lifelong joy of movement

and a physically active lifestyle based on own preconditions" (Ministry of Education and Research, 2019) (own translation). When searching relevant databases (Oria, Scholar, Oda), Joy of movement is most prominent in physical educational literature (or physical activity/sports within school contexts), which also is unlike the two other terms. The second most prominent field in which joy of movement is mentioned seems to be physical therapy, where the term is used when discussing rehabilitation and physical therapy of individuals after injury/surgery or in obesity-cases.

Joy of movement is an experience, one supposedly is having while moving, and therefore can also be regarded as a force (Wither, 2014). The joy an individual is experiencing is personally meaningful only connected to the given circumstances both within the actor, and outside it, making joy of movement an embodied, or enfleshed experience (Ingulfsvann et. al., 2021; Jensen, 2020; Stevens, 2017). The circumstantiality of an individual's experience is also highlighted by Anderson (2016), who emphasizes that the feeling of such experiences is structured temporarily, taking shape within the same moment as the feeling is experienced (Ingulfsvann et. al., 2021). Anderson (2016) also highlights the ambiguity of emotions and feelings, meaning that multiple emotions may emerge at the same time, and be experienced by an individual both in combination and separately (Ingulfsvann et.al., 2021). Although joy of movement is often mentioned in scientific works, it is rarely the subject matter in and of itself. Further, even if it is the subject matter in and of itself, the concept is rarely problematized conceptually, and study-designs more often tend to trend towards empirical studies.

Joy of movement can be viewed and placed in different theoretical traditions. Ingulfsvann et. al. (2021) points out that if for example viewed in a sociocultural perspective, joy of movement can be regarded a social construction. What this means is that the experience is highly cultural and context dependent. Ones expectations and predetermined factors such as gender, sexuality, age and even factors such as socioeconomic- and political relations must be accounted for (Ingulfsvann et. al., 2021; Booth, 2009; Wellard, 2012; Stevens, 2017).

If placing joy of movement in one of the two relevant perspectives, movement- versus learning discourse, joy of movement fits best in the physiological movement one. The reason for this is that joy of movement seemingly has no ties to anything regarding learning. On the contrary, joy of movement has been identified as further delegitimizing physical education as a learning subject (Stevens, 2017; Østerlie 2020-2022), if understood as a goal in and of itself within the subject. Stevens (2017) notes this from the context of New Zealand, whilst in the Norwegian context, joy of movement is included in the first sentence of the subject's

relevance, which further allows for such misinterpretations of the concept's role within the physical education.

7.1.3 Body awareness

The final component of bodily learning as described in the Norwegian curriculum is body awareness. If searching the Norwegian term in relevant databases, the most prominent fields are health and sports. In Norwegian health literature the term is defined as

"*Being able to be notice what happens inside the body. For example, being conscious about being tense in muscles, noticing breathing and becoming more aware of your feelings*" (Helse Bergen, 2021).

In this formulation Helse Bergen (2021) (Health-Bergen – own translation) is prone to using dualistic language about the body and mind, being specifically mindful of body awareness as something that happens "inside the body", also exemplifying "physical" attributes such as breathing, tenseness in muscles and feelings. As discussed, Norwegian does not have the same divide as English, pertaining to the body's ability to feel, and the mind's ability to have emotions (Sæle & Hallås, 2020). A person with a medical background often works with the dualistically "physical" world, and physical aspects, a point which also has been critiqued. Dahl (2021) drew parallels between the fact that Renes Descartes, to whom he attributed the mind body dualism early beginnings, had studied medicine. International literature also tends to highlight for example the joints position in relation to the muscles of the body, similarly to its Norwegian counterpart being mostly concerned with motoric aspects of the concept.

However, there are cases within Norwegian physical educational literature, where the Norwegian term "kroppsbevissthet" has been the focus area in and of itself in scientific works. Engebretsen et. al. (2020), use the term "kroppsbevissthet" (body awareness) as a central theme when exploring girls' experiences in physical education. In their article they attribute the term to a Danish concept "kroppslig erfaring", which translates to English as "bodily experience", which *includes* body awareness. They describe the term as twofold, on one hand viewing the term as including motoric skills which make children able to participate in play and other movement-activities even including everyday tasks. On the other hand, they also view the term as including challenging pupils' attention for bodily signals, reactions, and embodied senses (Rønholt, 2014). Although body awareness is not a frequent term within physical education litterateur, the Danish-inspired understanding presented by Engebretsen et.

al. (2020), seems as a fitting term as it relates to bodily learning, when taking the previous research explored above into account.

This is also the case for international scientific literature, where "body awareness" is used frequently used interdisciplinary, with different connotations depending on the field. In the international context, the health-related associations seem not as prominent as in the Norwegian context, with a greater deal of results being within humanities/social studies. However, if viewing the concept semantically, the term "body/bodily awareness" can be deemed a contrary, and dualistic concept, prone to the same critique as using language such as "using the legs to walk". The reason for this is that if an individual is given the task to either *be* or *learn* bodily aware(ness), how would that pupil act differently if attempting to be *aware* in the general sense, without the prefix of "bodi(ly)"? Specifying that the awareness only should regard the *body* implies that there is a separate concept and action of just *awareness*, implicitly being something that just included the mind. The term bodily learning is given the same critique by Thomas Dahl (2021), in his article "is all learning bodily?". He demonstrates that it is hard to imagine learning something without the body being present within the experience. He also states that the head, and by extension the brain, is still attached to the rest of the body and learning through them would therefore also be bodily (Dahl, 2021). Thereby, in his deduction, noting that there is one type of learning which is bodily would imply that there is a different type of learning which does not include the body. However, considering that the head is attached to the body – and the reasoning within it therefore being subject to the description of "bodily", such a statement would be mute.

Nevertheless, I detect a slight difference in Dahls reasoning, paraphrased as "all learning being both bodily/cognitive – therefore in need of a holistic understanding", and the same argument being made for "all awareness being both bodily/cognitive – and therefore in need of a holistic understanding", due to the possibility of imagining the idea of being aware solely in the mind, separating it from the "physical body" in a dualistic sense. An example of being aware mentally and not physically (nor holistically) is for example *phantom limbs,* being the phenomena of people losing their "physical limb" but remain being able to feel that the limb is still present in their mind. In the example of phantom limbs and phantom pain, the "physical dimension" is nonexistent, whilst the mental and cognitive mind is still aware. Phantom limbs and phantom pain are very thought-provoking phenomena regarding embodiment and mind/body-dualism (see Tanaka, 2021). One might interpret "phantom experiences" as an argument for the case of mental/cognitive hegemony. However, if

attempting to simulate pure "mental or cognitive" awareness, by deliberately excluding the "physical", the result is paradoxically the opposite. If deliberately attempting to remove all sense of "physical" feelings, through sensory deprivation for example, the body will respond in becoming increasingly aware of its surroundings, and most notably: itself. For example: If laying perfectly still in a dark room specifically designed to absorb sounds and noise, depraving the body from both visual and audible input, individuals have described being to hear their own heartbeat and blood flow. There exists a rich body research on sensory deprivation both from a medical and a phenomenological perspective, seeing as it can bring great insights into the body/mind discourse. The two situations I have discussed, being phantom limbs and sensory deprivation, both illustrate the interconnectedness, embeddedness and entanglement of the mind and body when it comes to the concept of "awareness".

The article *Body Awareness: a phenomenological inquiry into the common ground of mind-body therapies,* written by Mehling et. al., (2011) overlaps a lot with the themes which I discuss within this thesis. The article explores that the concept of body awareness is often used and pointed to when talking about mind-body therapies, and furthermore that the term needs further conceptualization and the term itself represents a complex multi-dimensional construct. The authors point to that the concept within medical and psychological literature and treatments carrying negative assumptions, often pointed to leading to "*somatosensory amplification*" – meaning worsening experienced symptoms as a result of being *overly* aware (Mehling, et. al., 2011). Conditions where this may apply are for example anxiety and different chronic pain disorders. However, in certain cases, body awareness is viewed in a positive light, especially regarding living and dealing with chronic plagues, seeing as "good body awareness" may lead to the individual recognizing "cues", and act accordingly (Mehling, et. al., 2011). This somewhat divisive way of regarding the same term in different ways speaks to what can be regarded as the challenge of the terms within the curriculum not being further elaborated. Whether or not such understandings of body awareness are intended to be included in the definition of bodily learning is not clear, seeing as the Directorate of Education and Training do not specify what body awareness is to represent, which is a challenge of its own.

Returning to the physical educational context: Helene Bergentoft discusses body awareness in her article *Running: a way to increase body awareness in secondary school physical education* (2018). She sheds light at different ways of regarding body awareness, illustrating how "versatile" the concept can be. Some scholars apply the term in a simple sense, only

referring to how much attention individuals pay to their internal bodily sensations (Bergentoft, 2018). Bergentoft however, utilizes the terms *proprioception* and *interoception*, referring to Mehling et. al. (2011). Proprioception refers to the awareness of the "outer physical body", being the limbs, the individual's posture, muscle tensions etc. (Bergentoft, 2018). Interoceptions on the other hand refers to an individual's perception towards the "inner body", including awareness towards heart rate, breathing and emotions (Bergentoft, 2018). Combined, these components are like the definition given by Health-Bergen (2021) above, being grounded in a medicine/health-field with dualistic pretenses. However, in her article Bergentoft applies a fourth, holistic understanding of body awareness, combining interoception and proprioception while at the same time stating that when acting and interacting with the surrounding environment, body awareness must be considered an inseparable aspect of the embodied self-awareness (Bergentoft, 2018).

To summarize my reflections on body awareness, the Norwegian term as it is worded in the definition of bodily learning connotes towards physical and health related fields, due to its prominence in such articles, and infrequent use in for example physical educational literature. However, the English term does not have the same predisposition towards health-related fields as the Norwegian and is more commonly used more holistically within phenomenological studies, as in the study on physical education by Bergentoft (2018). As it pertains to question of whether the term adheres to the dichotomous mind/body dualism or not, it does not clearly fit in either category. The term is used in many different fields and contexts, taking on very different meanings in each. The English term "body/bodily awareness" is often is used in interdisciplinary phenomenological studies, whilst its Norwegian counterpart (as used to define bodily learning) "kroppsbevissthet", tends to be more unidimensional in its use, being more frequently applied as a health/"dualist-body"-physical dimension term (applied in psychomotorial-therapy, physical therapy, and traditional medicine). However, there are exceptions to this simplified labelling in either language. It is therefore best to acknowledge the term's multifaceted use, rather than "place" it in either category.

7.2 Findings 1 - What are "we" left with?

After analyzing the different components of what bodily learning "refers to" (Ministry of Education and Research, 2019), the question of what "we" are left with is both important and

divisive. Although what the components represents individually has become clear, it is not clear how these three components, *joy of movement, motoric learning and body awareness* together comprise to what bodily learning "refers to". As my analysis indicates, the three terms are widely different, stemming from different theoretical foundations, but are still regarded as the components of a core element within the physical educational context in Norway. The analysis I have done up to this point, probably opens more figurative doors than it closes. The different components differ greatly in how they were developed, to which extent they are discussed in literature, and how much they tend to variate in meanings in different works. They also relate to the field of physical education quite differently. Motoric learning for example, has strong roots in physical education's history as a sport/training-subject. On the other hand, joy of movement has been prominent in the subject for a long time and remains at the heart of physical education's "relevance" in the curriculum (Ministry of Education and Research, 2019), while body awareness is such an all-encompassing concept that it transcends "trends" within the subject. Insights such as these will guide me in my next analysis. To clarify, although my first analysis leaves me with little clarity regarding operationalizability of bodily learning, this analysis has laid a groundwork to build my next analysis on. This groundwork is important and includes some of the work I have argued that has been lacking in other scientific works pertaining to bodily learning within physical education in Norway earlier. Again, I stress the point that my thesis is grounded in and staying close to the definition which is given by the Directorate of Education and Training, rather than solely drawing on the previous theoretical works on the concept of bodily learning, which may not be synonymous with what is found in the Norwegian curriculum.

