Students' experiences and learning in physical education

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Summary

Introduction

Rorty's philosophical pragmatism, which inspired this thesis, states that '… our responsibilities are exclusively toward other human beings, not toward "reality"' (Rorty & Engel, 2007, p. 41). The Norwegian education programme indicates, through its values, that the school shall help students to live, learn and work together in a complex present time and when meeting with an unknown future (UDIR, 2019b). In accordance, the present thesis does not try to reveal any intrinsic reality, but to create knowledge that is useful in teachers' and students' everyday lives, both within and outside PE lessons. To produce such knowledge concerning students' experiences and learning in physical education (PE), one must consider the interaction between the individuals' actions and their environment in immediate situations (Dewey, 1916, 1938, 2015). Thus, the students and teacher bring their previous experiences and learning into PE lessons, which influence their actions, and thereby their experiences and learning, in further situations in PE lessons. The difference between experiences and learning in situations in PE is that situations that are acted out in a habitual way influence the students' experiences in those situations, but do not necessarily change the students' predisposition to act in further situations, which may be counted as learning (e.g., Quennerstedt et al., 2011). However, only by observation can one be certain that the students' changed predisposition to act leads to different actions in further situations.

Research in Norway has shown that students' experiences in PE are diverse and complex (Røset et al., 2020; Sjåstad Åsebø et al., 2020; Walseth, 2015). Several Scandinavian and French studies, in accordance with their didactical tradition, have been conducted on students' learning in PE (e.g., Amade-Escot & Bennour, 2017; Amade-Escot & Venturini, 2015; Barker et al., 2015; MacPhail et al., 2008; Mooney & Gerdin, 2018; Quennerstedt, Annerstedt, et al., 2014; Quennerstedt et al., 2011; Quennerstedt, Öhman, et al., 2014; Redelius et al., 2015; Rønholt, 2002). However, these studies did not take experiences that students perceived to be the most important in PE lessons as their starting point. These studies could therefore not connect these experiences with the students' learning and the teachers' facilitation of those situations for constructive experiences and learning relevant to the students in their everyday lives. Therefore, there was a need to conduct research to address such issues and thereby make PE a relevant subject to educate human beings in a society. Thus, fulfilling our responsibilities

to other human beings within philosophical pragmatism, and considering the aim of the Norwegian education programme.

Aim

The aim of the project was to investigate students' experiences and learning in situations in PE.

Considering the starting point of students' experiences in PE and maintaining the openness to the field, I asked the following *general* questions:

- What do students experience and learn in/from situations they perceive as important?
- How do situations in PE influence students' experiences and learning?

These *general* questions would later be connected to the overarching themes: disruptive situations, social inclusion in team activities, and competitive situations. An overall aim of the thesis was to discuss alternative ways, which teachers might use, to facilitate situations for learning in PE. The alternative ways of teaching may help to create or facilitate situations for learning in a way, so it becomes relevant to the students' everyday lives.

Methods

The participants were students and teachers from two secondary classes from two different schools in the south of Norway. The classes consisted of 49 students and their two male PE teachers, who were also their main class teachers. One class consisted of 24 students (16 boys and 8 girls), and the other class consisted of 25 students (12 boys and 13 girls).

The methods consisted of 1. Written narratives (positive and negative situations with their teacher, peers and tasks) from all the students (49) at the end of their 8th grade. 2. Interviews of 12 students in total from both classes about the situations they wrote about in their narratives. 3. One interview with each of the PE/main teachers concerning their teaching and the PE lessons. 4. Observation and video recordings of 14 PE lessons. 5. Written narratives (the most positive and negative situation in that PE lesson) at the end of each PE lesson. 6. Interviews of the students and the teachers concerning situations in general and situations using video clips in PE. The findings are presented in three separate articles. Article I is about understanding disruptive situations in PE and how teachers may address

those situations. Article II is about learning social inclusion in team activities and how teachers may create situations for the learning of such skills. Article III is about competitive situations in PE and how teachers may facilitate such situations to become educative for the students.

Results and discussion

Findings showed diversity and complexity of students' experiences and actions across situations in PE. In article I, students who participated in disruptive situations by joking, splashing water, pushing each other, throwing balls, and retaliating, could experience the situations as fun, annoying, or did not know. Students who tried to end, avoid, or distance themselves from the disruptive situations, could experience the situations as annoying. In article II, students' experiences of team activities were mainly positive, but they could also have negative experiences of peers who demonstrated excluding behaviour in these activities. Although the students in the team activities wanted their peers to pass the ball, their actions could contribute to excluding behaviour by applauding when such behaviour led to a successful outcome for the team. In article III, the students had both positive and negative experiences towards the pressure of winning in competitive situations. Students could reduce their effort if it was not a competition but could also reduce their effort if they thought they would lose in the competition. However, when the teacher facilitated a running test activity with the aim of learning and improvement, it seemed to influence the students' sustained effort and a goal of improving their performance in the activity. The teachers in this project mainly used the 'teaching-by-telling' strategy (Lieberman & Pointer Mace, 2008), which was useful in some situations but seemed to lead to immediate behavioural change instead of learning. Therefore, these results showed the need for teachers to include students' experiences of and actions in situations in PE, to understand the situations and to create situations for students' learning. The creation of situations for learning may include helping their students to see the short-term consequences of their actions and indicating the possible long-term consequences of their actions (articles I–III). Teachers and students may then find alternative actions to achieve more desirable consequences concerning experiences and learning. The articles show the need for students to learn intellectual control and personal and social responsibility in disruptive situations, to learn to become socially inclusive in team activities and to learn to focus on learning and development in competitive situations (Casey & Quennerstedt, 2020; Dewey,

2015; Dweck, 2019; Hellison, 2011). To connect the students' experiences and actions in situations, to further experiences and actions in situations in PE and their everyday lives, one may use the 'learning through experiences and reflection' model (article II). The teachers' role in this model is to facilitate situations for learning and to help students to understand the relevance of their experiences and learning in their everyday lives (Dewey, 2015; UDIR, 2019b).

Keywords: Physical education, didactics, disruptive situation, disruptive behaviour, class management, behaviour management, social exclusion, social inclusion, social learning, experiences, team activities, competitive activity, competitive situations, natural setting, motivation, learning, development.

Sammendrag

Introduksjon

Rorty's filosofiske pragmatisme, som har inspirert denne avhandlingen, slår fast at '… vårt ansvar ligger eksklusivt mot andre mennesker, ikke mot "virkeligheten"' (Rorty & Engel, 2007). Den overordnede delen av læreplanen i Norge indikerer gjennom dens verdier, at skolen skal hjelpe elevene å leve, lære, og arbeide sammen i en kompleks samtid og i møte med en ukjent framtid (UDIR, 2019b). I så måte, prøver ikke denne avhandlingen å avsløre en virkelighet slik den virkelig er, men prøver heller å skape nyttig kunnskap for læreres og elevers hverdagsliv, både i og utenfor kroppsøvingstimene. Skal man skape nyttig kunnskap om elevers erfaringer og læring i kroppsøvingsfaget, må man ta utgangspunktet i interaksjonen mellom individers handlinger og deres miljø i umiddelbare situasjoner (Dewey, 1916, 1938, 2015). Elever og lærere bringer tidligere erfaringer og læring inn i kroppsøvingstimene, som påvirker deres handlinger, som igjen påvirker deres videre erfaringer og læring i fremtidige situasjoner i kroppsøvingstimene. Forskjellen mellom erfaringer og læring i situasjoner i kroppsøvingsfaget, er at handlinger i situasjoner som skjer gjennom etablerte vaner, påvirker elevers erfaringer i slike situasjoner, men fører ikke nødvendigvis til forandring av elevers predisposisjoner til å handle i fremtidige situasjoner, noe som kan bli sett på som læring (F.eks., Quennerstedt et al., 2011). Samtidig så kan man kun gjennom observasjon være sikker på at elevers forandrede predisposisjoner for å handle, faktisk fører til andre handlinger i fremtidige situasjoner.

Forskning i Norge har vist at elevenes erfaringer i kroppsøvingsfaget er varierte og komplekse (Røset et al., 2020; Sjåstad Åsebø et al., 2020; Walseth, 2015). Det har blitt gjennomført flere Skandinaviske og Franske studier, i henhold til deres didaktiske tradisjon, på elevers læring i faget (F.eks. Amade-Escot & Bennour, 2017; Amade-Escot & Venturini, 2015; Barker et al., 2015; MacPhail et al., 2008; Mooney & Gerdin, 2018; Quennerstedt, Annerstedt, et al., 2014; Quennerstedt et al., 2011; Quennerstedt, Öhman, et al., 2014; Redelius et al., 2015; Rønholt, 2002). Disse studiene har derimot ikke tatt utgangspunkt i erfaringer som elever oppfatter som de viktigste i kroppsøvingstimene og knyttet disse erfaringene mot elevenes læring, og hvordan læreren kan tilrettelegge slike situasjoner for å bli konstruktive erfaringer og læring som er relevante for elevers hverdagsliv. Derfor var det et behov for å gjennomføre forskning som adresserer slike

utfordringer og dermed å gjøre kroppsøvingsfaget til et relevant fag for å danne og utdanne mennesker i et samfunn. På denne måten kan vi oppfylle vårt ansvar for andre mennesker, som nevnt innenfor filosofisk pragmatisme, og ta hensyn til målet med den overordnede delen av læreplanen i Norge.

Mål

Målet med prosjektet var å undersøke elevers erfaringer og læring i situasjoner i kroppsøvingsfaget.

For at studien skulle ta et utgangspunkt i elevenes erfaringer i kroppsøvingsfaget og samtidig opprettholde en åpenhet til feltet, ble det stilt følgende generelle spørsmål:

- Hva erfarer og lærer elever i situasjoner som de oppfatter som viktige?
- Hvordan påvirker situasjoner i kroppsøvingsfaget elevers erfaringer og læring?

Disse generelle spørsmålene ble senere koblet sammen med de overordnete temaene, forstyrrende situasjoner, sosial inkludering i lagaktiviteter, og konkurranse-situasjoner. Et overordnet mål med avhandlingen var å diskutere alternative måter som lærere kunne benytte, for å fasilitere situasjoner for læring i faget. Disse alternative måtene å undervise på, kan bidra positivt til å fasilitere situasjoner for læring i faget, slik at situasjonene blir relevante for elevenes hverdagsliv.

Metode

Deltakerne bestod av elever og lærere fra to ungdomsskoleklasser fra to ulike skoler på Sørlandet i Norge. Det var til sammen 49 elever i klassene og deres to mannlige kroppsøvingslærere som også var deres kontaktlærere. Den ene klassen bestod av 24 elever (16 gutter og 8 jenter), og den andre klassen bestod av 25 elever (12 gutter og 13 jenter).

De ulike metodene var: 1. Skriftlige narrativer (om positive og negative situasjoner med deres lærer, medelever, og oppgaver) fra alle elevene (49) på slutten av 8. trinn. 2. Intervju av 12 elever fra begge klassene om situasjonene de beskrev i deres narrativer. 3. Ett intervju med hver av lærerne fra begge klassene som omhandlet deres undervisning og selve kroppsøvingstimene. 4. Observasjon og videoopptak av 14 kroppsøvingstimer. 5. skriftlige narrativer (om den mest

positive og negative situasjonen i akkurat den timen) på slutten av hver kroppsøvingstime. 6. Intervju med elever og lærere om situasjoner generelt og spesifikke situasjoner ved bruk av video-klipp i kroppsøvingstimene. Funnene er presentert i tre separate artikler. Artikkel I handler om å forstå situasjoner med uro i kroppsøvingsfaget og hvordan lærere kan håndtere slike situasjoner. Artikkel II handler om å lære sosial inkludering i lagaktiviteter og hvordan lærere kan skape situasjoner for læring av slike ferdigheter. Artikkel III handler om konkurransesituasjoner i kroppsøvingsfaget og hvordan lærere kan tilrettelegge denne typen situasjoner slik at de blir dannende for elevene.

Resultater og diskusjon

Funnene viste en variasjon og kompleksitet av elevenes erfaringer og handlinger i ulike situasjoner i kroppsøvingsfaget. Artikkel I viste at elever som deltok i situasjoner som forstyrret seg selv og/eller andre ved å tulle, sprute vann, dytte hverandre, kaste baller, og hevne seg, kunne erfare situasjonene som gøy, irriterende, eller at de ikke visste. Elever som prøvde å stoppe, unngå, eller distansere seg fra disse situasjonene, kunne erfare dette som irriterende. Artikkel II viste at elevene hadde hovedsakelig positive erfaringer av lagaktiviteter, men at elevene også kunne ha negative erfaringer av elever som utøvde ekskluderende adferd i slike aktiviteter. Selv om elevene i lagaktiviteter ville at deres medelever skulle sentre ballen, bidro deres egne handlinger til denne ekskluderende adferden gjennom å applaudere slik adferd når det førte til et ønsket utfall for laget. Artikkel III viste at elevene hadde både positive og negative erfaringer relatert til presset om å vinne i konkurransesituasjoner. Elevene kunne redusere deres innsats hvis det ikke var en konkurranse, men kunne også redusere deres innsats hvis de trodde at de ville tape i konkurransen. Når læreren derimot tilrettela en løpetest aktivitet der målet var læring og forbedring, så det ut til å påvirke elevenes vedlikehold av innsats og et mål om forbedring av prestasjonen deres i aktiviteten. Lærerne i denne avhandlingen benyttet seg hovedsakelig av en 'læring gjennom å fortelle'-strategi (Lieberman & Pointer Mace, 2008), som var nyttig i noen situasjoner, men virket å føre til umiddelbare adferdsendringer istedenfor læring hos elevene. Disse funnene viste derfor et behov for at lærere inkluderer elevenes erfaringer og handlinger i situasjoner i kroppsøvingsfaget, slik at lærerne kan forstå situasjonene og å skape situasjoner for læring for elevene. Det å skape situasjoner for læring kan inkludere det å hjelpe elevene til å se kortsiktige konsekvenser av deres handlinger og å indikere de mulige langsiktige konsekvensene av deres handlinger

(artikler I-III). Gjennom å gjøre dette, kan lærere og elever finne alternative handlinger å utføre for å oppnå mer ønskete konsekvenser relatert til erfaringer og læring. Artiklene i denne avhandlingen viser et behov for at elever lærer intellektuell kontroll og personlig og sosialt ansvar ved situasjoner med uro, at elevene lærer å bli sosialt inkluderende i lagaktiviteter og å fokusere på læring og utvikling i konkurransepregete situasjoner (Casey & Quennerstedt, 2020; Dewey, 2015; Dweck, 2019; Hellison, 2011). For å knytte elevenes erfaringer og handlinger i situasjoner, og å knytte elevenes erfaringer og handlinger i situasjoner i kroppsøvingsfaget til deres hverdagsliv, så kan man benytte modellen 'læring gjennom erfaringer og refleksjon' (Artikkel II). Lærerens rolle i denne modellen er å tilrettelegge situasjoner for læring og å hjelpe elevene til å forstå relevansen av deres erfaringer og læring i deres hverdagsliv (Dewey, 2015; UDIR, 2019b).