In the title of this subchapter, I knowingly put "we" in quotation-marks, in order to highlight that bodily learning should be understood by a certain group of people. Exactly who that group is, can be subject for discussion. However, there is no counterargument to the statement that the concept bodily learning should be understood by the teacher educators of physical education, seeing as the core elements represent the most important subject matter of the subject (Ministry of Education and Research, 2019). Nevertheless, it may not be the case that bodily learning and its nuances is meant to be understood by the general population (laymen), nor the pupils themselves. So long as the teacher is able to act upon what is expected of them in the different wordings they are presented with in the curriculum, it may be best that outsiders (and even pupils) not necessarily understand it.

The literature pertaining to bodily learning which I have reviewed and discussed up till this point, all share a common goal of attempting to crystalize what bodily learning *is* and/or *should be*, sometimes explicitly and sometimes implicitly. There are multiple possible explanations for this, one of which being the fact that the bodily learning was "forced upon" the field with arguably little to no explanation as to what the concept was supposed to represent. Another also very natural explanation for this "need" for a digestible definition of bodily learning, is the idea that terms and concepts within professions all need to somehow prove their worth to the field. Having a short definition of a concept would make it easier to understand for those who "need to know", at least including teachers of physical education, as stated above. Research implies that this notion is shared by teachers no matter the subject. As already discussed, Mausethagen and Mølstad (2014) found that teachers want the concepts and terms within the curriculum to be as definite and clear as possible, whilst the method of teaching being open for them to choose. When it comes to bodily learning, this is, as discussed extensively, not the case. Nonetheless, attempting to find a short and tangible definition for bodily learning within the physical educational context has proven itself difficult. That is not to say that I am regarding the concept as not including any real-world applications. But rather that the problematic nature of defining a term that has very different connotations relating to the context in which it is being used, while at the same time arguably being obscurely defined in the curriculum. I have in this analysis shed light upon the three different components bodily learning "refers to" in this specific context and will in my next analysis further examine the same components within what I argue to be a fitting theoretical framework to do so, with the intention of contributing to a viable operationalization.

7.3 Analysis 2 - Theory driven analysis.

In this part of my analysis, I will view bodily learning through the different levels of constitution as formulated by Lanei Rodemeyer (2020). My intention in utilizing this kind of analysis is to examine how the different components (versatile motoric learning, joy of movement and body awareness) might be filtered and operationalized through an alternative and established theoretical framework. What I find particularly relevant, is that within the five levels factors such as society/culture and history, as well as physiology and perception i.e. the more sensory, "passive" and perceiving parts of embodied processes, is included. I will discuss different interpretations of what the formulations represent given the different contexts (levels of constitution) in which they are imaginable. At certain points throughout

my analysis, I will also be pointing to relevant research literature from different fields that have understood the components in similar a fashion to what will become clear during the analysis through the framework. In this way, I am staying true to the definition given in the curriculum, while also being able to draw on the scientific body of research, where applicable.

The theory-driven analysis will be done systematically, viewing the components in different levels from "highest" to "lowest" in Rodemeyer's (2020) terms. My analysis can be mapped out schematically as I have done below. This visualization will not be actively used within my thesis further, due to the large amount of text which would have to be placed in each box. It does however illustrate how my analysis is thought out and will be formatted. However, the navigation between different levels and components will be marked by frequent headlines and subchapters.

Visualization of analysis:

	Intersubjective community	Interpersonal Intersubjective	Active Constitution	Passive Syntehsis	Hyletic Flow
Motoric learning					
Joy of movement					
Body awareness					

Table 1: Visualization of analysis

7.3.1 Intersubjective Community

Intersubjective community is that which develops and is dependent of developing within one or multiple cultures of subjects (Husserl, 1970). It can be regarded as historical and intergenerational meanings and thoughts, permeating individuals in unison, collectively.

Body awareness

As stated in the exploratory analysis, body awareness is an expansive concept used in many different fields and contexts. Furthermore, the "vagueness" which is present due to lack of wording and explicit theoretical placement of the concept within the curriculum allows for leeway in its interpretation. Internationally, the term is often used in phenomenological studies, making it apt for analysis within the rubric. An actor being aware of itself and its body, is easy to understand through many of the levels of constitution. However, at this level, one needs to consider the intergenerational "baggage" that operate between generations, which may influence people and their own body awareness. An example of this materializing is gender, which is also exemplified in Rodemeyer's article (2020). The historical development of *gender*, and even the more abstractly yet related *feminine* versus *masculine* is field of study in its own right. However, less abstractly, intergenerational "baggage" such as this will no doubt affect any given subject's awareness about themselves, and of others. Regarding physical education, the transferals between generations is highly influential and at the core of debates.

In addition to intergenerational considerations, Husserl also accounts for intersubjective discourse in how any subject regards itself. Lanei Rodemeyer, although not discussing body awareness, describes her understanding of Husserl's reasoning for understanding how an individual's "objective body" comes to light only through a mediation-process with other individuals, and their respective intergenerational experiences. Although a long excerpt, I choose to include it all, seeing as Rodemeyer's reflections are applicable to the understanding body awareness at an intersubjective community level of experience:

> *(…) he demonstrates how my body only truly becomes an objective, material body through intersubjective constitution: When I encounter other subjects, I recognize them not only as other subjects like myself but also as other subjects who see me in a way similar to how they constitute objects in the world. Just as our mutual co-constitution gives rise to the objectivity of things in the world (and of the world itself), this co-constitution also folds back onto my own body, and it becomes constituted like*

> *other objects in the world. My experience of the world with other subjects brings a new layer to how I experience those objects: They are now experienced as objects there for others and not just there for me. They become objective, material in a new sense. Thus, when we co-constitute the world and its objects as there for everyone, as material, only then can my body appear as a material object. In this way – and only through the constitution of other subjects – I am able to constitute my body as an objective thing* (Rodemeyer, 2020, p. 240).

What is relevant within this excerpt is that being bodily aware can be regarded as a collective and interpersonal phenomenon, influenced by the intersubjective community of yourself and the others around you. This is however only to be regarded as one layer of body awareness, meaning that the concept of being bodily aware does not depend on the co-constitution of an "objective body" as Rodemeyer describes, in all levels. This is an example of different concepts taking on different meanings in the different levels of constitution – which Rodemeyer also states (2020). The understanding that pupils are affected by dynamics outside their control pertaining to how they "are aware" of their bodies in the holistic sense, will prepare teachers to communicate with pupils in a way that includes perspective on their social position and heritage. With the older pupils, the teacher can invite pupils to reflect about these institutionalized and collective phenomena, which would allow pupils to learn about their bodies outside the physical dimension.

How to understand body awareness as a part of bodily learning within the physical education curriculum in Norway is therefore naturally context dependent. The terms proprioception and interoception as used by Bergentoft (2018) are useful to describe how body awareness is viewed as a "skill" or "action" within the context of Husserl's intersubjective community. Interoception refers to awareness being directed inwards, while proprioception is the opposite. Although this arguably a dualistic perspective, it is useful to understand that at the level of intersubjective community, body awareness must be regarded as something an individual is projecting outwards – as if a contribution to the collective sensemaking of one's own and other peoples' experiences. It is important to note that although the term "body awareness" implies the actor being "aware" - what happens at this level of constitution is not to be understood as aware in any individual consciousness (Rodemeyer, 2020), not mentally, physically nor holistically. The body awareness is rather to be understood as a contribution to the intergenerational "heritage" so to speak, where the constellations of what being a moving actor, and being a body is made sense of, collectively.

Joy of movement

Joy of movement tends to be regarded as an object that the subject obtains through moving or as an effect of moving. A connection between joy and movement has been a recurring theme in the curriculum and somewhat indicates a conscious level of constitution for the individual. Nevertheless, the loaded nature of the concept is traceable within the context of intergenerational attitudes as well. I noted in my exploratory analysis that joy of movement was regarded as taking the connections between joy and movement for granted. The idea of experiencing joy of movement is closely related to normative assumptions and discourses about movement and health (Ingulfsvann et. al., 2021; Booth, 2009; Wellard, 2012; Stevens, 2017). Joy of movement may therefore be within this level categorized as an ideological concept, rather than an experienced one. As Stevens (2017) states, the subject of physical education in fact regards the body as *whole*, and bodily knowledge being the *normal* as opposed to the *other*. Still however, she states that the subject is influenced by binary hierarchies which lies beneath any curriculum's development, as I have alluded to in the Norwegian context as well. Stevens then quotes McWilliams (1999) in that *unattractive bodies* are disruptors for pedagogy, which is highly relevant within physical education specifically. Even if attempted minimized by pedagogical trends within the Norwegian context such as *inclusion* and *adapted education* both being prominent principles throughout the Norwegian educational system (Ministry of Education and Research, 2017), the culturally marginalized body will still pose challenges pertaining to joy of movement. I interpret Mcwilliams use of "unattractive body" in this context as a body *deviating* from the cultural, hierarchical, and structural "normative" body, being the one that allows for joy of movement. Stevens notes that her own joy of movement can be regarded as a privilege (2017), given to her by the same institutionalized structures and hierarchy physical education is working to undermine. As such, physical educations struggle with its institutionalized heritage as a sporting or health subject, combined with the mover (pupil) being affected by discourses pertaining to their bodies and normative assumptions about them, will have a great influence on whether and how joy of movement in experienced by the individual (Stevens, 2017), at this level of constitution.

Joy of movement's prevalence in international scientific literature, as well as its central position regarding the debates pertaining to the core/aim of physical education both in the Norwegian and international context, gives ample sources to draw from in my analysis. Within the perspectives shed light on above, there is a clear overlap between joy of movement

and the level of constitution *intersubjective community*, due to abstract power structures that will affect the individuals experience in moving. Rodemeyer describes that Husserl demonstrated how certain institutionalized concepts, meanings or approaches became so embedded that their origin no longer needed to be a factor in their materialization. The pupils are subject to intergenerational heritage, institutionalized discourses, as well as subliminal influences concerning their health and their bodies (Stevens, 2017; Mcwilliams 1999), arguably grounded in the historic context from where physical education stems from. One could say that analysis of joy of movement with a focus emphasizing the role the intersubjective community level of constitution has already been done, within different frameworks and with the use different concepts and terms while explaining the same phenomenon. In other words, the analysis I have done on joy of movement through the lens of intersubjective community can be regarded as me taking the already existing reflections and reasonings pertaining to joy of movement, and viewing them within my chosen framework, making it more easily available as a resource in contributing to operationalize bodily learning as it is formulated within the Norwegian curriculum.

Ingulfsvann et. al., (2021) points to Pringle (2009) stating that joy of movement is negotiated, understood, and managed. This is relevant for this level of constitution of experience, seeing as the negotiation and understanding will both be highly dependent on the intersubjective community of the actors in the given situation. As pointed out in the analysis of body awareness at this level, hierarchical power dynamics pertaining to health, gender and sexuality also has a role to play in the experience of joy of movement (Ingulfsvann et. al., 2021).

As such, a physical education teacher working with *bodily learning* in the Norwegian Directorate for Education and Training's definition, can reflect on what the concept joy of movement entails by understanding it through the upper-most level of constitution, intersubjective community. It is beneficial for the teachers to understand how this arguably ideological term is rooted as this level of constitution.

Motoric learning

Motoric learning is not fit for analysis within this level. Motoric learning in and of itself is implicitly conscious and concerns itself with "my own world" or "own movements". What I mean by this is that although many unconscious processes are at play while learning motoric skills, none of which applies to the intergenerational or historical stratum of though which

Rodemeyer states this level of constitution is based upon (2020). Although many aspects of one's own projected awareness within the activity of motoric learning could be analyzed, these processes are more relevant for analysis within the component of body awareness, as I have done above.

7.3.2 Interpersonal Intersubjective

I will give a short introduction to interpersonal intersubjective to clearly illustrate the difference and interplay between the two uppermost levels.

Interpersonal intersubjective level of constitution regards itself less with what intergenerational "baggage" any individual has, and more with which processes are in play on a one-on-one level. One could argue that in many cases, the level of interpersonal intersubjectivity and intersubjective community are two sides of the same coin, seeing as any individual will, in meeting with another, be shaped and colored by the intergenerational experiences and thoughts of intersubjective community. How one should approach the levels of constitution, and specifically navigate the differences between the upper two levels (intersubjective community and interpersonal intersubjectivity) can therefore boil down to an epistemological question. To what extent can an individual actor remove its experiences from that which is already embodied within them? An even more provocative, yet relevant question is to what extent an individual actor can remove itself from that which is culturally and generationally embedded within itself? Rodemeyer (2020) in her analysis of eating disorders, organize her analysis within the two different levels by stating that:

> *Our intersubjective community certainly provides a context and filter that can make eating disorders possible and, in some cases, can even drive forward certain occasions of eating disorders. Nevertheless, we know that there are many people for whom merely this context might not be enough to lead to an eating disorder* (Rodemeyer, 2020, p. 243).

The distinction therefore lies in that the higher, intersubjective community and its intergenerational dimension, *allows* for the phenomenon to take place (Rodemeyer, 2020), which in her case is eating disorders, yet it does not trigger nor explain the same phenomenon. If I were to apply the same distinction to body awareness for example, this would amount to the body awareness not only being rooted in an abstract, far distant process out of the individual's control. Rather, body awareness in the interpersonal intersubjective must be rooted, *within the* individual – to a certain extent within its control. However, this

interpretation is susceptible to bordering into the level down, active constitution, which in short applies to what can be regarded as actively present in the individual's consciousness (Rodemeyer, 2020). Navigating through the different levels is therefore a meticulous process, seeing as they in many areas overlap. However, the albeit minor differences conceptually, has great impact on the outcome of analysis practically.

Body awareness

I exemplified briefly what the transition from intersubjective community to interpersonal intersubjectivity entails for body awareness, however not to the extent necessary to understand what possibilities this framework gives in understanding the different components of bodily learning. In the interpersonal intersubjective level, seeing as it concerns itself with the one-on-one experiences, body awareness can be understood as a mediation, and negotiation of different parties within a physical educational context. Note that one-on-one may refer to individuals, but also constellations of people. The pupils in any given physical education lesson are often moving, in a broad understanding of "movement". The movement can be understood as either in harmony; "working together", or disharmony; "competing against". An example of harmony; "working together", is dance, which as stated both in the literature overview, as well as the first part of my analysis in this paper, has a close relationship with bodily learning (see Svendler et. al., 2013; Jusslin, S., & Forsberg, L. 2021; Bradley, et. al., 2013). Bodily learning and dance seem to be more intertwined historically than bodily learning and physical education, as per my literature review. Dance is also one of the four activities which the Norwegian curriculum states that physical education "gives room for bodily learning through" (Ministry of Education and Research, 2019). However, the movement in any given physical education lesson may just as well be in disharmony with the other moving individuals around you, in competition, for example in sport-activities. Sport-activities is also one of the activities highlighted by the Directorate of Education and Training in the curriculum (Ministry of Education and Research, 2019). Depending on the level of harmoniousness within a physical education context, the bodily negotiation will take on different meanings. An actor needs to be aware of their own body (in a holistic sense), moving, acting and reacting with other bodies (also holistically interpreted), all participating in different movement-activities. However, such negotiation need not be conscious. Rather, for this interpretation of body awareness to be applicable and understood within the interpersonal intersubjective level of constitution, by necessity it must be outside the active constitution (consciousness) of the individual. Rodemeyer points to power dynamics in her

analysis of eating disorders (2020). As I see it, interpersonal mediation and negotiation happens continually in the physical education context, like embodiment in general. In eating disorders, these power dynamics reveal themselves as connotations or subtexts within individuals' pattern of actions (Rodemeyer, 2020). In the case for physical education, pupils body awareness may also be subject to different subliminal subtexts and power dynamics, affecting how they act.

Laura Hills writes in her article which explores social and embodied dynamics within a physical educational context that pupils (in her study, exclusively girls), that master physical education were able to uphold and create status through demonstrations of competence within the subject (Hills, 2007). Furthermore, when choosing activities, girls tended to be grounded in their own feelings of competence, but also potential for positive/negative social interactions as well as visibility of desirable traits pertaining to social or physical capital (Hills, 2007). Key terms brought up include clothing, bodies, appearance, health, sexuality, and freedom to name a few. Hills (2007) is one of many studies which seek to understand what dynamics may contribute to pupils acting like they do in physical education (for others, see: Chen, 1996; Cockburn & Clarke, 2002; Flintoff & Scraton, 2001).

With the perspective given by Rodemeyer on how the interpersonal intersubjective level includes how power dynamics may affect how you act (2020), as well as the studies stated above pointing to that pupils have their choice in physical education affected by a range of dynamics including social and bodily capital (Hall, 2007), the understanding of body awareness within the interpersonal intersubjective level of constitution has great potential in understanding bodily learning in physical education. It is easy to imagine, as well as logically deducible through the insights given by Rodemeyer (2020) and Hall (2007), that in a physical education context, individuals' body awareness is susceptible to being influenced by unspoken and unconscious, interpersonal dynamics. Power-dynamics pertaining to social capital, appearance, and inclusion/friendships are all pointed to as being factors that affect pupils' experience in physical education. This is also true for the interpersonal intersubjective level of Husserl through Rodemeyer (2020), which states that people assume meanings and presumptions present around them. This can be interpreted as body awareness in its own right, and as shown in the studies mentioned above, pupils are very aware of complicated power-structures present and being built within the physical education lessons. Therefore, body awareness in the interpersonal intersubjective is not only being aware of my own body, and the bodies of people around me (body in a holistic sense), but also being aware of how the

body of the other(s) relates to one's own. Furthermore, in the mediation and negotiation with the individuals around you, body awareness in the interpersonal intersubjective includes complex dynamics between individuals and groups of individuals relating to factors stated above. An important note is that although the term "awareness" is being used, as it was in the level above – "pupils being aware" does not mean that they are necessarily experiencing these interpersonal dynamics of body awareness in their active constitution (consciousness), but rather that their acting-patterns and feelings while moving are being influenced by structures outside their control, and active constitution of the world around them. In a practical sense, simply being knowledgeable of this fact for a physical educational teacher can contribute to their understanding of what processes are in play when talking about bodily learning, specifically body awareness, in physical education.

Joy of movement

Joy of movement through the lens of interpersonal intersubjective must entail some sense of co-creation of the subjective experience. It can be regarded as a similar process as body awareness through the two uppermost levels of constitution, in where the body of an individual is co-created within the given context, between the different actors in the situation. Joy of movement is argued as being not only facilitated by collectivism, but itself a facilitator of collectivity (Ingulfsvann et. al. 2021; Winther, 2014). Rodemeyer's description of the interpersonal intersubjective as describes a meeting of individual subjects' *emotional* and *empathic* constitutions of worlds illustrates how an albeit subjective experience is highly dependent on collective contexts. This is especially true when it comes to the experience of joy of movement within the physical educational context, seeing as the individual pupil rarely will act alone. Ingulfsvann et. al. points to the understanding of joy of movement as a social and relational concept in physical education as critical to the legitimization of the learning potentials within the concept (2021). Understandings of what this concept may entail within this very level of constitution is therefore not a stretch of philosophical imagination on my part. It may rather be pointed to as being the most important level in which to understand joy of movement in its entirety. Rodemeyer highlights that the interpersonal intersubjective level is where our own bodies gain objective meaning, through mediation and collaborations with the actors in our environment (2020). The way I see it, joy of movement relates to the two uppermost levels of constitution, namely intersubjective community and interpersonal intersubjectivity, the same way that eating disorders is explored by Rodemeyer in her article. She exemplifies that although intergenerational and abstract notions can provide a filter and

context for eating disorders, the manifestation most often conceptualizes in the level of interpersonal intersubjectivity (Rodemeyer, 2020). I argue that the same can be said of joy of movement. As explored in the level above, predetermined factors such as for example socioeconomic relations, gender, age, sexuality etc., will have a great impact on the individual's ability and predisposition for the subjective experience joy of movement. If understood like eating-disorders, this level may be the level in where the joy of movement actually materializes, in mediation with other acting subjects. This means that the level above (intersubjective community) *allows* for the processes happening at this level, which in turn is what makes bodily learning materialize for the individual. However, the experience in and of itself is most aptly explored in the level down, active constitution.

Motoric learning

Motoric learning is again not as applicable for analysis as the two other terms, also within interpersonal intersubjectivity. Although there are very many interpersonal dynamics to account for when discussing motoric learning, most of which are more fittingly analyzed through body awareness. However, although overlapping, interpersonal mediation as explored through body awareness in the interpersonal intersubjective are applicable and should as a sort of due diligence also be discussed within motoric learning. It will however be exemplified and materialize in a similar fashion, in where for example pupils are to practice a given skill. This can either be allowed for directly or indirectly, as I discussed in the exploratory analysis of motoric learning in the first part of my analysis. Within physical educational literature, this is expressed through the term deductive or inductive learning (Shafizadeh et. al, 2022). No matter the method of teaching/learning, the pupils will be affected by the environment, and the interpersonal effects being in the given physical educational context entails. However, this is again bordering, and therefore more fittingly analyzed within body awareness, as done above.

7.3.3 Active Constitution

As stated, active constitution is what can be regarded as in the awareness of consciousness (Rodemeyer, 2020), and can therefore be regarded as the least abstract level of constitution in the rubric of this framework. Within this level, the individual's intersubjective meanings of embodiment and sensory embodiment overlap and co-act (Rodemeyer, 2020).

Motoric learning

Active constitution is the first level in where versatile motoric learning can be analyzed and understood. As explored above, motoric learning is characterized by lasting changes in motoric skills and abilities as the result of direct practice, or indirect experiences. It is important to note that though this level is called “active constitution” one must not mistake active in this sense as the same as being physically active in terms on energy expenditure (Rodemeyer, 2020). Active is in this sense active regarding what the person is conscious about and experience as me and my own world. mind. Hence, motoric learning even within the only level where it is fit to be analyzed and understood will not bring more insights than already given at the “face value” of the definition. What I mean by this is that motoric learning within the level of active constitution solely regard itself with what has already been discussed within my first analyses.