Nøkkelord: Kroppsøvingsfaget, didaktikk, situasjoner med uro, forstyrrende adferd, klasseledelse, adferds håndtering, sosial ekskludering, sosial inkludering, sosial læring, erfaringer, lagaktiviteter, konkurranse aktivitet, konkurranse situasjoner, naturlig setting, motivasjon, læring, utvikling.

List of papers

Article I

Hovdal, D. O. G., Larsen, I. B., Haugen, T., & Johansen, B. T. (2021). Understanding disruptive situations in physical education: Teaching style and didactic implications. *European Physical Education Review*, *27*(3), 455–472. https://doi.org/10.1177/1356336X20960498

Article II

Hovdal, D. O. G., Haugen, T., Larsen, I. B., & Johansen, B. T. (2021). Students' experiences and learning of social inclusion in team activities in physical education. *European Physical Education Review*, *27*(4), 889–907. https://doi.org/10.1177/1356336X211002855

Article III

Hovdal, D. O. G., Haugen, T., Larsen, I. B., & Johansen, B. T. (2021). "It's Not Just About the Activity, It's Also About How the Activity is Facilitated": Investigating Students' Experiences in Two Competitive Situations in Physical Education. *Scandinavian Journal of Educational Research*. https://doi.org/10.1080/00313831.2021.2006306

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1 Introduction

The aim of this thesis was to investigate students' experiences and learning in physical education (PE) in two secondary classes (8^{th}–10^{th} grades) in two schools in Norway. The research was inspired by Rorty's (1982) philosophical pragmatism and our responsibility in research: 'our responsibilities are exclusively toward other human beings, not toward "reality"' (Rorty & Engel, 2007, p. 41). The educational perspective was inspired by Dewey (2015). According to Dewey (2015), students' experiences and learning in school should be useful in their everyday lives. The research took a starting point in students' experiences and learning in real life-situations in PE and was therefore data driven rather than theory driven. To analyse the data, it was used a bottom-up thematic analyses (see Braun & Clarke, 2021). Based on the resulting themes, relevant theories and models were used to understand the findings and suggesting practical implications.

The study was conducted in Norway. The Norwegian education programme is built on core values that are meant to help the citizens to live, learn and work together in a complex present time and when meeting with an unknown future (UDIR, 2019b). Teachers are responsible for including the values of the Norwegian education programme in the lessons. When teachers are helping or teaching their students to live, learn and work together, they must consider the interaction between the students' actions and their environment in immediate situations (Dewey, 1916, 2015; Edelman, 1987, 1992; Gottlieb, 1998, 2007; Rorty, 1982; Sapolsky, 2017; Sigmundsson et al., 2017). Students arrive at educational situations with different known or unknown experiences and learning, but it is within the situations that the teacher can directly influence the students' experiences and learning. However, by looking at PE lessons as social complex systems (Ovens et al., 2013; Postholm, 2013), one must recognize that 'education is a complex endeavour and that education rarely functions in mechanistic ways, where a certain input or intervention will produce a certain outcome' (Quennerstedt, 2019, p. 613). Therefore, I argue that one cannot create 'one size fits all' solutions to students' experiences and learning in PE; rather, one must consider creating relevant knowledge and teaching strategies that the teachers may use in PE lessons. Considering Rorty's philosophical pragmatism perspective on human obligations to other human beings and the Norwegian education programme's values of helping citizens to live, learn and work together,

knowledge and teaching strategies should help the students not only in their immediate environment in PE but also in their everyday lives (Dewey, 2015; Rorty, 1982; Rorty & Engel, 2007; UDIR, 2019b).

Students' experiences within the PE lessons are complex and diverse and are influenced, among other things, by their individual backgrounds (Barker et al., 2014; Quarmby et al., 2019; Rekaa et al., 2019; Røset et al., 2020; Sjåstad Åsebø et al., 2020; Trout & Graber, 2009; Walseth, 2015). Being inspired by Dewey (2015), teachers need to include students' individual experiences in situations in PE to contribute to the students' learning, for instance, by asking students about experiences from their everyday lives that relate to the themes and skills that will be learned in different situations in PE, and about students' experiences of different situations in PE. It may be important to ask and ensure that students reflect on their experiences in different situations, because although students have experiences in situations that are acted out in a habitual way (e.g., not creating student reflection), these experiences may not change students' predisposition to act differently in further situations. As such, learning may be considered the students' changed predisposition to act in further situations and includes reflections and making new meaning of situations (Quennerstedt et al., 2011). Therefore, students learn through their actions, experiences, and reflections in one situation and carry that learning into another situation (Dewey, 1938, 2015; Quennerstedt et al., 2011). The new situation leads to further actions, experiences, and reflections, which may lead to different or extended learning (Dewey, 1938, 2015; Quennerstedt et al., 2011). The teachers' socialization process in PE influences whether they will include students' experiences in their learning (Templin et al., 2016). However, including students' experiences in their learning requires that teachers pay attention to students' learning. Studies in Norway indicate that PE teachers and PE pre-service teachers (for consistency, pre-service teachers will be used throughout this thesis and includes all college, university, or graduate students who is studying to become teachers, but are not yet certified and working as teachers in schools) do not necessarily focus on learning in PE (Hordvik et al., 2020; Leirhaug & MacPhail, 2015; Mjåtveit & Giske, 2020; Aasland et al., 2016, 2020).

One reason that PE teachers and PE pre-service teachers do not draw attention to learning might be because they are more interested in learning about teaching multiple games, following a multi-games curriculum, instead of learning about 'the nature of teaching' (Gard et al., 2012; Hordvik et al., 2020; Munk, 2017). Those teachers who are interested in teaching might use traditional teaching or different

models. Traditional teaching, consisting of general and specific warm-up, practising techniques in isolated drills before using them in the main activity and teachers using instructions, has been criticized for its motivational weaknesses. Therefore, other models such as teaching games for understanding (TGfU) and sport education (SE), have been proposed (Moy, Renshaw, & Davids, 2016). These models, again, have been criticized for lacking empirical support and a theoretical basis for the learning process and development of principled practices (Chow et al., 2007; Moy, Renshaw, & Davids, 2016). The teaching games for understanding model was later supported by a non-linear pedagogy (Chow et al., 2007). However, the traditional teaching approach and the mentioned and other models have been criticized for being 'blueprints' (see Landi et al., 2016), that is, for having a certain way of organizing activities, roles of students and focus areas. Therefore, these models may not sufficiently consider the students' experiences in their situations (Landi et al., 2016).

Scandinavian and French studies on PE have investigated how students learn in PE, their learning experiences, the creation of meaning in PE and teachers' teaching practices, using methods such as video recordings, interviews, video-stimulated reflections (using video in the interviews) and documents such as the PE curriculum (e.g., Amade-Escot, 2005; Amade-Escot & Bennour, 2017; Amade-Escot & Venturini, 2015; Barker et al., 2015; MacPhail et al., 2008; Mooney & Gerdin, 2018; Quennerstedt, Annerstedt, et al., 2014; Quennerstedt et al., 2011; Quennerstedt, Öhman, et al., 2014; Redelius et al., 2015; Rønholt, 2002). These studies have, for instance, investigated learning through what they call 'critical didactic incidents' (Amade-Escot, 2005), 'didactic moments' (Quennerstedt, Annerstedt, et al., 2014) and 'didactic irritation' (Rønholt, 2002). While such studies have investigated students' learning and included the students' experiences in PE to different degrees, the investigations were not based on situations that the students had expressed as the most important in natural situations in PE and did not connect these experiences to the students' learning. For instance, Quennerstedt, Annerstedt et al. (2014) identified events from their theoretical point of view that could be important for the students' learning. However, the students' expressed most important experiences in PE lessons were not the starting point of the investigations. In addition, the mentioned studies did not discuss how teachers might include students' experiences in PE and what teachers may do to facilitate situations for learning in PE that are both relevant within the PE lessons and in the students' everyday lives.

1.1 Overall purpose of the study in the thesis

Several studies have shown the diversity of students' experiences in PE, and several have investigated learning situations in PE. However, there seems to be a lack of empirical studies that have taken students' most important experiences in natural situations in PE as a starting point and connected these experiences to the students' learning in PE and their everyday lives. Therefore, the overall purpose of this study was to investigate students' experiences and learning in situations in PE. Further, an overall aim of the thesis was to discuss alternative ways, which teachers might use, to facilitate situations for learning in PE. The alternative ways of teaching may help to create or facilitate situations for learning in a way, so it becomes relevant to the students' everyday lives.

1.2 Outline of the thesis

Figure 1 shows the overview of the thesis. The theoretical framework is inspired by Rorty's (1982) philosophical pragmatism and Dewey's (2015) educational perspective. The overall research aim is to investigate students' experiences and learning in PE. This resulted in three articles:

1. Article I. Understanding disruptive situations in physical education: Teaching style and didactic implications.
2. Article II. Students' experiences and learning of social inclusion in team activities in physical education.
3. Article III. 'It's not just about the activity, it's also about how the activity is facilitated': Investigating students' experiences in two different competitive situations in physical education.

The resulting articles and the discussion provide new contributions to the field of experiences, learning and teaching in PE.

The thesis is presented in the following order: *The Norwegian context:* Presenting the Norwegian context on which the study was based. *Experiences in PE*: Focusing on the diversity of students' experiences in PE. *Learning in PE*: Presenting studies that may indicate a lack of focus on learning in PE, describing the teachers' socialization process in PE which may influence the teachers' focus on learning and, lastly, discussing and expanding on our understanding of students' experiences and learning in the field of PE. *Philosophical pragmatism*: Showing some of the diversity of philosophical perspectives on reality and knowledge and showing how philosophical pragmatism has been used in this project. *Educational*

perspective: Describing the use of Dewey's educational perspective in this project, providing some remarks on experiences, learning and education, and presenting the utility of theories used to understand the findings of the studies and make practical implications. *Methods*: Presenting and justifying the methods used in this project. *Results:* Presenting a short summary of the resulting articles. *Discussion:* Discussing the presentation of findings in the articles and the findings of relevance for students' everyday lives. Discussing how one may investigate students' learning in PE, the teachers' teaching styles in this project, students' experiences and learning in PE and the potential and the flexibility of the 'learning through experiences and reflection' model; how the model may be included into the Norwegian context; and further research on students' experiences and learning in PE that may increase our shared knowledge on the subject. *Concluding remarks*: Short summary of the thesis.