There are however two ways to understand motoric learning grounded in physical educational principles, which both materialize at this level of constitution for the individual. The first is where the individual is actively practicing a skill or ability in order to improve in it. This situation is easily imaginable in many different physical educational contexts. The pupils are actively doing a movement in order to improve that movement, and their attention is directed towards that movement and the skill it mimics. On the other hand, there are situations where the individual is exposed to, or as worded in the definition “experiencing” a movement, without it necessarily mimicking the skill it is supposed to improve. This is also a situation which often occurs in a physical educational context, often referred to as inductive or discovery learning (Fitri et. al., 2018), which in short is learning holistic movement-patterns through exposure of different (often isolated) movement, not necessarily mimicking the motoric skill it relates to. Although qualitatively different types of experiences for the individual – actively engaging in, or passively experiencing - both of which are experienced in the level of active constitution.

For teachers in the practice field, motoric learning at the level of active constitution is quite close to its common sensical face-value definition. In this sense, it is within the bounds of the definition to engage in the learning of motoric skills/abilities. However, as shown throughout my thesis, it seems as though this level is the one where most discussions and understandings of bodily learning lies. At this level, motoric learning is the act of engaging in activities with the intent of improving motoric ability, either actively doing, or passively experiencing.

Body awareness

Body awareness within the level of active constitution can be viewed in a similar fashion to motoric learning, seeing as they both are more closely related to their face-value definition. What this means is that the term is within this level bordering into what I found in the exploratory analysis above. Being or learning bodily aware(ness) within the level of active constitution is therefore, not surprisingly, what sensory inputs and experiences that is felt by the aware consciousness. As explored in my analysis above, Mehling et. al., (2018) introduce the terms *proprioception* and *interoception*, the former referring to awareness of outer processes, and the latter to inner processes. Being or learning bodily aware(ness) can benefit from utilizing these two terms, especially in the level of active constitution. The reason for this being especially important within this very level, is that the level of active constitution, due to its relatively easy to understand nature, can be mitigated into only the sensory experience, especially when analyzing a concept such as body awareness, which is sensory-dependent. It is therefore important at this point to underscore the fact that although at this level, embodied experiences and sensory experiences co-act and overlap, that does not mean that this level is to be regarded objective in any sense. However, although rooted or grounded in intersubjective thoughts, meanings outside the individual's control, the level of constitution of one's emotions or own body still only accounts for the experiences which overlap with the sensory ones (Rodemeyer, 2020).

The proprioception in the words of Bergentoft (2018), will in this level materialize as the sensory experience regarding how one's body is related to the world. Interoception within this level is thereby what the individual consciously experiences as sensory in/output coming from processes "within" the body in a dualistic sense, for example being short of breath, feeling one's own heartbeat etc. What may be regarded as most interesting within this level, is how the different constitutions of experience can move from the active constitution into other more abstract levels of experience, which I will explore further in my discussion.

Joy of movement

Joy of movement is as explored a subjective lived experience which materializes within the given individual. It is hard to imagine a way in where one could objectively observe such an experience from an outer perspective. Even critical self-reflection would be difficult, seeing to joy of movement's (and emotions as a whole) conceptualization. Ingulfsvann et. al. (2021) does however apply a data-driven design in exploring the concept utilizing interviews, both

with individuals and groups, as well as observational data and textual analysis. Their conclusion however, as stated in the title (*Unpacking the joy of movement – 'it's almost never the same'*) is that it is situational, contextual, and individual (Ingulfsvann et. al., 2021).

Through the level of active constitution, joy of movement simply entails the subjective emotion that any given actor is experiencing. It is therefore, like the other concepts I am working with, not as interesting nor necessary to analyze within this level. For any given physical educational teacher, this concept within this level is solely experienced (or not experienced) outside the control of the teacher. The teacher can allow for processes entailing or leading up to this emotion, seeing joy of movements role in the Norwegian curriculum, however there is no deeper level of meanings or insights necessary within this level of constitution.

7.3.4 Passive Synthesis

Passive synthesis regards itself with experiences where the consciousness pays no mind. This level includes habits which to the individual actor have become so embodied that even though they may require "active" actions which the sensory spectrum can pick up, it merely does not, due to its level of embeddedness.

Body awareness

Passive synthesis is as stated, outside the conscious mind (or "awareness") of the individual, which makes analyzing a concept such as body awareness within it seem paradoxical. The semantics of body awareness may implicitly point to this concept solely being fit for analysis within the level of active constitution. However, this is not the case. In phenomenological studies, body awareness is regarded as an embodied process (Bergentoft, 2018; Mehling, et. al., 2011), which entails a more inviting and broad understanding of the concept. In the level of passive synthesis however, what may be the most interesting thing about body awareness is which processes, actions, skills thoughts etc. that are unaware. Rodemeyer explains that this level entails for example how we carry and engage our bodies in the world, which actions we take which are so embodied or embedded in nature so that they no longer are a part of our consciousness (Rodemeyer, 2020). Husserl exemplifies this through someone addicted to nicotine. An urgent smoker may reach in his pocket for cigarettes and a lighter, put it in their mouth, light it and put both objects back, while their "ego" is somewhere else entirely (Husserl, 1989, p. 349-350). For those on the outside looking in at this person, he or she may seem very aware and deliberate in their actions, while the individual themselves is not.

I see parallels to physical education in this level of body awareness to a feeling of security and confidence in the given context. Exemplified through either competition sports or dance, which I see to be movement either in harmony or disharmony respectively, the more confident within the context, the less aware a pupil might be. The experiences any given pupil may have pertaining to the given context will allow them to greater play and draw from their embodied habits, and almost entering a state of *flow,* introduced by Mihaly Csikszentmihalyi (1990; 1997). Note that Rodemeyer also points to the connections between experiences at this level and the concept of flow (2020).

A practiced dancer need not consciously be aware of the steps they are taking. If utilizing the dichotomous interoception and proprioception (Mehling, et. al., 2011), the dancer engages in neither. The dancer in the given situation is almost free of body awareness, especially within the active constitution as explored above. It may therefore be that seeing as the actor is now in a state in where their bodily awareness is so embedded in the activity they are engaging in, that the actor is no longer bodily aware within the level of active constitution at all. The level of passive constitution may therefore act as a proxy-state, in the sense that when one is performing embodied habits or skills in a physical educational context, the actor is solely aware (or not aware) within the level of passive synthesis. The dancer is not concerned with where they are to place their feet relative to the ground or relative to their own bodies (proprioception), nor are they concerned with their breathing or feelings of heat and heartbeat (interoception). Flow was applied to physical activity contexts by Jackson (1996) and Jackson and Marsh (1996) (Camacho & Murcia, 2008). Flow is described as a holistic sensation experienced while being totally involved in the given activity. I argue that there are clear parallels between the feeling of flow in physical education, and the lack of explicit body awareness in the same context. Camacho & Murcia even specifically points to "loss of self-consciousness as one of many factors which indicate being in *flow*" (2008, p. 475), indicating that body awareness (or the lack thereof) within the level of passive synthesis may already have an established connection to an existing body of research, flow.

Joy of movement

Viewing joy of movement within the level of passive synthesis invites for some new reflections. The constituted meanings of each level above are within passive synthesis in some ways combined and adapted with similar experiences, resulting in a general impression of what we call habits, traits of behaviors and decisions (Rodemeyer, 2020). Rodemeyer explicitly uses the term embodied when describing and utilizing this level as an analytic tool,

being one of only two levels she chooses to do so (hyletic flow being the other). The pattern of behavior is affected by decisions from the past, which again will and do have an influence on how we carry and engage our bodies in current engagement with the world and the people surrounding us (Rodemeyer, 2020). So, joy of movement through the lens of embodied habits entails what I in part discussed in the two uppermost levels, being that some of the joy of movement may be predetermined in factors outside the individual control (gender, sexuality, "fitness" etc). However, within this level specifically, I find that joy of movement, like body awareness can benefit from the already established work on "flow" within the physical educational context. This also connects to the theme I highlighted in analysis of joy of movement within the uppermost level, which like eating disorders in Rodemeyer's case "allows" for the experience or phenomenon to occur. Literature on flow suggests that those who experience it *already* find the activity enjoyable and have good experiences with the activity (Csikszentrnihalyi, 1997: Jackson, 1992, 1996). This may conceptually be the case for joy of movement as well. Ingulfsvann et. al. points out that "*Children often associated movement with 'fun' and something they liked*" (2021, p. 12). This may be viewed as a which came first - hen and egg situation, seeing as it is impossible to deduce whether the pupil's associate movement with fun due to recent experiences, due to physiological/biological factors such as the release of certain hormones while engaging in physical activity, or the more institutionalized factors outside their control. No matter the cause, the study found that the children themselves were unable to verbalize their emotions towards movement as a whole (Ingulfsvann et. al., 2021).

If joy of movement is like flow in that the actors needs to *already* find the experience rewarding and enjoyable to achieve it, physical education is in big trouble conceptually. The subject is as discussed tasked with tearing down and mitigating inequalities and power dynamics pertaining to the "sporting body". Ideally, as stated multiple times within different parts of the curriculum, everyone should experience the joy of movement in physical education based on their own predispositions. However, if joy of movement is *dependent* on predispositions, as opposed to being able to *adapt to* them, as shown in my analysis at this level and in the level of intersubjective community, then joy of movement poses huge problems for physical education. For a teacher in the practice field, being aware of such processes may illuminate their understanding of joy of movement, how it materializes and most importantly why certain pupils may struggle with obtaining it.

Motoric learning

Motoric learning within the level of passive synthesis can be understood as the unaware patterns of engaging in the learning of movement activities. Although the level of active constitution entails both actively "doing" and passively "experiencing", there are nuances to be accounted for within motoric learning in this level. As stated in the concept analysis above, motoric learning must entail some sense of active meaning constitution attributed towards the action, either by the acting individual themselves, or the surrounding environment. It is difficult to imagine a deliberate action, which motoric learning "must" be, in a level removed from consciousness. Most of the interesting points regarding motoric learning is again bordering into the self-awareness of the actor engaging in motoric learning. It is more fitting to leave those analyses to the concept "body awareness" which I have done throughout my analysis till now.

7.3.5 Hyletic Flow

Hyletic flow represents the "lowest", rudimentary, primordial sensory experiences. This entails that the experiences this level are those who are not yet attributed meaning by the individual (Rodemeyer, 2020).

Body awareness

Body awareness is subject to the same "problem" as discussed in the level above (passive synthesis). Since the concept in itself contains awareness, its materialization in the levels is by definition "outside" the active constitution (read consciousness) of the individual, is conceptually difficult to imagine. However, Behkne describes in her article *Interkinaesthetic affectivity: a phenomenological approach* (2013) that experiences at the very lower levels may "knock on the door" of consciousness. The example above with someone touching your arm can illustrate this, in where the rudimentary sensory input is experienced, before, though bordering on simultaneously, as the individual attributes meaning to the input. Being bodily aware in this level therefore, like within the level of passive synthesis, is most thought-provokingly understood as not being aware, while bordering towards awareness. However, Behnke points out that only understanding these lower levels as readily available for animation by our psyches, automatically suspends an assumption that we as humans are psychological beings (2013). Behnke is critical to viewing this lucid awareness as only a tool for the higher levels of constitution. As such, she exemplifies through what she calls "living presences" that these very lowermost levels can and will affect our living bodies, at the

rudimentary or abstract levels, before animated and given meaning by the individual itself. A friendly presence need not be understood for example in the level of active constitution: *I am nearby and spending time with a person of which I am friendly*, nor passive synthesis: *My habitual lived body is materializing differently due to a friendly presence*, but rather that the friendly presence is affecting me interkinaesthetically in an interhuman context, "below" the two levels above.