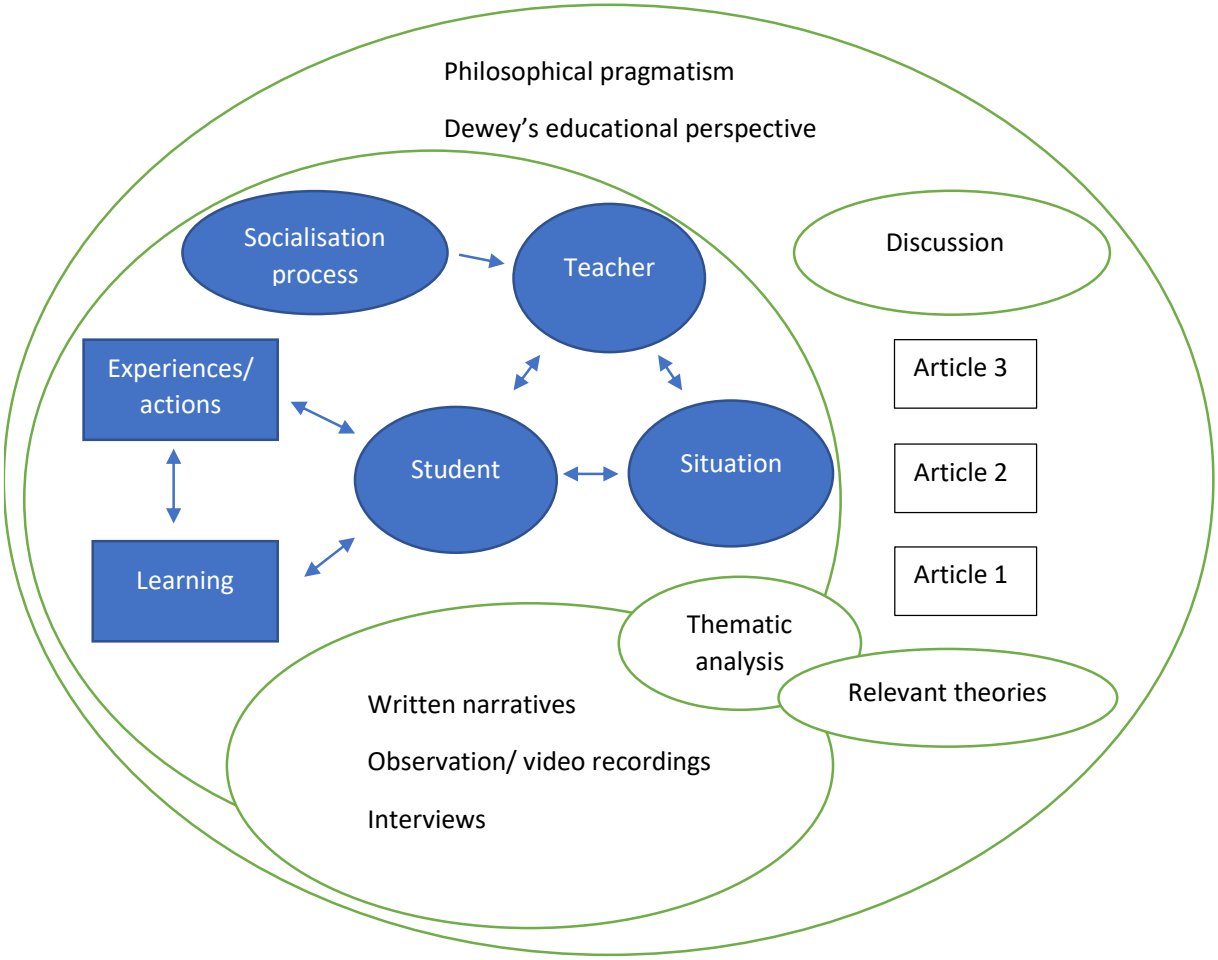


Figure 1. Overview of the thesis. The figure illustrates the philosophical and educational inspiration of the project. The teacher's socialization process influences their facilitation of situations in PE. The interaction between the students and the situations influences the students' experiences of and learning in the situations. The inspiration of the project, the importance of investigating students' experiences and learning in situations, influenced the methods used, which again influenced the findings and choice of relevant theories for understanding the findings. The overall study led to the three articles presented and the subsequent discussion.

2 The Norwegian context

The present study was conducted based on the Norwegian context, where approximately 95% of students in grades 1–10 are educated in state schools (Veland et al., 2009). In general, Norwegian society is considered egalitarian with a relatively small number of students living in poverty, modest cultural diversity, and only small differences between schools (Veland et al., 2009). Despite Norwegian society generally being considered egalitarian, there has been an increasing number of students living in persistently low household incomes in recent years (Epland & Normann, 2020). The present study was conducted at secondary school, where most students were in the same class from grade 8 to grade 10 (age 13–16 years), and the teachers typically taught two or more subjects.

PE is a part of the Norwegian education programme, where a key goal is for students to learn constructive and positive skills that become internalized (UDIR, 2019b). The Norwegian education programme indicates through its values that the school shall help students to live, learn and work together in a complex present time and when meeting with an unknown future (UDIR, 2019b). Some key values in the Norwegian education programme are 1. Human dignity, where all students shall be treated equitably and be provided equal opportunities that lead students to make independent choices (UDIR, 2019b). 2. Democracy and participation, where students respect that human are different and learn to solve the conflict in a peaceful way. These values should be promoted through active participation throughout the students' schooling (UDIR, 2019b). 3. Learning to learn, where students learn learning strategies and build a foundation for lifelong learning. The students should increasingly take an active role in their own learning and development (UDIR, 2019b). 4. Social learning and development, where students have the competence to consider what other students think, feel and experience, to create the foundations of empathy and friendship between students. The teacher shall therefore facilitate students' learning of communicative skills and co-operation to provide them with the courage and competence to express their own opinions and to speak up for others. Students should learn to listen to others and at the same time argue for their own opinions. This provides the foundation to handle disagreements and conflicts and to seek solutions in the community. Furthermore, students must learn to act responsibly in all contexts in and outside the school (UDIR, 2019b).

The Norwegian PE curriculum is a specific part of the Norwegian educational programme and shall contribute to the realization of the core values of the

Norwegian education programme (UDIR, 2019a). One of these, for example, is that

'*PE shall contribute to give students the opportunity to practice and reflect of interaction, participation, equal rights, and equality. In PE the students shall solve challenges and tasks in a diverse learning community*' (UDIR, 2019a, p. 8).

The PE curriculum consists of competence aims, which indicate that students should 'do things', with the most frequently used verbs such as 'reflect', 'understand' and 'implement', rather than only 'know things' (UDIR, 2019a).

In practical situations in PE in everyday life, teachers must consider the balance between the need of the individual student and the need of the community, between supporting and making demands and between the present school day and the work of preparing for the future (UDIR, 2019b). The Norwegian education programme indicates the importance of students' experiences, learning and development in the open, social, and complex situations of the student's everyday life, in addition to educating them in the society in which they need to be an active participant. The Norwegian education programme and the PE curriculum therefore provide some direction on how the subject should be implemented. However, Erdvik (2020), in her recent thesis, included literature and studies showing that there seems to be a sport discourse in PE and indicated that this sport discourse, with subsequent implementation of the subject, is incompatible with the intentions of the Norwegian education programme and the PE curriculum.

Norwegian society, the Norwegian educational programme, the PE curriculum, and the implementation of a sport discourse in PE may influence the students' experiences and learning in the subject. It is therefore important to be aware of these and other influences (e.g., see 'students' experiences in PE) when investigating students' experiences and learning in PE. Nevertheless, the present study in this project was not based on such influences. Instead, the study took students' experiences and learning in real-life situations in PE as a starting point. The importance of a possible sport discourse was useful for understanding the competitive situations in article III, and the Norwegian educational programme and the PE curriculum were relevant in discussing the use of the studies' findings about PE in Norwegian society.

3 Experiences in physical education

This section is based on a short overview of experiences in physical education (PE) using the databases ERIC and SPORTDiscus, in addition to a free search for articles using Google Scholar and finding articles in the reference list of relevant articles. The term "experience" is used widely and is not necessarily connected to learning as a "changed predisposition to act" in further situations. The concept of learning is mentioned in chapter 4- students' learning in physical education.

PE is an open complex social system (Postholm, 2013; Storey & Butler, 2013), which implies that no situations would be the same. Jess et al. (2011) argued that 'education takes place within dynamic, unpredictable and multifaced complex systems' (p. 180). Complex systems might be looked at through the macro- and microsystems (Liljenström & Svedin, 2005). Morrison (2008) reminds us that 'schools both shape and adopt to macro- and micro-societal change, organizing themselves, responding to, and shaping their communities' (p. 22) and that knowledge is 'dispersed, shared and circulated throughout the system' (p. 21). This makes it difficult to build a short review of every experience in PE as something 'universal', or to compare them, because each PE situation is different, each PE context is different, the PE lessons are different, school cultures within Norway are different and the cultures in the countries where the studies are conducted are different. For instance, the students' experiences of PE might be influenced by their age, gender, ability, PE teachers, peers, parents, coaches, and culture (George & Curtner-Smith, 2016, 2018). The Norwegian scholars Mikalsen and Lagestad (2020) point out that 'meaning making experiences in PE are embedded in the wider and overall context of the life of each individual' (p. 802). Therefore, in the following, I will describe students' general experiences of PE (mainly in Norway), different groups of students' experiences in PE, students' experiences in PE in general and two recent Norwegian studies on students' experiences in PE. I will then add some remarks and questions about the relevance of students' experiences in PE.

3.1 Students' general experiences of PE

In this section, I will mainly provide general descriptions of students' experiences in PE using concepts such as attitudes and enjoyment. Attitudes might be seen as something that are formed by direct personal experiences, and positive attitudes may be seen as something that are fostered by enjoyment (Dismore & Bailey, 2011; Säfvenbom et al., 2015; Subramaniam & Mercier, 2017). Subramaniam and

Silverman (2007) found that students' attitudes towards PE had a lower mean score, the higher grade the students were in (6^{th}–8^{th} grades). A Norwegian study found that students scored higher on enjoyment in the subject in middle school than in high school (Säfvenbom et al., 2015). These results indicate that attitudes towards PE in terms of enjoyment are negatively affected by age, which may be supported by a study by Prochaska et al. (2003) and a review study by Silverman (2017). However, even though the overall attitudes towards PE might decline with age, the students in the Norwegian PE study still had a high overall average score on enjoyment (Säfvenbom et al., 2015). On a Likert scale from 1 to 7, where 1 indicated that the students did not like PE at all and 7 that the students enjoyed PE a lot, middle school students scored 5.86 and high school students scored 5.61 (Säfvenbom et al., 2015). A recent report by Moen et al. (2018) showed similar findings; boys and girls had a high overall degree of enjoyment of PE, but the enjoyment declined from 5^{th} to 10^{th} grade. Furthermore, both Moen et al. (2018) and Säfvenbom et al. (2015) found that boys in general enjoyed the subject more than girls, and that students who participated in sport in their spare time enjoyed the subject more than the students who did not. However, 42% of the middle school students and 45% of the high school students reported that they wanted the subject to be provided differently (Säfvenbom et al., 2015). A study of possible long-term effects of experiences in PE showed that adults' negative experiences (memories) in PE and sport (e.g., chosen last for a team) could decrease their physical activity later in life (Cardinal et al., 2013). A retrospective study of 1028 American adults (18–45 years old) showed positive memories related to enjoyment of activities, feeling physical competence, and not having PE any longer or skipping PE, and negative memories related to embarrassment, lack of enjoyment, bullying, social physique anxiety (anxiety of one's appearance in front of others) and being punished by the teacher (Ladwig et al., 2018).

3.2 What different groups of students might experience in PE

Considering the complexity of students' experiences in PE, it is important to add the term 'might' in the heading. For instance, Muslim girls' experiences in PE in Norway show that some girls (3) wanted segregated PE lessons and other girls (18) did not (Walseth, 2015). Their experiences were related to inactive girls and dominant boys (Walseth, 2015). In swimming, about half of the girls wanted to have segregated lessons, while the other half did not (Walseth, 2015). Another study showed that religious identity and consciousness of Islamic requirements

were more evident in British Muslims (13–15-year-olds who were still in school) than in the Greek Muslims (18–21-year-olds recalling experiences from school) (Dagkas & Benn, 2006). However, the mentioned differences might be because the Greek Muslims were more closely assimilated in the dominant culture (Dagkas & Benn, 2006). The point here is that the different groups' experiences that will be mentioned are simply to provide information on how different groups might experience PE. The different groups' experiences may provide some understanding of these groups' experiences in different situations. However, in the concrete, open, social and complex situations in the PE lessons, the teacher needs to consider the individual student in PE lessons irrespective of their 'group'. For instance, a Norwegian study on stressors in PE indicated that the stressful experiences depended on the situation, lesson content, parties involved, students' past experiences and their appraisal of the experienced stressors (Sjåstad Åsebø et al., 2020). The following experiences of different student groups aim to explore the possible different experiences that might occur in PE lessons.

In western countries, PE has been pointed out by researchers to be racialized, white-centric and embedded in Eurocentric thought (Azzarito & Solomon, 2005; Thorjussen & Sisjord, 2018). Students with non-western backgrounds may therefore experience processes of 'othering', exclusion and marginalizing in the subject (see Thorjussen & Sisjord, 2018). Muslim girls might have overall positive experiences in PE with gender-mixed PE lessons, but some may also prefer gender-segregated lessons in swimming (Walseth, 2015). Furthermore, one Muslim girl experienced that one might also be put in the same category as her group of friends (all immigrants) by her teacher, in this case 'being lazy' in PE (Walseth, 2015). Another study claimed that ethnicity might work on an implicit level in PE, migrants may themselves support official educational discourse that may put them at disadvantage and their experiences of the effects of their migration backgrounds might be diverse (Barker et al., 2014). The heteronormative system in PE might also influence students' experiences in PE (Devís-Devís et al., 2018). For example, trans persons experience 'falling in the middle' of activities, spaces and gender groups, and experience aloofness, isolation, and loneliness, in addition to multiple forms of exclusion, rejection and episodes of harassment (Devís-Devís et al., 2018). Trans males and trans females differed in their perception of lessons. Trans boys liked sport-based PE, while trans girls found it negative and demotivating (Devís-Devís et al., 2018). Although students might experience discrimination and marginalization due to their ethnicity, race, religion, social

class, sexuality and gender, a Norwegian study has found that gender overshadows the other differences in PE (Thorjussen, 2020). Being defined as 'overweight' might also lead to certain experiences (Trout & Graber, 2009). Overweight students might avoid participation in PE because they exhibit symptoms consistent with learned helplessness and they might be more concerned with their appearance than their performance (Trout & Graber, 2009). There might also be uniforms that do not fit, activities that have not been modified for overweight bodies, taunting from peers and anti-overweight bias from teachers (Pausé, 2019). Another group of students are students with disabilities (e.g., Rekaa et al., 2019). A review study has revealed that students with disabilities experience exclusion and lack of belonging in PE, but that they may also 'love PE' (Rekaa et al., 2019). While teachers share the goal of including students in PE, they experience it as impossible to achieve due to lack of competence, resources, and the presupposition of the constructed 'normative' PE student (Rekaa et al., 2019). Care-experienced students (e.g., removed from biological care and placed in foster care) might experience lack of competence in the subject, lack of friendship or getting to know their peers due to changing schools and so on (Quarmby et al., 2019). Care-experienced students might further have diverse experiences (e.g., trauma) from their biological family, which they bring into the PE lessons and PE changing rooms (Quarmby et al., 2019). In total, the experiences of the different groups might influence these students' experiences in the PE lessons and might be highly diverse. Looking at the individual in each group shows further wide diversity. The mentioned groups and the individual students illustrate only some of the diverse and complex experiences different groups might encounter in PE. Furthermore, the focus will also be directed towards students in general.