Joy of movement

Seeing as joy is an emotion, there must be some sort of meaning attribution to the given "input" that the individual is experiencing, which would be what is applicable to this level of constitution. It is however important to mention Behnke's argument about living presences nearby, as I did in the analyses on body awareness at this level. Standing close to a friend give rise to an interkinaesthetically experience presence that Behnke describes as a friendly, warm, and comfortable "bubble" (Behnke, 2013). The question then is whether this presence is resulting in joy within me or is expressed further as something joyful that also and can be described or "felt/experienced" at the higher levels of constitution. This would be interesting to pursue, whether what Behnke is describing could be attributed and integrated into an understanding of joy of movement. As I understand Behnke, she exemplifies that certain friendly presences may be felt "outside" the active consciousness of the individual. I argue that it is conceivable that joy while in movement may also be experienced by the subject, without them actively being able to verbalize the "feeling". In this sense, joy of movement is relevant within the level of hyletic flow, seeing as although not materializing within the active constitution (at least not yet), a feeling of joy may be materializing in a lower level. This can for example be verbalized as being "comfortable" in the movement-context. In physical education, a pupil may be within a state of "comfort" or "joy" at a level which escapes his or her active constitution (read consciousness), during a given activity.

Motoric learning

Motoric learning is not fit for analysis within the level of hyletic flow. Rudimentary and fundamental sensory experiences cannot materialize in any term including the concept of learning. However, this is a find in and of itself. The fact that motoric learning is not applicable for analysis within the level of passive synthesis, nor hyletic flow, leaves motoric learning only to be understood within the active constitution. An interesting note to this is that motoric learning can therefore be regarded as a concept which *excludes* many levels of

experiences in the acting subject (pupils), while at the same time being a central term within the physical educational curriculum.

8. Overall Findings & Discussion

8.1 What is clarified? What needs to be illuminated further?

To shortly remember the aims and what I sought out to achieve in this study, I will re-present my research questions:

Rq1: *From which theoretical fields do the three components of bodily learning stem, and how are they used in scientific literature?*

Rq2: *How do the three components of bodily learning materialize through the phenomenological rubric of Lanei Rodemeyer?*

Research question 1 was in great part answered and somewhat discussed in chapter 7.2 *Findings 1 – What are we left with?,* however, its insights will play a big role in this discussion as well. The reason for this is that research question 2 is only able to be answered while building on a foundation of knowledge found through research-question 1. This ties into what I have argued to be a central point of justification for the necessity of my posing the research questions; namely that bodily learning and its content is taken for granted in both scientific literature and in the curriculum. To continue the analyses for further clarification I will firstly relate the different components to some of the findings in the interdisciplinary literature which I have explored both within my analyses, as well as my previous research chapter.

In accordance with what I discussed above, this chapter will firstly present the components individually, related to the insights gained in both the analysis. Thereafter I will discuss the components in relation to each other, as well as in relation to the contexts/debates pertaining to the legitimization-struggle of physical education, different understandings of *the body* and *the learner,* and different practical teaching situations physical education teachers may encounter. I will suggest an understanding of the historical traditions and current applications of the components (from the exploratory analysis). Thereafter, I will use the phenomenological framework of Husserl through Rodemeyer (2020), and contextualize my findings in a practically applicable fashion, grounded in research already done in and outside the field of physical education.

In addition to tying up the loose ends regarding the components from the Norwegian curriculum, I will be discussing which implications the inclusion of underdeveloped (or at the very least underexplored) concepts has when included in the curriculum. This will touch upon

different levels of educational sciences. Firstly, as this thesis set out to do; I will discuss and hopefully further the understanding of bodily learning as a core element in physical education within the Norwegian curriculum. This discussion will also illuminate and contribute to the understanding of how embodiment and bodily learning can be understood in physical education in an international context as well, seeing as "the bodily turn" as discussed has made an impact not only in the Norwegian context. On a macro-institutional level, the inclusion of such concepts in curriculums (and even as *core elements* in this case) should be subject for critical discussion, aimed towards which processes lies behind the development of the curriculum, and how it subsequently (intends to) materialize(s) in teaching practices in PE.

Some of the scopes I intend to touch upon within my discussion will not necessarily be answered but pointing forward to further research. I will however be able to point at many different perspectives which can be utilized for further research most fittingly through different methodological frameworks than the one I have used.

8.2 Component-findings

Motoric learning

Motoric learning resulted in being the least fitting component of bodily learning for analysis within the levels of constitution, where it only realistically applied to the level of active constitution. This is in concordance with the findings form the exploratory analysis, where I identified that motoric learning entails a degree of active meaning constitution in the actions or experiences the individual is engaging in. It is important to note that the term not relating to the chosen phenomenological rubric of my thesis, does not mean that the term has any lesser value to the concept of bodily learning in a vacuum. It does however point to the fact that motoric learning is rooted in different theoretical frames than the other components, which again, corresponds with my findings in the first analysis.

As it pertains to the discourse of cartesian dualism within the subject, motoric learning is most fittingly attributed to a dualistic mind/body dichotomous understanding, which closely relates to the debates about physical educations' "role" and the perspective on the subject as a health/sport based one (Sæle & Hallås, 2019; Stolz, 2014; Standal, 2015). It is arguably problematic for the concept bodily learning "containing" and being composed by a term that can be attributed a dualistic understanding. The reason for this is that bodily learning and embodiment in general is often argued as being "something other" than dualistic, within and outside the physical educational context (Husserl, 1999; Standal 2015; Østern & Bjerke 2020,

Dahl 2021). However, it would be a mistake to disregard the definition of bodily learning within the Norwegian curriculum, only because the concept is a component belonging to a more dualistically prone understanding than what physical education is "striving to be" (Østern & Bjerke, 2021, Sæle & Hallås, 2020). As stated, the learning of motoric skills and ability to perform "physical" actions is present many places within the curriculum, in formulations such as *developing skills in varied movement-activities* or *perform varied swimming techniques…* (Ministry of Education and Research, 2019). On the other hand, the Norwegian Directorate of Education of Training explicitly states that the new curriculum is attempting to distance itself from the sports-discourse, changing for example "sporting-activities" to "movement-activities" (Directorate of Education and Training, 2019b). In the case of bodily learning, this is a give and take situation, rooted in the history of the subject being regarded as a dualistically "physical one", while striving to become "something other".

In sum, motoric learning benefitted little from the latter part of my analysis (theory-driven), which illustrated the already explored preconception of the term and its roots as being "physically"-oriented, only regarding itself with the learning of dualistically "physical" skills. However, there are aspects within motoric learning which account for a broader understanding than a dualistic one, as explored in my first analysis (DST). Still, those parts of motoric learning that are fit for analysis within different levels, tended to boarder into the *awareness* of the individual in the "motor-learning-situation" and were therefore explored within the concept of *body awareness,* throughout the different levels. In a way, body awareness stole some of motoric learnings` thunder in my second analysis.

The component of motoric learning would be more suited within a phenomenological framework if it were referred to as for example "sensory-motoric learning". This wording would change its meaning-bearing dimension in two ways. Firstly, it would explicitly distance itself from the dualistic paradigm which "motoric learning" is attributed. Secondly, including sensory-input would give the term a meta-perspective, in the sense that the learning outcome would not only be understood as the motoric skills themselves (viewing the body as a vessel, and the actor as objective), but also the sensory-experiences of engaging in the learning process (viewing the body and actor as subjective).

Body awareness

Body awareness was very interesting to view in the different levels of constitution. Mehling et. al., (2011) states that the concept needs further conceptualization due to its complex and

multi-dimensional construct, which I have done. Body awareness, although subject for critique due to its semantic dimension including "body", which implies some sort of "other" awareness as well (the Dahl, 2021 argument), materializes quite differently within the different levels. At the lowermost level, body awareness entails the "objective" inputs and sensory experiences the individual can percept, without them (yet) attributing the experiences meaning. Furthermore, these "lower" levels of experience also can entail an interkinetic dimension, as argued by Behnke (2013), entailing that although not yet attributed meaning, these sensory experiences may be subjective after all. At the two uppermost levels, body awareness refers to how the individual not only relates with other individuals in any given contexts, but also with somewhat predetermined factors intergenerationally determined, such as power dynamics relating to gender, health, and other factors. Based on my analysis of body awareness, it is clear that the concept is not only applicable within the framework, but that the findings I have made already relates to literature on the very same concepts within different fields. In my summary of the components, I will return to how my findings relate to other scientific works with different conceptual apparatuses and theoretical frameworks.

Another very interesting finding is how body awareness within the level of passive synthesis may be best understood as the lack of awareness, and how this can border into the different levels of constitution surrounding it. Seeing as passive synthesis entails the experiences which eludes the individual's consciousness, body awareness within this level is therefore best understood as "the lack of body awareness". As I discussed in my analysis, this "lack of body awareness" may be closely related to the concept of flow as first formulated by Mihaly Csikszentmihalyi (1995; 1997). Conceptually, flow and body awareness within the passive constitution have a lot of thematic overlap.

I therefore argue that a multileveled understanding of body awareness can contribute to broadening physical education teacher's understanding of bodily learning as it is defined within the Norwegian curriculum. This is in starch contrast to for example the OECD article about embodied learning, which highlights factors such as consciousness as being of great importance when discussing bodily learning (embodied learning in their case) (Panigua & Instance, 2018), which I will explore in more detail later.

Joy of movement

To analyze joy of movement through the different levels gave room for many reflections, which indicates that the term can, and maybe should, be understood in different ways at

different levels. Within the level of active constitution, joy of movement simply refers to the subjective emotion the individual is feeling in any movement-context. As the curriculum states, bodily learning *refers to … joy of movement,* meaning that the learning/experience of bodily (embodied) processes *refers to* the experience of joy while being in movement. If applied as such, joy of movement may be reduced to being a dualistically rooted, bordering on behavioristic input/output argumentation. However, as found in my first analysis, Ingulfsvann et. al. (2021) points out that the term also speaks to the lived and experienced body which therefore invites a more phenomenological or embodied perspective on joy of movement.

At the uppermost level, intersubjective community, joy of movement can be viewed in light of debates pertaining to health, gender, and related hegemony. An example I utilized above is that of Stevens (2017), who notes that her own joy of movement can be regarded as a privilege given to her by the very same institutionalized structures and power-hierarchies which physical education is working to undermine. Teachers' ability to understand certain dynamics outside any given pupil's control and consciousness may have great effects as to how they relate to joy of movement in any given physical educational lesson. At the same time, joy of movement must also be understood as what the semantic dimension speaks to, the subjective emotions felt by a subject, while being in movement, which solely materializes within the level of active constitution. However, the division of the different levels of constitution that I operate with in my analysis is only possible at the theoretical level. In practice, these levels would combine and appear as a single lived experience for the subject. This lack of division makes it so that one must also be able to understand the interplay and relationship between the different levels, to fully comprehend and act on the knowledge learned from my analysis.