3.3 Students' experiences in PE

Even though there is a difference between PE and sport in Norway, other countries and studies might not have the same distinction (e.g., Beni et al., 2017). Studies have indicated the need for students to receive and create not only 'fun' experiences but also 'meaningful' experiences in PE (Beni et al., 2017; Kretchmar, 2006; Ní Chróinín et al., 2019). Meaningful experiences may be defined as experiences that are of personal significance for the person holding them (Kretchmar, 2007; Ní Chróinín et al., 2019). Six themes have been identified as central to influencing young people's meaningful experiences in PE and sport (Beni et al., 2017; Beni et al., 2019; Kretchmar, 2006):

1. Social interaction: students experience positive interactions with others and the teacher.
2. Fun: students experience enjoyment in the lessons.
3. Challenge: students experience appropriately difficult tasks and the opportunity to make choices and modify the activities accordingly.
4. Motor competence: students learn and develop physical skills that influence their experiences of being competent or becoming competent in activities.
5. Delight: students experience being caught up in the moment or experience accomplishment through hard work and goal setting.
6. Personal relevant learning: students' experience of and learning in PE lessons can be connected to daily living outside the school setting.

In the following, I will draw on these themes to create the categories 'Experiences of social interactions in PE' and 'Experiences in activities in PE'. Although experiences of social interactions and experiences in activities in PE influence each other in the same social system, I chose to divide these categories for clarity and the opportunity to dig somewhat deeper into the themes mentioned by Beni et al. (2017, 2019) and Kretchmar (2006).

3.4 Experiences of social interactions in PE

According to El-Sherif (2016) '*physical education provides an opportunity for students to interact with one another socially, unlike in other academic subjects*' (p. 8). Maivorsdotter et al. (2015) identified social interactions with peers as a primary factor for meaning-making and learning for 15-year-old Swedish students. Sharing experiences with a friend might encourage participation, continue participation and result in enjoyment of the activity (Bragg et al., 2009). A study that included the sport education model found that working with peers in teams might enhance students' PE experience (Tsangaridou & Lefteratos, 2013). For example, from an interview '*usually, in the physical education lessons, most of the girls do not want to participate in the activities. We used to stay in the classroom. Now we want to play because we can see that game by game we become better players and we help our team*' (Tsangaridou & Lefteratos, 2013, p. 31). The social interaction with teachers could produce an increased level of fun and participation (El-Sherif, 2016; Garn & Cothran, 2006), as exemplified by one student: '*I remember he would always teach how to throw a football and he knew what he was talking about; he would come out and play with us, and help us throw better*' (El-Sherif, 2016, p. 4). The teacher's energy level seems therefore to be important,

as noted by a teacher: '*I must enter the class with a great attitude, energy, and confidence … I must make this setting successful because the students do not always enter the gym in this manner*' (Garn & Cothran, 2006, p. 291). If the teacher is perceived as skilful, knowledgeable, and enthusiastic, then the students will have more fun (Garn & Cothran, 2006). By contrast, a study investigating students' (age 17–18 years) negative experiences related to social relationships indicated that negative experiences in PE might decrease the students' participation in PE and lead to inactivity (Beltran-Carrillo et al., 2012). A study by van Daalen (2005) showed that girls who experienced forced competition, degrading evaluation, and sexuality- and size-related harassment by peers and teachers opted out of PE lessons.

Social interactions in PE are not just limited to what happens in the PE hall but also the changing rooms. A Norwegian study indicated that physical facilities and shyness could influence students to not shower after a PE lesson, and that some girls reduced their physical exertion during PE lessons because they did not want to shower (Johansen et al., 2017). Consequently, the students who did not want to shower needed to remember during the PE lesson that they must not become sweaty, which may have reduced their focus on what happened in the PE lessons.

3.5 Experiences in activities in PE

Students might especially like an activity when they can perform a skill they think they are good at and when they find the activity fun (Gray et al., 2008). Activities might be experienced as fun if the students are able to do them and are also challenged, as exemplified by a student who enjoyed yoga: '*I like being able to follow the video and push myself at my own pace*' (El-Sherif, 2016, p. 5). Students might experience team games as positive when playing with friends or peers of the same ability, because it may lead to fewer negative comments from more able peers (Gray et al., 2008). The social aspect and common interests among peers influence the level of fun in PE, as stated by Podilchak (1991): '*Fun is not only absorption in the activity, it is the reframing of it with others that makes it fun, resulting in social learning*' (p. 140). Furthermore, reflection on experiences in the activity may influence the student's meaning-making (Nilges, 2004) and make activities more meaningful. Connecting students' experiences in PE to the 'real world' would also influence the meaning of PE and the activities (Azzarito & Ennis, 2003).

3.6 Complexity of students' experiences in Norway

A recent study showed the diversity of 9th grade (age 14–15 years) students' experiences in PE in Norway (Sjåstad Åsebø et al., 2020). The study conducted observations, informal interviews with teachers, individual interviews of teachers and students and focus interviews of students. The study focused on stressors in PE but could also be seen to focus on negative experiences in PE because the authors investigated potentially negative stressors. Although the authors did not investigate the complexity of situations because of the division between observation, interviews, and questionnaire, they did indicate the variety of experiences that might occur in PE. For instance, they found 136 sub-themes under main themes and overarching themes (Sjåstad Åsebø et al., 2020, p. 11). To show the variety of themes that may influence the students' experiences in PE, I will mention the overarching and main themes. 1. Teaching environment: Lesson content, Methods and organization, Assessment and Teacher. 2. Physical environment: Equipment, Facilities, Weather and Class size. 3. Social Environment: Comments, Social Comparison, Expectation, Skilful students, Friends, Gaze, Body language, Exclusion, Collaboration, Social media and Mental health. 4. Personal factors: Self-efficacy, Body dissatisfaction, Control, Mindset and Perceived competence (Sjåstad Åsebø et al., 2020).

Another recent study investigated 10th grade (age 15–16 years) students' experiences in PE in Norway (Røset et al., 2020). The study used focus group interviews to investigate the students' experiences. They found that students might perceive their competence, bodily attractiveness, and physical condition differently (Røset et al., 2020). Students who judge themselves as less competent in sport might experience that the more competent students might take the activity too seriously, looking down at and excluding them, giving negative comments, and becoming too physical. Therefore, the less competent student might be less eager to play sports and further experience that the teacher might get angry at them for not doing anything (Røset et al., 2020). By contrast, students who perceive themselves to be more competent might experience that the less competent students are not trying and may give them negative comments, even though they are not necessarily proud of the comments. Other competent students might be careful not to yell at the less competent students because of the negative influence on their self-esteem and the possibility of thriving and feeling of mastery (Røset et al., 2020). Bodily attractiveness and physical condition might be more of an issue for the girls, and the feelings of peers looking at them might be unpleasant. They

may have negative experiences of 'body pressure'. If they feel a bit 'fat' and get a remark such as 'fatso', then they may feel that they 'sink' (Røset et al., 2020). The students further experienced that having sporting capital (being good at sport) and physical capital (approximating to an ideal-type body) could be transferable to social status and esteem. Students who had sporting and physical capital could therefore get status and popularity. Furthermore, the teacher may use examples of the competent students and give them more attention and positive comments. The less competent students could perceive that the teacher did not see them and gave grades relative to peers who are performing well. The students might also feel pressure when the teacher wanted the students to perform at a certain level, and that if they did not perform at that level, they should exercise more. Students might also experience that the students who play sports outside schools know each other better and stay together at the school, even though they could hang out with other students. In other words, there seemed to be some groups sticking together more (Røset et al., 2020).

3.7 Closing remarks on students' experiences in PE

Students' experiences in PE might be influenced by. 1. A variety of different groups or identities, such as overweight, religion, and gender. 2. Students' earlier experiences at home or at leisure time activities. 3. Other people, like teachers and parents. Further, the students' experiences in PE may be related to content (e.g., activity), organization (e.g., waiting), social environment (e.g., comments from peers) and personal factors (e.g., feeling competent). Conducting further studies on students' or groups of students' experiences might give further information about their possible experiences in PE. Although such research should continue, it may be time to bring other questions to the fore. For instance, neither Røset et al. (2020) nor Sjåstad Åsebø et al. (2020) investigated or discussed the practical implications of their findings; they discussed their findings related to stressors and mental health but did not investigate or discuss the didactical implications for the teachers. Although Sjåstad Åsebø et al. (2020) used both observation and interviews, they did not combine these to elaborate on the situations and the possible consequences. It seems reasonable to suggest that discussing the possible consequences of situations and students' experiences is particularly important in the field of education. For instance, the present review has indicated that students should experience autonomy, but when should the students experience autonomy, how does the teacher execute this and what are the consequences? Furthermore,

when Røset et al. (2020) found that competent students could give less competent students negative feedback, how did the teacher engage? Should the teacher engage in helping the less competent student to become more competent, should the teacher present other activities where the competence might be more equal, or should the teacher tell the more competent students to stop making those remarks? What do the students learn from these different actions of the teacher? Therefore, I believe that other questions should be brought forward when investigating students' experiences in PE. First, how can teachers discover the students' different experiences in PE and act on them to find solutions that are educative or useful for the students? In this case, how could they handle or include the variety of different experiences in PE? Second, considering the complexity and variety of students' earlier experiences in life and experiences in PE, how can teachers use these experiences to help students to become educated in ways that are relevant to themselves?

4 Students' learning in PE

4.1 The contribution of PE on students' learning

PE can be thought of as 'education of the physical' (e.g., skill acquisition in sports/activities) or as 'education through the physical' (e.g., learning to communicate and solve problems with others) (Anderson, 1997; Goudas, 2010; Laker, 2000). However, when considering PE as open, social, and complex systems (Postholm, 2013), it may be difficult to differentiate these different ways of defining PE. For instance, looking at PE as 'education of the physical' in a PE class does not mean that social, cognitive, and emotional learning (Bailey et al., 2009) are absent. It might mean that those aspects are implicit and not something teachers consider, thereby making this learning arbitrary and not facilitated in a constructive direction (Dewey, 2015). Therefore, PE should be considered 'education of and through the physical' because of the practical consequences. This section will not differentiate between the physical, social, cognitive, and emotional domains of learning. Instead, it will focus on whether learning, regardless of the domain, is the focus in PE. I will do this by looking at studies from different countries in Europe and Australia and connecting them to the Norwegian studies and context.

In England, about 100,000 sport coaches (non-qualified teachers) can teach PE in primary and secondary schools, which may lead to a non-teaching ideology (Blair & Capel, 2013; Lynch & Soukup, 2017). Although the use of coaches in Norwegian PE lessons might not be a problem, a Norwegian study indicated that pre-service teachers expect to learn multiple games in their education and are less interested in 'the nature of teaching' (Hordvik et al., 2020). Perhaps one of the reasons is that focusing on teaching would increase the complexity and difficulty of teaching PE (Moy et al., 2019). The lack of interest in 'the nature of teaching' may lead to reduced expertise and competence in teaching (Hordvik et al., 2020), thereby creating the opportunity for a non-teaching ideology of teachers in Norway, as has been seen in Australia (Morgan & Bourke, 2008; Morgan & Hansen, 2008a). Although the Australian context of teacher education in PE might differ from that in Norway, the pre-service teachers' expectations of learning multiple games in the Hordvik et al. (2020) study and Scandinavian studies indicating that PE teachers focus mainly on activities instead of learning, the blurred understanding of the purpose of teaching and the teacher assuming the role of referee and timekeeper in ball games (Larsson & Karlefors, 2015; Quennerstedt

et al., 2011; Redelius & Larsson, 2010), suggest it is plausible that the non-teaching ideology might also be apparent in the Norwegian PE lessons. In fact, a Norwegian study indicated that pre-service teachers and their mentor in praxis upheld a non-teaching perspective (Mjåtveit & Giske, 2020). It is therefore possible that these pre-service teachers might uphold their non-teaching ideologies in their own work as PE teachers. Another study from the same authors found that pre-service teachers were more interested in emotional support than in focusing on learning outcomes (Mjåtveit & Giske, 2017). The pre-service teachers made statements and delivered teaching sessions that indicated that intentional teaching was superfluous, and Mjåtveit and Giske (2017) argued in their literature review that teaching PE in school was rather mixed and random.

Studies conducted in Australia indicated that teachers could have a non-teaching ideology resulting in 'supervised' games instead of focusing on teaching and learning (Morgan & Bourke, 2008; Morgan & Hansen, 2008b). Teachers in Denmark seemed to be more focused on what the students should do, rather than their learning (Redelius & Larsson, 2010). In Norway, there seem to be different discourses where exercise physiology and sports seem to dominate (Aasland et al., 2016, 2020). In other words, there may not be a main focus on learning in PE (Aasland et al., 2016, 2020). The lack of focus on teaching and learning in PE contrasts with the Norwegian education curriculum, where it is stated that 'teachers must think thoroughly through what, how, and why students learn, and how to best possibly lead and support students' learning, development and education' (UDIR, 2019b, p. 17). Furthermore, the reasons why some teachers might not focus on students' learning might be understood by the teacher's socialization process in PE (Templin et al., 2016). In this case, the students' experiences of PE lessons are important, and for those students who end up as PE teachers, their experiences in their education and later work will influence their own teaching (Templin et al., 2016).