At the level of interpersonal intersubjective, processes pertaining to the co-creation of joy in a movement context is illuminated. This relates to the discussions of Ingulfsvann et. al. (2021), arguing that joy of movement not only being facilitated by collectivism, but itself a facilitator of collectivity. Regarding joy of movement collectively ties in nicely with Rodemeyer's descriptions of the interpersonal intersubjective as a meeting of individual subjects' *emotional* and *empathic* constitutions of worlds, illustrating how an albeit subjective experience is highly dependent on collective contexts.

The concept may be argued as being included in the curriculum based on an expected causal relationship between movement and joy. Although there are many studies which point to *physical activity* giving a plethora of benefits, joy included (Le Masurier & Corbin, 2006),

implicitly stating this as an obvious connection in a curriculum may need a further explanation to be valid as general statement (truth). A certain discrepancy in operationalization of terms within a curriculum is of course to be expected, and even arguably by design. However, simply including joy of movement in the definition of bodily learning without a further conceptualization, leaves the term easily to be understood only at the level of active constitution, where the joy in and of itself is the goal, with excluding subliminal undertones (Stevens, 2017 – "privilege of being able to experience joy of movement"). Physical education being regarded as a "break" and extension of free period for the pupils is an important theme, closely tied to the legitimization of the subject. As explored above, physical education is not to be mistaken as a "break" from other subjects, nor an extension of recess (Østerlie, 2020-2022), and doing so could have negative effects in the learning outcomes for the pupil, and in the court of public opinion as well (legitimization). The point of joy of movement potentially being a negative factor in physical education's validation as a credible subject has been noted in scientific literature in the New Zealand physical educational context as well (Stevens, 2017). The curriculum of New Zealand is like the Norwegian one due to them both being derived and greatly influenced by policy relating to health, while at the same time struggling for legitimization as a learning-subject (Stevens, 2017). Thorburn & Stolz (2015) state that physical education is still permeated with challenges regarding these discourses, as explored thoroughly throughout this thesis.

Suffice to say, joy of movement is in a highly tense position, both in Norwegian and international contexts. It changes greatly depending on within which level of constitution one regards the component, while at the same time being at the very core of the subject in Norway, albeit rooted in a tradition the subject is attempting to distance itself from.

8.2.1 Sum of the components

Throughout my two analyses', I have gained new knowledge about all the three components which bodily learning "refers to". The positions I have elucidated have different roots and correspond to different "perspectives" pertaining to the legitimization of physical education. What has not yet become clear, is how they interrelate and combine into becoming what bodily learning "refers to". However, there are several examples pointing towards that they do interrelate and are intertwined. One example is how body awareness in many levels encompasses motoric learning. To understand motoric learning without any connection to awareness and sensory intake makes the motoric learning mechanical and unidimensional. It is still questionable whether there is clarity behind bodily learning "referring to" a subjective

emotion experienced differently depending on many factors from predispositions to interplay between actors (joy of movement) + the individuals' bodily awareness, which also is experienced in many different levels of constitution and materializes quite differently within each (body awareness) + the intentional act of learning or practicing motoric skills (motor learning).

Although expected, I have become more convinced that bodily learning as a core element within physical education must not, though seems often to be, reduced to a common-sensical definition pertaining to the learning of something with or about the *body* dualistically, such as the language of Arnold for example. This sentiment was also the one presented by Østern & Bjerke (2021), which contributed to my motivation in pursuing an operationalizable and broader understanding of bodily learning. Within the conceptual apparatus I have based my work on, this entails that the components are all solely being understood within the level of active constitution. Active constitution only considers what the pupils experience in their conscious mind but fails to include "lower" rudimentary sensory experiences, or "higher" societal/institutional dynamics that give meaning to personal experience. However, viewing bodily learning as the sum of these three components: If only taking the level of active constitution into account, and regarding bodily learning as bodily + learning, being learning with/about the body dualistically, the concept is reduced to only referring to learning in motor activity, which I argue as being a faulty understanding. This sentiment is backed by both the literature on embodiment, clearly attempting to differentiate itself as something "other" than cartesian-dualistic, as well as my analysis of the components showing that the different concepts materialize in numerous levels of experience, also outside the consciousness of the individual (active constitution). Furthermore, concepts such as physical active learning, and motoric learning (although a component of bodily learning) already exist and have rich fields of research behind them. Only viewing bodily learning as a synonym to either of these does not compute with its definition in the curriculum (as explored in my analysis), nor the theoretical traditions from which the term most likely has its roots (embodiment-"movement").

This common-sensical (often trending towards dualistic) view on bodily learning is found in much of the research on the concept. One of the most prominent studies within this thesis has been the review study of Østern & Bjerke (2021). The study concludes that bodily learning within physical education stems from the work of Arnold through Ommundsen (2013), viewing the movement in and of itself as having value. This is not compatible with much of

what I have discussed pertaining to physical education being more than a movement- or activity-based subject, but rather a learning one. Bodily learning being reduced to "movement as a value in itself" is not compatible with trends within the subject, which all point in the other direction (learning being the main value, as opposed to movement). Moreover, it does not compute with the relevant research literature internationally on the topic, nor does my analysis point to bodily learning being best understood with a cartesian dualistic framework. It may be argued that dualistically rooted language has made its way into the curriculum, however, based on my analyses I would not state that the language is problematically dualistic. That is not to say that the language is not at all problematic (which should be subject to discussion) but that a mind/body dualism is not the main issue at hand. Rather, works such as Østern & Bjerke (2021) that explicitly concludes that bodily learning within physical education views physical activity as a goal in itself, may contribute to distort what actually might be discovered between the lines of the curriculum. Conversely, questions should be raised pertaining to the justification of inclusion, and what intentions in relation to materialization in the practice field that are behind bodily learning being included as a core element. In other words, I find that through analyzing the components of bodily learning, the issue at hand is not that the language is dualistically rooted (or wrongly formulated). Rather, I believe that the attempt at boiling bodily learning down to a simple two-sentence core element is where the problem lies. The language in itself is not what is distorting bodily learning's content, it is the lack of language utilized to describe it.

8.3 Legitimization

Physical education has since its inception evolved in many aspects. The subject is now for all pupils within the Norwegian educational system, and learning outcomes are included in the same way as any other school subject. However, the subject is still struggling with legitimization in educational discourse, not achieving the same status as a subject with learning-outcomes like the "theoretical" subjects (Østerlie, 2020-2022). This has been researched and discussed within the field for a long time, and multiple factors are pointed to for the subject to achieve its "intended" status. The subject is prone to being regarded as a "break" from the theoretical subject, and therefore only an extension of recess (Østerlie, 2020-2022), This is furthered by physical education being a nation-leader in teachers lacking formal education (just above 50% have formal education) (SSB, 2018). Another factor which is argued in having a great impact on how the subject is regarded is the language used in and around the subject. This has been discussed in scientific articles, such as the article by Borgen

et. al., (2020), discussing the unclear boundaries between *physical activity* and *physical education*, in popular science fora such as the debate-article by Engelsrud et. al., stating that *the subject is called physical education, not gym* (2021), and as I pointed out earlier; the review article on bodily learning within the Norwegian context concluding that the concept is based on the works of Arnold. All of this is closely related to the hegemony cognitive skills and knowledge-forms have had on western philosophy and culture throughout modern history, as explored above.

Considering this, I argue that the inclusion of a term such as bodily learning as a core element in physical education, must be based on a solid theoretical foundation and proper conceptualization. Conceptualization is necessary to base any argument of inclusion is further legitimizing and professionalization within both teaching and learning in physical education as well as in higher education. For reference, other core elements within other subjects are for example in English: *Communication*, and natural sciences: *Technology*, both of which being more explicitly explored and grounded in their definitions.

It is however important to understand the historical dimension of the subject and note that core elements are a new addition to the Norwegian curriculum in the most recent reform, and they may therefore be discontinued just as quickly as they were included, in future reforms. They are not the only pillar upon which the legitimization of any subject lies. However, in light of recent educational discourse and debate within the subject, as well as their intended role in the curriculum, their content should be clear and at least intentional.

8.4 Mind-body dualism in physical education

Central to the legitimization of physical education lies the debates pertaining to the mind-body dichotomy within both educational discourses, as well as in society as a whole. As stated, cognitive skills and knowledge has historically within western philosophy been regarded as a "higher form of knowledge". This has (of course) been nuanced in recent years, by for example the bodily turn shifting focus towards other forms of knowledge's worth as well. This simplification of the body/mind relationship challenges the terminology, practices and understanding of physical education, pertaining to its legitimization as a subject with learning outcomes, equally as important as its "theoretical" or "cognitive" counterparts (Kirk, 1996). In recent educational discourse, *knowing that* has become more desirable than *knowing how*, which in turn has had influence on physical education (Kretchmar 2005).

It is conceivable that bodily learning was included within the curriculum as a sort of "response" or "nod" to embodiment making its impression on educational scientific literature, amongst others being highlighted within the OECD article by Panigua & Instance (2018), where embodied learning is included as a "innovative pedagogy". However, as I explored in my literature review chapter, the OECD article itself is prone to using dualistic language, which makes its highlighting of embodied pedagogy quite paradoxical. I will show some excerpts from the article which illustrates the paradoxical nature of attempting to apply a dualistic framework to bodily learning (embodied in their case)

The very first sentence within the abstract of the chapter reads as follows:
Embodied learning refers to pedagogical approaches that focus on ***the non-mental factors*** *involved in learning, and that signal the importance of the body and feelings.*

Introduction of Subchapter "9.1 Definition":
In embodied learning, the main idea is that students ***who consciously use their bodies*** *to learn are more engaged than those who are at a desk or computer. The brain, while important is not the only source of behavior and cognition.*

Bullet points in "Box 9.1. *Pedagogical principles of embodied learning"*
- ***Body and mind*** *are working together in learning.*
- ***Action and thinking*** *take place simultaneously.*
- ***The physical and ideal*** *are in dialogue with each other.*

It appears that the points the authors are attempting to get across is tripping on its own shoelaces, which metaphorically speaking are not tied within an appropriate framework to communicate the message in the first place. If embodied learning is characterized by focusing on *non-mental factors***,** how can it be *that body and mind are working together*? Formulations such as *the body is used* is the very characteristic of mind body dichotomous language, even explicitly exemplified by Sæle & Hallås (2020) as a marker of this. "*The main idea is that students* ***who consciously use their bodies to learn****"* is within the theoretical framework applied in my analysis only regarding the active constitution level of experience. What this implies is that embodied or bodily learning must be a conscious process, which is highly debatable, and as I have shown in my analysis, not the case.