4.2 Teachers' socialization processes in PE and students' learning

Drawing on the literature review by Templin et al. (2016), the teacher socialization process in PE consists of the acculturation phase, professional socialization phase and organizational socialization phase. These phases influence how teachers teach in PE and thereby what students learn in the subject. The acculturation phase is the first phase. It refers to the period prior to the individual's decision to enter teacher education and includes the individual's experiences as a child that influence their

attitudes and behaviour towards teaching (Lacey, 1977; Lawson, 1983b; Templin et al., 2016). The second phase refers to professional socialization, where pre-service teachers in the Physical Education Teacher Education (PETE) programme are influenced by the values, sensitivities, skills, and knowledge that are deemed ideal for teaching PE (Lawson, 1983b; Templin et al., 2016). However, the degree of influence in this second phase depends on the acculturation phase, the quality of the programme and the belief system of the PETE faculty (Curtner-Smith et al., 2008). This professionalization phase has also been identified as the least influential form of socialization relative to the two other phases (Graber, 1991). Still, the powerful influence of the acculturation phase may be overcome in the professionalization phase (e.g., Moy, Renshaw, Davids, & Brymer, 2016). The third phase refers to organizational socialization processes where PE teachers are taught and learn the knowledge, values and skills required in a particular school setting. It starts at their practical teaching apprenticeship and follows them throughout their professional careers (Lawson, 1983a; Templin et al., 2016). The teacher's ideology and philosophy of teaching is shaped and reshaped by students, colleagues, administrators, school context, policy, the community, and other factors (Lawson, 1986; Templin et al., 2016). If pre-service teachers' perspectives on the purpose of PE have not changed through their professional socialization (phase 2), then the organizational socialization process might wash out the professional socialization process attained at university (Blankenship & Coleman, 2009). Further wash-out effects might occur during their apprenticeship at schools, where pre-service teachers are eager to fit in with their job environment and do not want to risk receiving a poor practice assessment at the end of the apprenticeship and poor job references (Hodkinson & Hodkinson, 1999). However, if the professional socialization phase includes learning multiple games rather than focusing on the 'nature of teaching' (Hordvik et al., 2020), then there might not be anything to 'wash-out'.

4.3 Expanding our understanding of students' experiences and learning in the field of PE

The Norwegian education programme states that the foundation of Norwegian society shall help the citizens to live, learn and work together in a complex present time and in meeting with an unknown future (UDIR, 2019b). This statement is a clear contradiction of the possible non-teaching ideology of the subject (e.g., Curtner-Smith, 2009). It might be naive to assume that implementation of policies will suffice to break the cycle of the non-teaching PE teachers (Curtner-Smith, 2009). A Norwegian study has highlighted that changing the PE curriculum might not necessarily change all parts of the PE teachers' praxis and that increasing the focus on formal assessment may decrease time to teach (Arnesen et al., 2013). If the teachers adapt to the PE curriculum, they may not necessarily do it for teaching or learning purposes (Leirhaug & MacPhail, 2015). A Norwegian study showed that a teacher completed the feedback component of the assessment for learning because of his obligation to address the national curriculum requirements, rather than to encourage students' own learning (Leirhaug & MacPhail, 2015). A recent study in England showed that changing the curriculum did not change the way PE was implemented by the teachers (Herold, 2020). Based on this information, I argue that the PE curriculum might be important, but changing it is not enough to make changes in teachers' teaching. It seems that the famous saying 'culture eats strategy for breakfast' may be relevant here. The strategy of the educational programme and PE curriculum has been eaten by the teachers' culture (e.g., Aasland et al., 2016). To change teaching in PE may perhaps require more than changing the PE curriculum and doing research in this area. Elliot et al. (2013) indicated a need for critical and reflective learning experiences at all levels of PE. I therefore included the influence of the teachers' acculturation phase, professional phase, and organizational phase on their teaching in the main section (Templin et al., 2016).

The students' experiences and learning in their acculturation phase, for instance at secondary school, are influenced by their teachers. In turn, their teachers are influenced by their own experiences and learning in their acculturation, in addition to their professional and organizational phases (e.g., Templin et al., 2016). To change teaching in PE, it seems that one needs to influence something, somewhere, in this circular process. Although a new PE curriculum may have this influence, it depends on how well teachers understand the curriculum and whether they have the competence to change, perhaps, years of

teaching in a suitable way to meet the curriculum. Research articles, such as those in this thesis, may help teachers to understand new ways of teaching. That, in turn, depends on whether teachers have learned to use research articles in their teaching and whether they have the time to read such articles. It may seem that the professional phase is where the teachers have the best opportunity to learn different ways of teaching, understand the PE curriculum and use research articles to inform their teaching in PE. However, this might not be easy. A Norwegian study has indicated the importance of creating a coherent teacher education programme for improving the quality of teacher education, and the difficulty of doing so (Hermansen, 2020). Although this project does not include the teachers' professional phase, it does provide knowledge on the acculturation phase of potential future teachers and the organizational phase of present teachers. As such, it may provide important knowledge concerning what to learn in the professional phase. For instance, the articles provide knowledge about students' experiences and learning in PE and concrete implications for teachers' teaching. In this way, if the results from the articles are implemented in the PETE teachers' teaching, pre-service teachers would have the opportunity to use these strategies, actions, and concrete implications during their PETE education and to reflect upon their experiences (Mjåtveit & Giske, 2017). If this occurs, this thesis has the potential to influence the teacher's socialization process of teaching and changing the teachers' culture and teaching towards helping citizens to live, learn and work together in a complex present time and in meeting with an unknown future (UDIR, 2019b).

5 Philosophical pragmatism

The philosophical perspective in the project was chosen after investigating the differences between positivism, phenomenology, social constructionism, and philosophical pragmatism (Burr, 2015; Rorty, 1982; Saunders et al., 2019; Strydom & Delanty, 2003). There are different directions within each of these perspectives, especially social constructionism (Burr, 2015). The following descriptions of the mentioned perspectives are simplified, and the main purpose is to place philosophical pragmatism among these different philosophical perspectives. I will therefore start by positioning philosophical pragmatism among the philosophical perspectives and briefly describe the importance of philosophical pragmatism used in the project.

5.1 Philosophical perspectives on reality and knowledge

There are two especially important concepts for understanding the philosophical view on science; what is real (ontology) and what is knowledge/truth (epistemology). The different philosophical perspectives influence how one looks at reality. Positivists suggest that the reality is objective and that we may 'capture' the objective nature of things irrespective of human subjectivity (Johnsen, 2014; Strydom & Delanty, 2003). By contrast, phenomenologists may reject positivism's absolute focus on objective observations of external reality and state that objective and subject knowledge are intertwined (Neubauer et al., 2019). Therefore, people's experiences are especially important. Realists (a genre in social constructionism) may divide the world or reality into '*that which depends on how we (individually or collectively) think about it and that which does not. For realists—and moderate constructionists—only the former can be socially constructed; the latter cannot*' (Elder-Vass, 2012, p. 6). In the case of pragmatism, it seems to me that Rorty (1989) accepts that there is a world independent of human experiences and descriptions, but the description of the world is not.

One may see that there are different perspectives on reality, from being purely objective to including subjectivity. The different perspectives on how one looks at reality influence how one looks at knowledge. Positivists want to investigate the objective reality and are therefore interested in causal explanation, predicting the world and constructing theories, where numbers and instruments seem to be important for objectivity (Saunders et al., 2019; Strydom & Delanty, 2003). According to Larsen and Røyrvik (2017), the need to count and measure in Norwegian society is intrinsic to how to think, and it influences what is important

to achieve. This would influence what we consider to be 'true' knowledge. Phenomenologists may think theories and concepts are too simplistic and focus on narratives, stories, perceptions, and interpretations for creating new understanding and knowledge (Neubauer et al., 2019; Saunders et al., 2019). Social constructionists may look at knowledge as something that is being constructed and maintained by discourses and power and are interested in exposing the dominant views (Burr, 2015; Saunders et al., 2019). Philosophical pragmatists, by contrast, are interested in knowledge that serves a purpose in the everyday lives of human beings. It is either a problem, concern, or a goal. Richard Rorty (1989) thought we should get rid of the notion of truth (true knowledge) and instead focus on useful knowledge in people's everyday lives. On truth, he proposed that 'to say that we should drop the idea of truth as out there waiting to be discovered is not to say that we have discovered that there is no truth out there' (p. 4–5). Instead of discussing what counts as knowledge or different views of truth as one does in the positivistic, phenomenologist and social constructionistic traditions, Rorty (1989) suggests that we talk about useful knowledge in people's everyday lives and that one may use whatever methods are considered to help this pursuit. Although different genres of, for instance, social constructionism may agree on the importance of creating useful knowledge in people's everyday lives, the main point is that the mentioned philosophical perspectives use different vocabularies and none of them is truer than the other (describing the world as it is), but these vocabularies are useful for different purposes (Rorty, 1989). The same applies to vocabularies within literature, mathematics, didactics, and pedagogy, because Rorty looks at different vocabularies as tools that help us to do things in the world (Rorty, 1989).

5.2 Philosophical pragmatism in this project

In short, the ontological assumption of philosophical pragmatism is that 'reality is continually created through experiences in interactions with the world' (Mertens & Tarsilla, 2015, p. 437), and the epistemological assumption is that 'ideas and knowledge are evaluated according to their consequences' (Mertens & Tarsilla, 2015, p. 437). The methods should be justified for reaching the goals or ends-in-view in research, such as 'to gain knowledge in pursuit of desired ends and societal improvements as influenced by the evaluator's values and politics and experiences' (Mertens & Tarsilla, 2015, p. 437). Philosophical pragmatism in this project was, as mentioned, connected with Dewey's educational perspective (see next chapter). Because of the social nature of this research project, the

investigation needs to be included in the students' and teachers' everyday life in the PE lessons. As Dewey (1938) suggest: '*Any problem of scientific inquiry that does not grow out of actual (or "practical") social conditions is factitious; it is arbitrarily set by the inquirer instead of being objectively produced and controlled*' (p. 499). However, Dewey's educational perspective only tells us about the interactions between human beings and their environment. Therefore, it is useful to draw on the vocabularies of other theories and research to serve the purpose of understanding the constructed data from the field (Rorty, 1989). For instance, I have used some of the vocabularies from the co-operative learning model and the personal and social responsibility model (see Chapter 6).

Throughout the thesis, I will use the vocabularies of philosophy, pedagogy, sociology, psychology, and didactics. Although these different vocabularies might be incoherent (Rorty, 1989), Kretchmar (2007) has rightfully argued that it is necessary to gain insight from different perspectives on complex issues, and these different vocabularies are further useful for understanding different areas and complex issues (Rorty, 1982, 1989). For instance, when I wrote about students' learning in PE, I drew on a vocabulary of pedagogy, psychology, and didactics, and when I wrote about the teacher's socialization process, I drew mainly on sociology. However, one may see that I use these vocabularies in a coherent sense, that is, from the point of view of philosophical pragmatism.

6 Educational perspectives on human experiences and learning

Philosophical pragmatism and Dewey's educational perspective describe in different ways the interactions between individuals and the environment, or in other words, how human beings adapt (being changed and making changes) to the world (Dewey, 2015; Rorty, 1982). These perspectives are therefore useful when talking about human experiences and learning. In the following, I will describe human learning and experiences through Dewey's educational perspective, and then describe how the personal and social responsibility model, the co-operative learning model and the theory of mindset were used in the three articles.

6.1 Dewey's educational perspective

I will start this section by making a brief description of Dewey's account on educational perspective based on his book "Experience and education" (2015). I will do so through a means of one individual student. Thereafter I will describe how I was inspired by Dewey's thoughts and concepts in the project.

6.1.1 Dewey's account on educational perspective

When writing about Dewey's (2015) account of educative experiences, we need to consider situations, experiences, learning, interactions, transactions, continuity, and growth. I will make an example by using one individual student. The student lives in the world, which could mean that the student lives in a series of situations. Within these situations, there are interactions between the student, other students, the teacher, and objects. When the student is transacting with the environment, such as other students and objects, an experience occurs. As such, experiences are occurring as a part of situations. By including the concept of continuity, the student's experiences are carried over from previous situations to the new and later situations. When the student goes on from one situation to the next, the student's world expands or contracts. The same applies to learning, when the student has learned something in one situation, it may help the student to understand or deal effectively with the following situations. We may talk about growth when the student is broadening up and expanding her/his experiences in the world. However, we may discriminate growth. A student who has grown in efficiency of cheating, lying, and stealing, has grown, but not in an educative way. To be considered educative, the student's growth needs to promote growth in general. If a student was cheating and lying, other students may not want to interact with the student

and thereby contracts further experiences with these students. In this way, the student's habits and attitudes are formed through experience, situations, and continuity. However, there is a difference between forming habits through blind desires and through intellectual control. If the student was to form habits out of intellectual control, the student would need to reflect upon and choose actions due to the possible consequences of his/her actions.

6.1.2 The use of Dewey's thoughts and concepts

The work by Dewey has helped me with how I think about research and education. However, the present thesis is based on empirical data and the empirical data will be foregrounded. The terms used, although inspired by Dewey, must be read in the relation to the empirical data and in the context of the written text. For instance, I have decided not to use Dewey's concept of transaction except for the paragraph above. There are especially two reasons. 1. Dewey changed the word interaction, which he used in earlier writings, to transaction due to the possibility to mistakenly think that organism and environment was two separated entities which inter-acted with each other (Muhit, 2016). 2. The concept of transaction used in our everyday lives is for example when a person is transferring money to another person. Both interaction and transaction may be misread and misunderstood and must therefore be read in the context of the text. Therefore, I have chosen the more used word interaction in social situations which PE includes.