An important thing to note is that although cognitive learning and knowledge may have been of higher regard traditionally, that does not entail that embodied learning or knowledge has not had a place in teaching/learning-situations. What I mean by this is that the analysis I have

conducted does not assist teachers in *doing* or *teaching* bodily learning, it rather illuminates the process, *which is already taking place*, no matter if focus is directed towards it or not. Within the Norwegian physical education curriculum, this is of course dependent on which component one choses to focus on. Take motoric learning for example, which would be very much applicable within the terms and justifications used by Panigua & Instance in the OECD article (2018). Within motoric learning, *body and mind work together, consciously* (wording from OECD article) in order to facilitate the learning of or practice on a certain skill. However, as illustrated by the lack of aptitude for analysis of motoric learning within my framework, the component encompasses only one of the five levels of constitution – the actively conscious one. The two other components in the Norwegian curriculum joy of movement or body awareness are not conceptually suitable within the OECD article. Note that I am not expecting the very terms to be mentioned explicitly, seeing as the Norwegian context can be an outlier and therefore materialize very differently than the international one. However, my analysis of bodily learning in the Norwegian curriculum through a phenomenological framework, leaning on international literature, and the OECD article's formulations are not in slight disagreement. Rather, they are at a collision course in what can be regarded as the meeting of two noncompatible paradigms regarding bodily learning either as a holistic embedded experience, or as a dualistic one. My analysis within the different levels of constitution shows the opposite of what applying a mind-body dualistic view on bodily learning does, as done by the OECD article. If the Norwegian curriculum draws inspiration from the same source as the OECD article, or the very article itself, the Norwegian curriculums interpretation and manifestation of bodily learning may be regarded as maintaining a dualistic division between the body and mind. Much of the literature I have reviewed throughout my thesis point in this direction as well, again, most notably Østern & Bjerke (2021) stating that the physical education curriculum regards movement as a value in and of itself. However, my analyses points in a different direction, illustrating that the different components that bodily learning is described through in the curriculum benefit from a broader understanding not only of the concepts themselves, but the individuals one applies the concepts to. Not only would this be a grounded starting point in order to understand what role bodily learning is to play in physical education, it would also contribute positively to further legitimizing the physical education as being more than a subject about training the dualistically physical body, or being a break from the "theoretical subjects"

9. Conclusion

9.1 Implications for the practice field – operationalization

I argue that my analysis and discussion show that bodily learning may be best understood as a holistic and embedded process related to the discussions that all learning is bodily learning. Due to the embedded "nature" of the concept it can neither be pointed to, nor isolated as a "learning object" of any single lesson. As stated, embodiment, and by extension bodily learning, is always happening, whether the teacher or pupil is aware of it or not. There is no logic in attempting to "focus" on bodily learning. Rather than *focus on* bodily learning, I suggest that *being aware of* bodily learning-processes is a more accurate and beneficiary way to verbalize, discuss and understand the meaning of the concept. What this entails, and which also was shown in my analyses, is that the teachers of physical education who are to work with bodily learning as a core element within the subject, hopefully can benefit from *understanding* the concept with inspiration from Rodemeyer's (2020) systematic framework. I have throughout my analysis pointed to different practical examples, especially pertaining to how the different levels of constitution may materialize in physical educational contexts. Furthermore, although not the primary goal of my thesis, I argue that the insights gained about the three components of bodily learning within the physical educational curriculum in Norway also is relevant for the broader international context.

Hegna & Ørbæk (2021), noted that research on embodiment often appears as fragmented, and that there are limited discussions across different fields. However, I argue that one of the most important takeaways of my study is that much of the work of mind I have done has already been explored within a variety of fields. The only problem is that due to the different fields utilizing such a variety of conceptual apparatuses', these connections has previously been challenging to locate. Some examples of my findings relating to different scientific works are Behnke (2013)'s *Interkinaesthetic affectivity* relating to the level of hyletic flow, Rodemeyer's (2020), co-constitution of "body", relating to body awareness both within the level of intersubjective community and interpersonal intersubjectivity, joy of movement relating to Rodemeyer's *emotional* and *empathic* constitutions of worlds within the level of intersubjective community, Laura Hills's (2007) social and embodied power dynamics within physical education relating to the interpersonal intersubjective level and body awareness within the level of passive synthesis boarding into the works of flow (Mihaly Csikszentmihalyi 1990; 1997).

I wish to highlight is the complexity and embeddedness of bodily learning, and that the concept has a wider range than what is actively constituted within the consciousness of the pupils. Bodily learning happens continuously, in all the Husserlian levels of constitution of embodiment. My work indicates that the concept is in its current formulation in the curriculum underexplored and needs to be understood in broader contexts than what is in the active constitution of individuals. It seems that its implementation in the curriculum is not based on argumentation regarding bettering teachers' ability to teach physical education, nor regarding bettering the learning-outcomes for pupils a response to international trends within educational discourse bearing marks of the embodiment-movement, and Norwegian educational institutions wanting to take part.

9.2 Implications for further studies - What is next?

As stated once before, I truly do believe that this thesis opens more figurative doors than it closes. What I mean by this is that I am raising more questions than I am answering throughout this thesis. I argue that this signifies the fundamental necessity of conducting conceptually clarifying analyses of bodily learning, which I also highlighted in my introduction chapter regarding the lack of similar studies in both form and content. I chose to design my study on bodily learning around the Norwegian curriculum, considering its recent inclusion as a core element. As stated, I found that this is the most fitting way to examine bodily learning within physical education in Norway, rather than turning to the practice field. However, with the insights gained in my thesis by grounding the concept in a phenomenological framework, as well as reviewing the different components in the context of that framework and international literature; I believe that the Norwegian scientific community now are better suited to enter the practice-field with empiric research designs pertaining to bodily learning as a core element. In this context, I specify the Norwegian community, due to my analyses being on the Norwegian curriculum.

There are several angles that can be utilized when approaching bodily learning empirically. For example, one could attempt to learn more about pupils' experience of their own embodied processes within physical education. Within this scope, there are multiple possibilities, one could be to attempt to gain insights into the power dynamics related to "fit bodies", gender, sexuality, relations, and friendship which was highlighted in body awareness through interpersonal intersubjective. Another interesting angle could be to work with pupils' self-reported experiences of how different sensory encounters can be "knocking on the doors of their consciousness" (Wording from Behnke, 2013), drawing on theoretical knowledge from

for example flow-theory, in attempt to allow pupils to verbalize where their “awareness” lies throughout physical educational settings. Verbalization was also noted as a challenge in Ingulfsvann et. al. (2022) in their study on joy of movement, which also could benefit from the findings in my thesis. Another scope could be to focus on the teachers of physical education, and their experiences and understanding of the operationalization or materialization of embodiment (bodily learning) within the physical educational setting.

Another theme that I have discussed and problematized which I have not had the opportunity to conclude, is what symptoms occur in the practice field when underdeveloped concepts are included in the curriculum. Designs pertaining to explore how the practice field (teachers) work with and operationalize core elements, especially bodily learning, would have been very relevant to draw on in my thesis, and I suspect that future studies with such aims will benefit from my study as well. One topic which has not been extensively discussed within my thesis, partly due to considerations pertaining to length and scope, and partly due to the framework of the levels of constitution, is how the subjective actor relates not only with the people around them, but the surrounding material environment as well. Factors such as the concrete physical space of a traditional gymnasium, with its typical artifacts such as ropes, climbing walls, hoops, different balls relating to different sports etc. will no doubt influence the pupils and their embodied *being* in the context of physical education. Exploring how pupils relate to the environment of physical education and its artefacts would also bring very relevant insights towards understanding how bodily learning materializes in physical education.

Designs such as those I have exemplified above would not only have the opportunity to build on my study, but they would also allow for more nuanced discussions in designs more theoretical designs like mine.

Literature

Aartun, I., Walseth, K., Standal Ø. F., & Kirk, D. (2022). Pedagogies of embodiment in physical education – a literature review, *Sport, Education and Society*, (27:1), 1-13. DOI: 10.1080/13573322.2020.1821182

Aggerholm, K., Standal, O., Barker, D. M., & Larsson, H. (2018). On practicing in physical education: outline for a pedagogical model, *Physical Education and Sport Pedagogy* (23 2), 197-208. doi:10.1080/17408989.2017.1372408

Andreassen, S. E, (2016). Forstår vi læreplanen? [Doctoral Thesis] *UIT, Universitetet i Tromsø, Institutt for lærerutdanning og pedagogikk.* https://munin.uit.no/bitstream/handle/10037/9671/thesis_entire.pdf?sequence=3

Assche, K., Beunen, R., Duineveld, M., Gruzemacher, M. (2023). Adaptive methodology. Topic, theory, method and data in ongoing conversation, *International Journal of Social Research Methodology*, (26:1), 35-49, DOI:10.1080/13645579.2021.1964858

Augestad, P. (2003). Skolering av kroppen: om kunnskap og makt i kroppsøvingsfaget [Doctoral Thesis] *Høgskulen i Telemark.*

Bengtsson, J. (1999). En livsvärdsansats for pedagogisk forskning. In J. Bengtsson (Ed.), Med livsvärden som grund, *Studentlitteratur*, 9-49.

Bergentoft, H. (2018). Running: A way to increase body awareness in secondary school physical education, *European Physical Education Review* (vol 26: 1), 3-21. https://doi.org/10.1177/1356336X18814035

Bernstein, N.A. (1967). *The co-ordination and regulation of movements*. Oxford: Pergamon.

Biljana, P. (2019). Lærerkompetanse i grunnskolen Hovedresultater 2018/2019, *Statistisk Sentralbyrå.* https://www.ssb.no/utdanning/artikler-og publikasjoner/ attachment/391015?_ts =16 b93d5e508

Borgen, J. S., Hallås, B. O., Løndal, K., Moen, L. M. & Gjølme, E. G. (2020). Problems created by the (un)clear boundaries between physical education and physical activity health initiatives in schools, *Sport, Education and Society*: (26: 3) 239-252.

Borgen, J. S & Engelsrud. G (2020). Språkbruk om kroppsøving: Et kritisk blikk på ny læreplan i Fagfornyelsen (LK20), *Acta Didactica Norden* (Vol. 14) 1-19. https://doi.org/10.5617/adno.8099

Booth, D. (2009). Politics and pleasure: The philosophy of physical education revisited. Quest, 61(2), 133–153. https://doi.org/10.1080/00336297.2009.10483607

Bradley, K. J & Dooling, S (2013). Evidence: A report on the impact of dance in the k-12 setting", *National dance education organization,* 1-66.

Brown, T. & Penney, D. (2013). Learning 'in', 'through' and 'about' movement in senior physical education? The new Victorian Certificate of Education Physical Education, *European Physical Education Review* 19(1):39-61.

Camacho, A. S., Murcia, J. A. M., & Tejada, A. J. R. (2008). Motivational Profiles and Flow in Physical Education Lessons, *Perceptual and Motor Skills*, 106(2), 473–494. https://doi.org/10.2466/pms.106.2.473-494

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience,* Harper & Row.

Csikszentmihalyi, M. (1997). *Flow: The psychology of happiness*. Rider.

Dahl, T. (2021). Hjernen er ikke alene – all læring er kroppslig, In Østern T. P., Bjerke Ø., Sørum A. G., & Engelsrud G. (ed.), *Kroppslig læring –perspektiver og praksiser* (p.31-42), Universitetsforlaget.