Dewey's thought on human experiences and learning is compatible with the philosophical pragmatism perspective, mainly that humans adapt (are influenced by and influence) to their environment and learn from their experiences (Dewey, 2015; Hildreth, 2011). That is, humans may bring their prior experiences and reflections into further situations that lead to actions and further experiences and reflections in a continuous process through situations (Dewey, 1938, 2015; Casey & Quennerstedt, 2020; Quennerstedt et al., 2011). Through actions, experiences and reflections, students might learn something in one context and situation and bring it into another context and situation, where the new context and situation may lead to further actions, experiences and reflections that may lead to further learning (Dewey, 1938, 2015; Quennerstedt et al., 2011). As such, learning occurs when students are changing their predisposition to act in further situations (Quennerstedt et al., 2011). However, Quennerstedt et al., (2011) uses the term "meaning making" when describing learning: *"Learning can thus be described as meaning making resulting in a more developed and specific repertoire to act"* (p.

162). In my view, Quennerstedt et al., (2011) has used the term meaning making in a way, which is like the term learning. I will provide an example where meaning making and learning may be looked at in a similar way; if the teacher and students construct their meaning and learning from the context of sports and the importance of winning, then teacher and students might bring this learning and meaning into the context of PE. If this learning and meaning (importance of winning) is not influenced by anything in the context of PE, the teacher and students would act in a similar way in PE. Although the term meaning making and learning may share similarities, I have used meaning making separately within learning.

The educative element focuses on 'the capacity of further and richer experiences, expanding the possibilities for further actions and experiences' and 'thus being something that should be discovered in an embodied process of inquiry' (Casey & Quennerstedt, 2020, p. 8). Dewey's ideas of experience and education are therefore the need for the experiences of children and young people in schools to be 'one of education of, by, and for experience' (Dewey, 2015, p. 29). Dewey further rejected any move to impose ultimate or external ends of education (Hildreth, 2011). Instead, he used the term 'ends-in-view', which 'keeps our attention on the ends of the particular task at hand and reminds us that ends are always provisional and changing throughout the course of educational experiences' (Hildreth, 2011, p. 34). In this case, it is the teacher in charge of PE lessons who can direct the students into the 'right way' based on her/his knowledge and competence in that situation and based on the possible consequences of the actions. The possible consequences should be considered aligned with our responsibilities in the world. As stated by Rorty and Engel (2007), 'our responsibilities are exclusively toward other human beings, not toward "reality"' (p. 41). Taking this responsibility into consideration within education, the teacher is responsible for providing for students' growth of experiences in a constructive direction for themselves and their peers. For instance, if the teacher tells the students what to always do, the students might become dependent on the teacher, which reduces the opportunity for further growth of experiences. Dewey called this non-educative or even mis-educative because students might not learn to think consciously through alternative actions or attend to the possible consequences of their actions (Dewey, 2015). Instead, teachers might help students to learn intellectual control where the students act based on the possible consequences of their behaviour in relation to their responsibilities to their peers. In this sense, the teacher needs to help students to anticipate the possible consequences of their

behaviour in line with the students' 'ends-in-view' together with the social (e.g., peer) 'ends-in-view' of education (Hildreth, 2011). Looking at learning from the perspective of Dewey, human beings in the environment are not predetermined or autonomous, but rather are influenced by and influence the environment, and the learning is something that happens in the continual process (e.g., Dewey, 1916, 2015; Quennerstedt et al., 2011; Sigmundsson et al., 2017).

By combining the pragmatist philosopher's perspective and Dewey's educational element of learning (Casey & Quennerstedt, 2020; Dewey, 2015; Rorty & Engel, 2007), I will summarize this into two sentences important for my thesis: 1. Human beings are influenced by, and simultaneously influence, the situations. 2. Human beings learn knowingly or unknowingly through their experiences, actions and reflections in situations. As such, the teacher's role will be to help students to become attentive to their experiences and actions and possible actions in situations and become attentive to the consequences and possible consequences of their experiences and actions in the situations. In this way, these will make the students more reflective of situations and influence the students' predisposition (e.g., learning) to act in further situations (e.g., Quennerstedt et al., 2011). However, one needs to investigate further situations to observe whether the students' changed predisposition to act leads to different actions in future situations.

To understand the findings of the project, Dewey's educational perspective was supplemented by vocabularies of different theories and models of learning. In article I, the personal and social responsibility model was included. In article II, the co-operative learning model was included. In article III, the theory of mindset was included.

6.2 The teaching personal and social responsibility model

Article I concerns disruptive situations in PE and how teachers may create situations for learning in disruptive situations. As such, the teaching personal and social responsibility model may be useful in this endeavour. The aim of the teaching personal and social responsibility model is to teach students responsibility for their own and others' well-being and strategies to exercise control over their own lives in their social environment (Pozo et al., 2016). The model indicates a positive influence on students in three ways: (1) reduced aggressiveness and disruptive behaviours; (2) improved self-control, caring, conflict resolution, responsibility, enjoyment, relatedness, empathy, self-confidence, self-esteem and

self-efficacy and (3) less truancy, less tardiness, better grades and both vision and motivation towards an academic and professional future (Pozo et al., 2016). In short, this model consists of five levels: (1) respect for the rights and feelings of others, (2) participation and effort, (3) self-direction, (4) leadership or caring and (5) transfer to other domains in life (Hellison, 2011; Melo et al., 2020). Although these levels are considered a loose progression from fundamental to more advanced responsible behaviour (Melo et al., 2020), we did not use these levels as such in article I. Instead, we used the levels as areas where students may develop their personal and social skills, where students are complex organisms that adapt to the environment (Sigmundsson et al., 2017). For instance, a student might participate and show effort in one activity or a part of an activity in which he/she is competent but may not show effort in another activity or part of an activity in which they are not as competent. Looking at it in this way, one needs to consider the complexities of what happens in the PE lessons (not following a strict pre-planned PE lesson) and how the teacher constructs and facilitates the environment to allow students to learn and develop in these areas.

6.3 The co-operative learning model

Article II concerns social inclusion in team activities in PE and how teachers may create situations for learning in these situations. As such, the co-operative learning model may be useful in this endeavour. The co-operative learning model has the possibility to teach students skills within the physical, social, cognitive, and affective domain (Bailey et al., 2009; Casey & Goodyear, 2015; Johnson & Johnson, 2009). It consists of (1) positive interdependence, where each student understands that they are mutually dependent on each other for success and that everyone must do their part of the work on the team; (2) promotive face-to-face interaction, where students encourage and help each other to increase their effort to achieve and complete tasks to reach the shared goal; (3) individual accountability, where students are accountable for their efforts in the team and expect the contribution of others; (4) social skills (interpersonal small group skills), where students communicate with each other, asking for clarification, carrying out discussion, seeking contributions and praising contributions and (5) group processing, where students reflect on their performance, function as a group, and set and reflect on goals and how to achieve them (Casey & Goodyear, 2015; Johnson & Johnson, 2009). In article II, Dewey's educational element was included (Casey & Quennerstedt, 2020) with the intention of showing that

experiences were used as a base when learning social skills such as social inclusion.

6.4 The theory of mindset

Article III concerns competitive activities and facing challenges in competitive situations in PE. As such, the theory of mindset may be useful to understand and to create situations for learning in these situations. The theory of mindset suggests that students might look at activities and situations in PE as an opportunity to develop their competence, or as an opportunity to show their competence to others (Dweck, 2019; Warburton & Spray, 2017). Students with a fixed mindset may have the goal of looking good in front of others; if they do not think they can accomplish that, they may use handicap strategies or avoid situations where they do not feel competent (Dweck, 2019; Ommundsen, 2001). By contrast, students with a growth mindset may have the goal of learning and improving their skills and are therefore less likely to use handicap strategies, reduce effort or give up when facing obstacles (Dweck, 2019; Ommundsen, 2001). In article III, the theory of mindset was used to show how students experience and adapt to different environments created by the teacher in PE.

7 Methods

The project was inspired by Rorty's philosophical pragmatism (Rorty, 1982) and Dewey's educational perspective (Dewey, 2015). For instance, that research preferable are relevant for peoples' everyday lives and conducted in real life situations. To reach such ends-in view, it is useful to take a data driven approach instead of theory driven approach. As such, one does not "force" the data into already set theories. Instead, one use theories and models to understand the constructed data. To construct data in relation to the aim of the study instead of being based on theory and methodologies (see Braun and Clarke, 2021), one must justify the methods one uses to maintain the data driven approach and the analyses of the data (e.g., Braun & Clarke, 2021; Rorty, 1982).

The aim of the project was to investigate students' experiences and learning in situations in PE. This would create knowledge about how teachers may facilitate situations for constructive experiences and learning in PE. First, one needs to consider that experiences, teaching and learning in PE are highly contextualized (e.g., Amade-Escot & O'Sullivan, 2007). Dewey (1938) stated that '*any problem of scientific inquiry that does not grow out of actual (or "practical") social conditions is factitious; it is arbitrarily set by the inquirer instead of being objectively produced and controlled*' (p. 499). Therefore, the following selections of participants, methods, data creation stages and analyses are based on the relevance to, and further justified by, the overall purpose of the project. I will further emphasize that the methods are inspired by philosophical pragmatism and aim to contribute to practical solutions to peoples' everyday needs.

While other studies have used methods for showing how students learn in PE, their learning experiences, the creation of meaning-making in PE and teachers' teaching practices, using video recordings, interviews, video-stimulated reflections (using video in the interviews) and documents such as the PE curriculum (e.g., Amade-Escot & Bennour, 2017; Amade-Escot & Venturini, 2015; Barker et al., 2015; MacPhail et al., 2008; Mooney & Gerdin, 2018; Quennerstedt, Annerstedt, et al., 2014; Quennerstedt et al., 2011; Quennerstedt, Öhman, et al., 2014; Redelius et al., 2015), they have not taken the experiences that students' perceived to be important for themselves as a starting point and have not discussed them with the potential for learning or teaching. Therefore, I added other methods for including this starting point (e.g., see Figure 2, data stage IV).

7.1 Participants and data creation methods

The participants were students and teachers from two secondary classes from two different schools in the south of Norway. The classes consisted of 49 students and their two male PE teachers, who were also their main class teachers. One class consisted of 24 students (16 boys and 8 girls), and the other class consisted of 25 students (12 boys and 13 girls).

The classes were chosen based on the teachers who volunteered. Several teachers were approached for inclusion in the study. Two teachers accepted, which was the number wanted in this project, due to the possibility of variations in PE lessons. Although some teachers were interested in the first part of the introduction to the project, they seemed to be reluctant to participate because of the method of video recording, including a wireless microphone. The included teachers were therefore not random, but merely those teachers who found the study interesting and had the confidence to be video recorded. I cannot say whether the included PE teachers' lessons were 'better' or that the teachers were more satisfied with their lessons than the PE teachers who chose not to participate. Still, the aim of the study was to investigate situations within PE lessons that may differ from one situation to the next and from one PE lesson to the next.

7.2 Justifying my methods

I will not justify my methods by participating in the quantitative–qualitative methods discussion (e.g., Chowdhury, 2015). This discussion would be similar to discussing whether a hammer or a wrench is a better tool. The answer would be that it depends on the situation and what one needs (Moreira, 2020). Instead, in line with the philosophical pragmatism perspective (Rorty, 1982), I will justify my methods based on their suitability for investigating my aims and compare them with relevant methods used by others. For instance, Amade-Escot (2005) suggested that one should investigate critical didactic incidents by interviewing the teacher pre-lesson, videorecording lessons where the teacher uses a cordless microphone, having short interviews of students during lessons and interviewing the teacher and possibly the students, post-lesson. Similar methods are used in didactic moments, situational learning and so on (e.g., see Quennerstedt, Annerstedt, et al., 2014). Amade-Escot (2005) argues that the triangulation of the methods provides trustworthiness. Although I agree with this argument, these methods would not have been sufficient for this project, mainly because the project places less emphasis on the teacher, although relevant in the situations, and more

emphasis on the situations that students experience as important and is further directed by the students' learning and relevance for the students in the society. With this aim in mind, I needed to add other methods for investigating situations in PE.

7.3 The methods used in the project

Table 1 outlines the overall research methods, participants, data creation and main strengths and limitations of the study. Further justification of the methods is described in Sections 7.4–7.7.

Table 1. Overview of data creation in the study in chronological order.

Methods	Participants	Data creation	Strengths	Limitations
Written narratives 1	All students from two classes (49 students)	224 written narratives	1. Students' stories from their own experiences 2. Every student's voice is heard 3. Students can concentrate in a calm environment and write as much as they want 4. Stories become more coherent 5. Not disrupted by a researcher	1. The researcher (main author) cannot ask follow-up questions
Interviews	12 students and their two PE teachers	43 transcribed pages	1. Information about the students' and teachers' own experiences, interpretations and meanings 2. In-depth information 3. Follow-up questions from the narratives and the present interview	1. The researcher (main author) does not know the context of the situations
Observations, video recordings with a 360° camera, audio recordings of the teacher using a microphone	All 49 students and their two teachers from two classes	1050 min in total: 14 PE lessons (8 from one class and 6 from the other)	1. Contextual information 2. Close to relevant situations 3. Repeated observation of the situations 4. Panoptic overview 5. Opportunity to listen to what the teacher said and the dialogue with students 6. Opportunity to use video clips later in the interviews	1. Teachers and students might be influenced by the observer and the video recordings 2. Difficult to hear the students' voices

Written narratives 2, at the end of each PE lesson	All 49 students from two classes	453 written narratives	1. Students have fresh memories of the situations in the present PE lesson 2. Can connect students' narratives to videorecorded situations 3. See written narratives 1	1. The researcher (main author) cannot ask follow-up questions 2. See written narratives 1
Interviews	35 students and their PE teachers from two class	147 transcribed pages	1. Follow-up questions from the narratives and video clips 2. In-depth information from the narratives and video clips 3. Contextualized information (video recordings)	

The first data creation stage (written narratives 1) influenced the student interview guides in the second data creation stage (interviews with the students). The teacher interview guides in the second data creation stage were not influenced by the student's narratives from the first data creation stage but proposed questions about PE lessons and teaching in general. In the third data creation stage, observation and video recordings were used to understand the situations in their natural context and to capture 'everything' that happened in the PE lessons. In the fourth data creation stage, the students wrote narratives at the end of the PE lessons, based on the situations that happened in the finished PE lesson. Based on these four data creation stages and other relevant situations from my perspective as an observer, the data were analysed, overarching themes were created, and video clips were extracted from the video recordings. These overarching themes and video clips formed the foundation for the interview guides in the fifth data creation stage. The fifth data creation stage included interviews of students and teachers to get a deeper understanding of the overarching themes and situations. Table 2 shows examples of interview and observation guides and questions in each method.

Table 2. Examples of interview and observation guides in each method.

Methods	Interview and observation guides
Written narratives 1	*Tell me about the situation with your teacher that you liked the most from 8th grade. What happened and why did you like it?* *Tell me about the situation with your teacher that you liked the least from 8th grade. What happened and why did you not like it?* Similar questions were posed about the activities and the students' peers. At the end, the students could write as many narratives as the liked from their 8th grade experiences.
Interviews 1: students	*In the narrative you wrote that… tell me more about the situation, I want to picture it.* Questions included *Can you describe the activity in more detail? What was the goal of the activity? What did the teacher do? What did your peers do? How did you experience it? Can you tell me more about what you liked the most/least? What did you learn from this (experience)?*
Interviews 1: teachers	*What do you think is the goal with PE? Why do you think this is the goal? What is your teaching style in PE? You said that… can you give an example of this from your PE lessons? What should be learned in PE? Which activities do you choose in the PE lessons? Why do you choose these activities? How do you motivate students? How do you help students in the PE lessons?* Follow-up questions were based on the students' and teachers' answers.
Observations, video recordings with a 360° camera, audio recordings of the teacher using a microphone	Researcher and observation: Look for situations that I find useful and interesting for the field of PE. Researcher and video recordings: 1. Investigate the situations I find interesting in my observation; 2. Search for and investigate similar situations as mentioned in the themes created from written narratives 1, the interviews of the students and the teachers; 3. Search for and investigate the situations the students wrote about in written narratives 2.
Written narratives 2, at the end of each PE lesson.	*Tell me about the situation you liked the most in this PE lesson. What happened and why did you like this situation the most?* *Tell me about the situation that you liked the least in this PE lesson. What happened and why did you like this situation the least?* At the end, the students could write about as many positive and negative situations as they wanted from the PE lesson.
Interviews 2: students	*Tell me about the sociocultural environment in the class* (article I); *Tell me about co-operation in general in your class* (article II); *Tell me about competitions in the PE lessons* (article III); *You wrote in your narrative that… can you tell me more about this situation? Does this video clip show the situation that you described in your narrative? Tell me more about the situation; How did you experience the situation? What did you learn from this situation?*
Interviews 2: teachers	*In the first interview you mentioned that you could use competition as motivation—why do you choose to use competition as motivation? How is the sociocultural environment in the class? You said in the last interview that you focused on co-operation—in what way? Can you tell me about the situation in this video clip?* Follow-up questions were based on the students' and teachers' answers.

It should be mentioned that the analysing process was an ongoing process throughout the data creation stages, and the overarching themes were not entirely decided until analyses of all the data creation stages were finished. Figure 2 shows the overall process of the methodological stages for data creation in the study. One may see that the written narratives created in the first and fourth data creation stages differed from those used by Amade-Escot (2005), for example, in the methods used and were important for gathering data about the situations that students themselves perceived to be the most important situations in the PE lessons from 8th grade and in the real-life natural context of each PE lesson in 9th grade. The overall aim of the study was to investigate students' experiences and learning in situations in PE, which led to the following research questions: 1. What do students experience and learn in/of situations they perceive as important? 2. How do situations in PE influence students' experiences and learning? The analytical questions connected to each overarching theme may be read in figure 2 stage V.

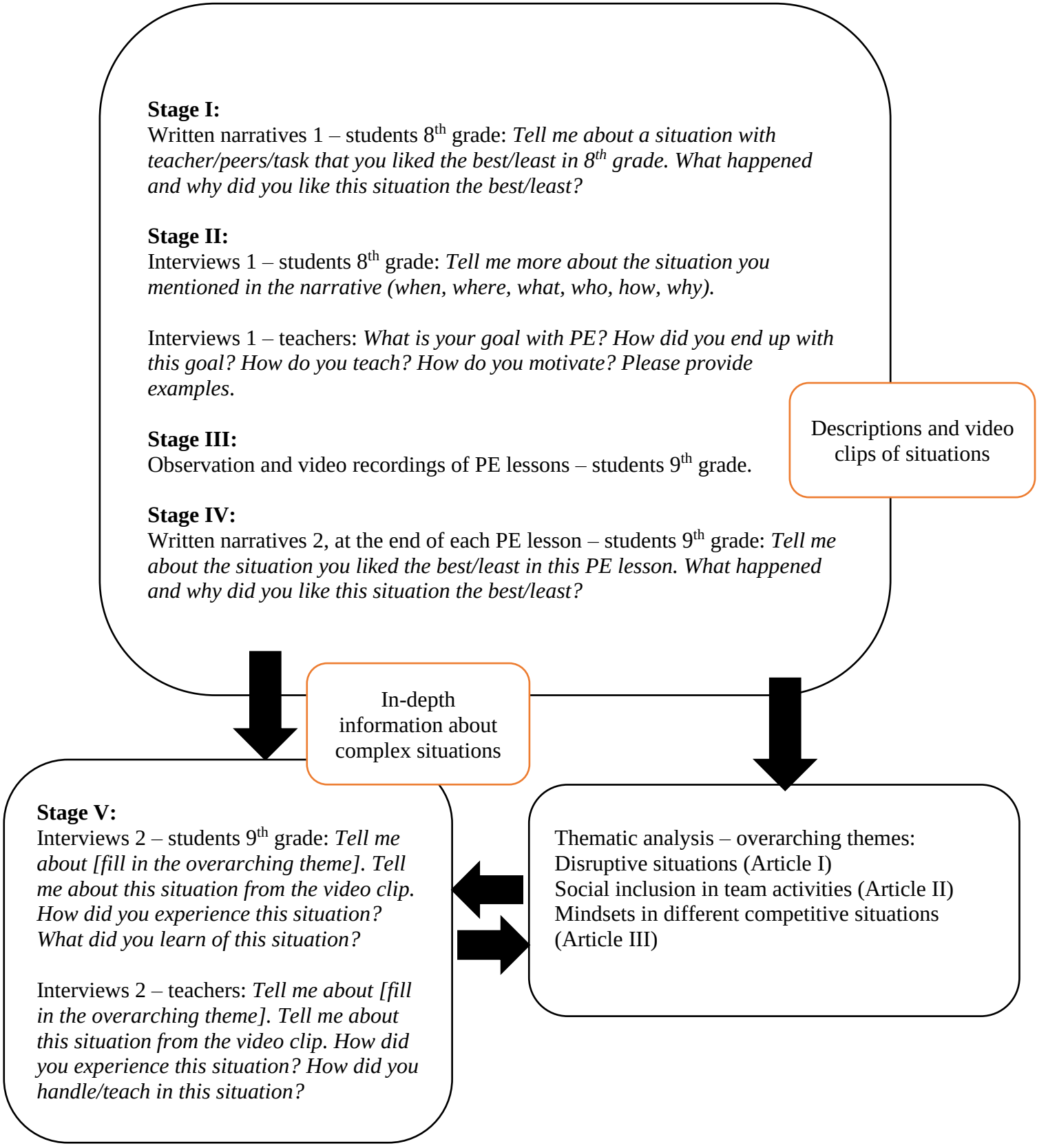


Figure 2. Methodological stages for data creation in the study. Stages I–IV created the data foundation for further thematic analysis and the overarching themes. In addition, stages I-IV provided descriptions and video clips of situations in PE lessons that were mentioned in the students' narratives, the student and teacher interviews and interesting observations of the researcher. These overarching themes and video clips were used in the interviews in Stage V, where further thematic analysis was completed.

7.4 Narratives

Narratives are a suitable method to investigate young students' experiences in PE, because one cannot access the students' feelings, thoughts, or experiences (Burr, 2015), only the words they know to describe it (Wittgenstein, 1953). The students wrote narratives, or reflections papers, based on questions designed to facilitate richer data (Patton, 2014). In addition, the students had the opportunity to verbally record their narratives using an audio-recorder, which none of them wanted. The young age of the students may also influence how comfortable they are in an interview situation, which again may influence how much they talk, and whether they can find the right words in this more stressful situation. Writing reflection papers also gives students more time to think about and remember different situations, and how they can express their thoughts. This will, due to the students' feelings and thoughts, influence their behaviour such as speaking (Rosenberg & Hovland, 1960). There are therefore two main purposes for including written narratives (reflection papers) in this study: reducing the students' stress, so that they can remember and describe the situations in the best possible way and giving them time to think about these situations prior to the interviews. It further lessens the interview workload, because the students have already written their thoughts down, making it possible to include a larger number of students. The main advantages of narratives are that it is easier for the students and teachers to remember 'stories', they become more coherent, no one can 'put words into their mouths and the teachers and students probably believe there is a causality in their stories (Hoffmann, 2010). The disadvantages of written narratives are that one cannot ask follow-up questions (Brinkmann & Tanggaard, 2015). Written narratives were therefore not used in isolation in this project but were accompanied by interviews and observations to obtain in-depth information and provide the opportunity to ask follow-up questions.

7.5 Interviews

Interview is a suitable method for getting the students and teachers to tell stories of their personal and expressed experiences of their everyday lives (Smith & Sparkes, 2016). In the present project, these stories or narratives were connected to situations in PE. The interview situations might make the students more stressed, which again might influence their answers. Therefore, I tried to create a relaxed and comfortable situation customized for each student (Brinkmann & Tanggaard, 2015). For instance, one student did not provide detailed answers and seemed a bit

uptight in the interview. I asked what he liked to do in his spare time, and he said he liked to do tricks on the trampoline. I told him that I jumped on the trampoline when I was younger and told him about some of the tricks I could do and further asked about his tricks. After a short talk about this, I went on to the main themes and situations in the project. Furthermore, in all the interviews I started with easy, comfortable topics and ended with similar easy talks and by thanking the participant for the interview and their contribution. However, some of the interviews lasted only five minutes if they contained only one short situation and a general theme, and therefore these talks were short and might not have 'warmed-up' the students appropriately in the interviews. Student interviews ranged in length from 5 to 20 minutes for interviews 1 and 6 to 30 minutes for interviews 2. Although I was aware of the possibility that the students could provide short answers, I did not ask questions that could lead the students to say something they did not 'mean'. For instance, when asking students what they learned about co-operation, I did not give examples such as, 'did you learn it in this way?' or 'in that way?'. Instead, I asked open questions and kept the interviews between semi-structured and open (Smith & Sparkes, 2016). That is, I started with a situation or a theme and asked questions to gain understanding of the situations and the students' experiences and expressed learning of the situations. I also allowed periods of silence in the interview, making it possible for the students and teachers to reflect, and for me to formulate further questions (Ellingsen et al., 2015; Kvale & Brinkmann, 2009).

7.6 Observation and video recordings

An advantage of observation and video recordings is that one captures the context and human behaviour directly (Brinkmann & Tanggaard, 2015; Foster, 2006). Video recordings are also more trustworthy (I would prefer the term 'useful') when it comes to what happens in the lessons, because teachers and students might change their memories of situations (e.g., Hirst et al., 2015; Loftus & Pickrell, 1995), which influences their stories of the situations in the interviews. The teachers and students might also answer in a way that they perceive as desirable for their image (Foster, 2006). Using video recordings, one may triangulate what the students write in the narratives and what the teacher and students say in their interviews with the video recordings. One may further use video clips in the interviews to help the teachers and students remember the situations and elaborate on them. The researcher may further observe things using observation and video

recordings that the participants, such as the teachers and students, cannot (Foster, 2006). Thus, situations that are taken for granted by the participants might be critically analysed by the researcher. Furthermore, the participants are 'in the situations' and might not be aware of everything that happens in them. For instance, in this project, one student said that the situation she liked the best in a PE lesson was when she scored a goal, and the situation she liked the least was that nobody seemed to be happy when she scored. In the interview, she elaborated and said that a teammate had tried to score first but hit the pole, which led her to the opportunity to score. However, after she scored, her teammate was more concerned and disappointed about the fact that he did not score, and an opponent commented that he did not score. One may understand her experiences by looking at the video recordings because her attention was directed in the direction of these students. However, after she looked at the video clip, she admitted that some students did cheer when she scored. Furthermore, the video clip showed that the teacher cheered loudly, and her teammates applauded. Thus, she became aware of the discrepancy between her description of the situation and what was captured in the video clip. I therefore consider it to be a clear strength of the use of triangulation of the information from the participants and the video clips. A limitation of video recordings is that they do not capture the social norms in the environment or the entire context (Brinkmann & Tanggaard, 2015; Foster, 2006). This limitation might be reduced, but not removed, by including interviews of the participants. One must also remember that the students and teachers know that they are being watched and recorded, which may influence their behaviour (Brinkmann & Tanggaard, 2015; Foster, 2006). However, based on their behaviour, it did not appear that being recorded influenced the students during the PE lessons. Furthermore, one student indicated that they forgot that I was video recording during the interviews. However, this is only anecdotal evidence, and I do not know how much the observation influenced the students' or the teachers' behaviours. Another limitation is that the observations might be biased by the researcher's perception of what is interesting (Foster, 2006). I therefore included written narratives after each PE lesson to ask which situations the students liked the most and the least in the lessons. In that way, I could reduce, although not remove, my biases by starting from the students' expressions of their most important experiences. However, as an expert, I might 'see' what the participants cannot and therefore also included situations that I perceived as important in the lessons.