Dahlberg, H. & Dahlberg. K. (2020). Phenomenology of Science and the Art of Radical Questioning, *Qualitative Inquiry* (Vol. 26(7), 889–896. DOI: https://doi.org/10.1177/1077800419897702

Damasio, A. R. (2005). *Descartes' Error: Emotion, Reason, and the Human Brain*, Penguin Books.
Damasio, A. R. (2010). Descartes Error Revisited, *Journal of the History of the Neurosciences* (p. 192-194). DOI: 10.1076/jhin.10.2.192.7250
Descartes, R. (2008). Meditations on first philosophy (M. Moriarty, Trans.). *Oxford University Press.*
Engelsrud, G. (2022). Kropp og Sinn; Fysisk-psykisk: et bidrag til avklaring av et av grunnproblemene i helse- og sosialfagene in Jenssen. D., Seim, M. K. S., Tufte, P. A. (ed.) *Vitenskapsteori for sosial- og helsefag*, (p. 139-160) Gyldendal akademisk.
Engelsrud, G. Hallås, B. O., Kjerland, G. Ø. & Sæle, O. O., (2021). Faget heter kroppsøving, Ikke gym, *Forskersonen*, URL: https://forskersonen.no/helse-kronikk-meninger/faget-heter-kroppsoving-ikke-gym/1804255
Fitri, M. B. & Suherman, A. D., (2018). Inductive Learning Methods towards Learning Outcomes, *Advances in Health Sciences Research* (vol. 11) 222-225. https://doi.org/10.2991/icsshpe-18.2019.63
Frederiksen, L., Phelps, S. F., & Kimmons, R. (2018). Introduction to Literature Reviews. In R. Kimmons, Rapid Academic Writing. *EdTech Books*. URL: https://edtechbooks.org/rapidwriting/lit_rev_intro
Gibson, J.J. (1979). *The ecological approach to visual perception*, Hougton Mifflin.
Hadders-Algra, M. (2000). *The Neuronal Group Selection Theory: a framework to explain variation in normal motor development*, Cambridge University Press.
Hegna, H. M. & Ørbæk, T. (2021). Traces of embodied teaching and learning: a review of empirical studies in higher education, *Teaching in Higher Education*. DOI: 10.1080/13562517.2021.1989582
Helse Bergen (2021). *Kroppsbevissthet*, Helse Bergen URL: https://helse-bergen.no/avdelinger/rehabiliteringsklinikken/fysikalsk-medisin-og-rehabilitering/fysikalsk-medisin-og-rehabilitering-poliklinikk/kroppsbevissthet
Husserl, E. (1970). *The Crisis of European Sciences and Transcendental Phenomenology an Introduction to Phenomenological Philosophy*, Northwestern University Press.
Husserl, E. (1982). *Cartesian Meditations* (Cairns, D., Trans.) MARTINUS NIJHOFF PUBLISHERS
Ingulfsvann, L. E., Moe, V.F. & Engelsrud, G. H. (2021). Unpacking the joy of movement – 'it's almost never the same'. *Sport, Education and Society*. https://doi.org/10.1080/13573322.2021.192769
Jackson, S. A. (1996). Toward a conceptual understanding of the flow experience in elite athletes. Research Quarterly for Exercise and Sport, 67, 76–90.
Jackson, S. A., Marsh H. W. (1996). Development and validation of a scale to measure optimal experience: The Flow State Scale. *Journal of Sport and Exercise Psychology* (18), 17–35.
Jusslin, S. & Forsberg, L. (2021). Kroppslig læring i dansende, lesende og skrivende kropper. In Østern T. P., Bjerke Ø., Sørum A. G., & Engelsrud G. (ed.), *Kroppslig læring – perspektiver og praksiser* (p. 185-195), Universitetsforlaget.
Jåbekk, P. (Host). (2020-2022). Episode 6. Kroppslig læring med Øyvind Førland Standal [Audio podcast episode]. In *Kroppsøvingspodden*, https://kroppsovingspodden.libsyn.com/
Kirk, D. (1996). *The Sociocultural Foundations of Human Movement*, Macmillan.
Kirk, D. (2010). *Physical education futures*. London: Routledge.
Kirkebøen G. (2001). Descartes' embodied psychology: Descartes' or Damasio's error?. Journal of the history of the neurosciences, 10(2), 173–191. https://doi.org/10.1076/jhin.10.2.173.7255

Kugler, P. N., Kelso, J. A. S., & Turvey, M. T. (1982). On the Control and Coordination of Naturally Developing Systems. In Kelso, J. A. S. & Clark, J. E. (Eds.), *The Development of Movement Control and Coordination* (p. 25-36). Wiley.
Ministry of Education and Research (2017). Overordnet del – verdier og prinsipper for grunnopplæringen. Fastsatt som forskrift ved kongelig resolusjon. Læreplanverket for Kunnskapsløftet 2020.
Ministry of Education and Research (2019). Læreplan i Kroppsøving (KRØ01-05). Fastsatt som forskrift. Læreplanverket for Kunnskapsløftet 2020.
Kvale, S. & Brinkmann, S. (2015). *Det kvalitative forskningsintervju*, Gyldendal akademisk
Larin, H. M. (2000). Motor learning: theories and strategies for the practitioner. *Physical therapy for children*, 131-160.
Le Masurier, G. & Corbin, C. B. (2013). Steps Counts Among Middle School Students Vary With Aerobic Fitness Level. *Research Quarterly for Exercise and Sport (Vol 77:1)* 14-22.
Magill, R. (2001). *Motor learning: concepts and applications*. Mc Graw-Hill.
Magill, R. & Anderson. D. (2017). *Motor Learning and Control: Concepts and Applications* (11), McGraw-Hill Education.
Merlaeu-Ponty, M. (2012), *Phenomenology of Perception,* (Smith, C. trans.), Routledge
Mausethagen, S., Mølstad, E. M. (2014). Licence to teach? Læreplananalyse og profesjonsutvikling, in Elstad, E. & Helstad. K (ed.) *Profesjonsutvikling i skolen* (p. 152-168) Universitetsforlaget.
McWilliam, E. (1999). *Pedagogical pleasures*. Peter Lang
Mehling, W. E., Wrubel. J., Daubenmier, J., Price, C., Kerr, C., Silow, T., Gopisetty, V. & Stewart, A. (2011). Body Awareness: a phenomenological inquiry into the common ground of mind-body therapies. *Philosophy, Ethics, and Humanities in Medicine* (vol. 6: 6) 1-12.
Ommundsen, Y. (2013). Fysisk-motorisk ferdighet gjennom kroppsøving – et viktig bidrag til elevenes allmenndanning og læring i skolen. *Norsk pedagogisk tidsskrift* (vol97: 2) 155–166. https://doi.org/10.18261/ISSN1504-2987-2013-02-07
Paniagua, A. & Instance, D. (2018). Embodied learning in *Teachers as Designers of Learning environments: the importance of innovative* (p. 117-126), OECD Publishing. *https://doi.org/10.1787/9789264085374-11-en*
Rodemeyer, L. (2020). Levels of embodiment: A Husserlian Analysis of Gender and the Development of Eating Disorders in Tewes, C. & Stanghellini, S. (2020). *Time and Body: Phenomenological and Psychopathological Approaches,* (p. 234-255), Cambridge.
Rønholt, H. (2014). Kropserfaring. In Rønholt, H. & Peitersen, B. (red.). *Idrætsundervisning. En grundbog i idrætsdidaktik.* Museum Tusculanums Forlag.
Schmidt, R.A. (1975). A schema theory of discrete motor skill learning. *Psychological Review* (82), 225-260.
Schmidt, R. A. & Lee, T. D. (2013). *Motor Learning and Performance: From principles to action* (5th ed.), Human Kinetics Publishers.
Shumway-Cook, A. & Wollacott, M. (2016). *Motor Control*, (6th ed.) Lippincott Williams And Wilkins.
Standal, Ø. (2015). *Phenomenology and pedagogy in physical education*, Routledge.
Standal, Ø. (2019). Kva kroppsleg læring eigentleg er. *Utdanningsnytt* URL: https://www.utdanningsnytt.no/fagartikkel/fagartikkel-kva-kroppsleg-laering-eigentleg-er/219295
Stevens, S. (2017). The joy of movement in physical education: The enfleshed body [Doctoral dissertation, The University of Canterbury]. UC Library.

Stolz, S. A. (2014). *The philosophy of physical education: a new perspective*, Routledge.
Svendler, C., Anttila, E., Rowe, N. & Østern, T. P. (2013) Young people's embodied voices: Experiences and learning in dance education practices across the world, *Bradden*, 1-15.
Sæle, O. R. (2017). *Danningsperspektiver i Kroppsøvingsfaget*, Fagbokforlaget.
Sæle, O. R. (2021). *Kroppssyn gjennom historien: og om vår tids kroppsidealer og kroppsfokus*, Gyldendal.
Sæle, O. R. & Hallås. B. O. (2020). *Kroppsøving i femårig lærerutdanning: skolefag, profesjonsutvikling, forskning*, Gyldendal akademisk.
Directorate of Education and Training (2019a). Hva er kjerneelementer?, *Directorate of Education and Training*. URL: https://www.udir.no/laring-og-trivsel/lareplanverket/stotte/hva-er-kjerneelementer/
Directorate of Education and Training (2019b). Hva er nytt i kroppsøving?, *Directorate of Education and Training*. URL: https://www.udir.no/laring-og-trivsel/lareplanverket/fagspesifikk-stotte/nytt-i-fagene/hva-er-nytt-i-kroppsoving/
Vedul-Kjelsås, V. & Elnan, I. (2021). Kroppslig læring for å fremme lærerstudenters forståelse av inkluderende kroppsøvingsundervisning, In Østern, T. P., Bjerke, Ø., Sørum, A. G. & Engelsrud, G. (ed.), *Kroppslig læring –perspektiver og praksiser* (p. 237-248) Universitetsforlaget.
Vedul-Kjelsås, V. & Haga. M. (2021). Kroppslig læring som motorisk kompetanse In Østern, T. P., Bjerke, Ø., Sørum, A. G. & Engelsrud, G. (ed.), *Kroppslig læring –perspektiver og praksiser* (p. 56-72). Universitetsforlaget.
Walker, M. P., Brakefield, T., Morgan, A., Hobson, J. A., & Stickgold, R. (2002). Practice with sleep makes perfect: sleep-dependent motor skill learning. *Neuron*, 35(1), 205–211. DOI: https://doi.org/10.1016/s0896-6273(02)00746-8
Wellard, I. (2012). Body-reflexive pleasures: Exploring bodily experiences within the context of sport and physical activity. *Sport, Education and Society*, 17(1), 21–33. DOI: https://doi.org/10.1080/13573322.2011.607910
Williford, K. (2013). Husserl's hyletic data and phenomenal consciousness, *Phenomenology and the Cognitive Sciences*, *Springer*, 1-19. DOI: 10.1007/s11097-013-9297-z
Winther, H. (2014). Grundfølelsernes liv og funktion i idræts- og bevægelsesundervisning – et allestedsnærværende læringspotentiale. *idrotssforum.org*, (1–1), 1-16.
Østerlie, O. (Host) (2020-2022). Episode 29. Kroppsøving i et historisk perspektiv, [Audio podcast episode]. In Krøpodden. URL: https://xn--kr-mka.no/29-kroppsoving-i-et-historisk-perspektiv/
Østern, T. P & Bjerke, Ø. (2021). Forekomst og forståelser av kroppslig læring i norskspråklig forskning, In Østern, T. P., Bjerke, Ø., Sørum, A. G. & Engelsrud, G. (ed.), *Kroppslig læring –perspektiver og praksiser* (p. 16-26) Universitetsforlaget.
Ørbæk, T. & Engelsrud, G. (2019). Sårbarhet som profesjonsetisk kompetanse? En metarefleksjon basert på undervisning i skapende dans i høyere utdanning, *KROPPSØVINGSFAGET I BEVEGELSE* (VOL.3 NR.2) 62-76.