I used a complete open unobtrusive participant observation where the video recordings and observations were conducted from the side of the field (Angrosino & Rosenberg, 2011; Thorpe & Olive, 2016). I used two strategies: 'observe and look for nothing' and 'observe and record everything (Thorpe & Olive, 2016; Wolcott, 1981). These strategies were possible due to the use of a camera with a 360-degree view. For instance, the video camera captured 'everything' in the lessons, from when a situation 'started' until it 'ended', and I looked for anything that I found interesting. Because of the 360-degree video recordings, I could find the situations that the students had experienced as the most and least positive in the lessons and mentioned in their written narratives after each PE lesson. For instance, in article III, I saw that the PE teacher had a different approach in the activity 'running test' than in other similar activities. Nevertheless, it was not of interest to me until I read the students' narratives after the 'running test' activity. I then wanted to further analyse the video recordings and conduct further interviews of teacher and students to understand the difference between seemingly competitive situations and the students' experiences. The usefulness of the observation was to combine the experiences of what the students and teachers said with the descriptions of the situations. One may argue that one obtains details of the students' experiences and learning by interviewing them. However, as shown in article II, one student said in his first interview that he had learned to pass the ball more often and in his next interview several months later that he had passed the ball more often after the first interview. This contrasted with the observation, which showed that he did not pass the ball more often. This example shows the usefulness of observing PE lessons and the triangulation of methods.

7.7 Analysis

The interviews and video recordings were transcribed into written text and analysed together with the written narratives and field notes. The organization and analysis of the written data were conducted with the help of NVivo 11. Video clips were extracted from the video recordings and stored in maps related to the different overarching themes. The video clips were too big to import into the NVivio 11 software. In fact, the coding of/and the written data material were too much for a single NVivo file to handle, so I created one NVivo file for each overarching theme so that the NVivo programme would not crash when creating figures within the software. Because of the different methods used and the data-driven approach (bottom-up perspective), the flexibility of thematic analysis was useful (e.g., Braun

& Clarke, 2006; 2021). The data were therefore thematically analysed with the six basic steps outlined by Braun and Clarke (2006, 2019; Braun et al., 2016): 1. Familiarize yourself with the data. 2. Generate initial codes. 3. Search for themes. 4. Review themes. 5. Define and name themes. 6. Produce the report. Each data creation stage, excluding video clips, was organized, and coded using NVivo 11. Each data creation stage included the first five steps of Braun et al. (2016). For instance, after the data creation in stage two, I needed to familiarize myself with the data again, because the new information in this stage could lead to a new way of looking at the information from the first data creation stage. The themes created in data stages one and two (the fifth step in thematic analysis) were used in the third data creation stage (observation and video recording), as a starting point for identifying interesting situations. For instance, in article II, 'social inclusion' was such a theme. After the fourth data creation stage was finished, I once again conducted the first five steps of Braun et al. (2016) to create themes that acted as a base for further interviews in the fifth data creation stage. After the five data creation stages were finished, I once again used the five steps of thematic analysis. In the creation of the report/article (sixth and last step), themes were once again revisited and defined. I therefore argue that thematic analysis was conducted throughout the data creation stages, and that the stages were used based on their relevance for understanding and analysing the data. Examples of coding may be found in the articles at the end of this thesis and within each data creation stage. Table 3 shows examples within each data creation stage relevant to social inclusion in team activities in PE (article II). Table 4 shows how the subtheme created the main theme about disruptive situations in PE (article I). Table 5 shows how the data were triangulated to a main theme that created the overarching theme competitive situations in PE (article III).

Table 3. Examples of how the data were coded in article II, social inclusion in team activities in PE.

Data	Example	Subtheme
Written narratives 1.	'I did not like floorball. This was because I did not think it was fun to never receive the ball'. 'Football. Not everyone passes [the ball] to me, even though I pass to them. There is just somebody that passes to me'. 'And I feel that those who are good in football are egocentric, and those who are not so good don't get the ball'.	Being excluded in team sports
Interviews 1 (about the narratives).	'There are several teams, and some [students] are better than others. Yes, and then they… well, those who play floorball [outside school] might be better than others, and maybe they want to do it themselves. So then, so then, there would not be so much play together'.	Being excluded in team sports
Observation/ video recordings	Different video clips, related to activities where students did not pass the ball, were extracted.	Passing ball in team activities
Written narratives	'The situation I liked the best in PE today was when we played floorball with the team, because teamplay is fun and it is social'. 'I liked it best when we played football in the gym, because it is a team game that most [students] can do and it creates a good atmosphere within the team'.	Positive experiences in team activities with ball
Interviews (about team activities)	'[I liked] that one is not alone but is co-operating. I think it is fun really, that we can help each other with the things we are not that good at. So, it is easier to work together on a team'. '[I do not like] when people are passing the ball to me and I cannot hit the ball, or something like that… Because then the others think I am bad at it, and then they do not bother passing the ball to me anymore'.	Positive/negative experiences in team activities

Table 4. How the subtheme created the main theme about disruptive situations in PE in article I.

Subtheme	Main theme
1. There was a long waiting time (between ending one activity and starting the next, or within the activity) 2. The teacher spoke too much 3. The teacher did not maintain attention on the whole class 4. The teacher did not intervene	Environmental opportunities for disruptive situations

Table 5. Triangulation of data relevant to a main theme that created the overarching theme competitive situations in PE in article III.

Data	Main theme	Subtheme
Observation/video recordings/field notes: Students are wrestling. Most students put in a high level of effort, while some seem to make less effort. Written narrative of Charlie: I liked wrestling the least in the lesson, because I suck at it. 3.1. Interview with Charlie: I: What do you think about wrestling? Charlie: There were not that many [who 'tried'], or they knew they would lose. I: What do you think about that? Charlie: I think it is fine if you know that you will lose. Then you do not need to try as much as you can. 3.2. Interview with teacher: Some of the students do not get motivated at all, and almost leave the mat on purpose.	Focus on normative success	Reduced effort if losing

7.8 Ethical considerations

The schools' principals, teachers and students were informed of the study verbally and in writing, and the students' guardians were informed in writing. Written consent was obtained from the teachers, students, and students' guardians. This study was approved by the Norwegian Centre for Research Data (NSD-58504) and the Ethics Committee of the Faculty of Health and Sport Science at the University of Agder. Ethical considerations were considered before, during and after each data creation stage (Kvale, 2015). I assured the participants anonymity and that only my supervisors and I had access to the data. Participants were informed that participation was voluntary and that they could withdraw their consent and stop, for instance in the interviews, whenever they wanted. This was repeated in each interview. In the following, I will show some of my ethical considerations before, during and after the project.

All social interactions have an influence on the contributing participants, which must be reflected upon (Ellingsen et al., 2015), and the present project had social interactions in the observation and interviewing sequences. The ethical considerations of the observation and video recordings are that the students and teachers know that they are being watched and some might also feel that it is unpleasant (Brinkmann & Tanggaard, 2015). This is one of the reasons that the

video camera with a 360-degree view was placed in the same spot throughout the PE lessons. The students would probably be more aware of the video recording if I had manually directed the camera to different situations, instead of having the camera at the same spot throughout the lessons. Using a hand-held video camera would also mean that the video recordings started after the situation did, because I would never know when or where interesting situations were about to happen (Brinkmann & Tanggaard, 2015). If the situations described by students had not been captured in full, and students were not able to experience video clips of what really happened, it may have influenced the trustworthiness and ethics (e.g., students perceive that situation are misrepresented) of the data. In the interviews, the students did not disagree on the situation or suggest that parts of the situation had been missed. Furthermore, I could ask the students whether the video clips I showed them were, in fact, the situations that they had mentioned in the narratives they had written after each PE lesson. Each student was interviewed individually, which was important, not just for the in-depth information but also because the students' experiences of the situations could differ from the situations shown in the video clips. This could potentially put students in a vulnerable situation. In such situations, I was sensitive to how the students reacted, and questioned them about the situations accordingly. After I had received the information I needed, I was able to soften the situation, for example, by focusing on the positive part of the interview and influencing the students' perspectives of the situations.

The use of open-ended questions in the interviews and narratives included ethical considerations. For instance, I did not take an expert role or decide what was important or put words into the teachers' and students' mouths. The participants were allowed to talk about what they thought was important, and my follow-up questions were based on that. However, I decided the themes of the interviews. I was therefore aware of the asymmetry in power between myself and the participant, because I set the rules of the interviews and there could have been major differences in the social, cultural, and linguistic capital (Bourdieu & Ferguson, 1999; Ellingsen et al., 2015). In the interviews, I therefore tried to use 'everyday' and 'easy' words so the participants would understand what I meant and not become defensive because of the words that I used. However, I did use the term 'teaching style' in the interviews with the teachers, which they were less familiar with. I therefore changed it to 'how they taught students in PE'. Although I did not ask obviously intrusive or unpleasant questions, I tried to detect subtle nuances in relation to what I could ask for and what could be elaborated on

(Ellingsen et al., 2015). For instance, questions concerning exclusion in team activities, poor performance in competitive situations or misbehaviour of/by others might be considered unpleasant questions, so it was important that my interest in these subjects did not lead to unintentionally failing to recognize the participants as unique human beings (Dahlberg et al., 2008). I further tried to keep an open and curious mind, and my attitudes towards the participants, in addition to influencing the trustworthiness of the information I received, may have influenced the participants to feel that they were of significance and concern (Ellingsen et al., 2015; Løgstrup, 1997; Martinsen & Kjerland, 2006; Martinsen & Kjær, 2012). In the observations and especially in the interviews, I wanted to demonstrate a sensitivity and humility towards the participants' boundaries and 'untouchable zones' mentioned by Ellingsen et al., (2015). Again, the questions that I asked might not seem to be very 'touchy' from my point of view, but from the participants' point of view, the questions might have been more unpleasant than I was aware of. I therefore tried to demonstrate a sensitivity in the interviews and not to harm the students' psychological health with my research.

7.9 Trustworthiness of the project

In contrast to quantitative research which uses the criteria of validity and reliability when justifying the quality of a study, qualitive research may use the criteria of credibility, transferability, dependability- which includes transparency-, and confirmability (Nowell et al., 2017). Although, one needs to acknowledge that qualitative researchers come from different paradigms and scientific traditions (Stenfors, 2020). From my philosophical pragmatism perspective, I think the criteria of quality in both quantitative research traditions and qualitative research traditions are useful. Although, these traditions make different kinds of investigations in the world and are therefore using different vocabularies. Based on my interpretation of the philosophical pragmatism by Rorty (e.g., Rorty & Engel, 2007), the most important part concerning the quality of a study, is whether the methods used in the study are justified to the knowledge one is interested in creating. In the method section I have tried to justify my methods through showing both strengths and limitations of each single method and to show how a triangulation of the methods may together reduce the limitations of each single method. Although triangulation may be an important part of credibility used in qualitative research (Nowell et al., 2017), I do not think triangulation in general

justifies the quality of a study. Whether one uses triangulation or not, must be seen through its relevance of the knowledge one is interested in creating. In this project, I was interested in investigating students' experiences and learning in situations in PE, taking a starting point in situations that students perceived as important. As such, the justification of the methods and triangulation had such ends-in-view, which I would argue is important for the trustworthiness of the project. Further, by using a thematic analysis with a bottom-up perspective, I could maintain the data driven approach. Hence, I could focus on the empirical data instead of "forcing" the data into theories. Although I have been inspired by Dewey's educational perspective and used this perspective and other theories to understand the results of the data and to discuss alternative ways to teach, I have kept the empirical data in the foreground. To include the criteria of quality in qualitative studies, I have justified, and triangulated methods used in the project (credibility), and I have clearly documented the research process (dependability). In the case of transferability, I have through rich descriptions of students' experiences and learning in situations in PE allowed those who want to transfer the findings of the project to judge the usefulness in their domain. For instance, in the case of disruptive situations in PE, social inclusion in team activities in PE, and mindset in competitive activities. Further, the projects have suggested alternative ways of creating situations for learning in these situations. However, whether and how the proposed alternative ways of creating situations for learning in PE would work in practical situations in PE, are empirical questions which would need further research. When credibility, transferability, and dependability is achieved, one has established confirmability (Guba & Lincoln, 1989; Nowell et al., 2017). Confirmability has further been reached through showing how the findings and interpretations are derived from the data (e.g., Nowell et al., 2017).

8 Results

The aim of the project was to investigate students' experiences and learning in situations in PE, and an overall aim of the thesis was to discuss alternative ways, which teachers might use, to facilitate situations for learning in PE. The alternative ways of teaching may help to create or facilitate situations for learning in a way, so it becomes relevant to the students' everyday lives.

8.1 Article I—Understanding disruptive situations in physical education: Teaching style and didactic implications

The aims of the study were to understand student and teacher experiences of complex disruptive situations in PE and to explore how the teacher handled these situations.

The results showed that disruptive situations could occur when there were environmental opportunities for them. Such situations included 1. Periods of waiting; 2. When the teacher spoke too much; 3. When the teacher did not pay attention to the whole class and 4. When the teacher did not intervene in situations that became disruptive. The disruptive situations were complex. Students could start or contribute to disruptive situations by joking, splashing water, pushing each other, throwing balls, retaliating, and experience the situations as fun, annoying, or did not know. Students could also try to end, avoid, or distance themselves from the disruptive situations, and experience the situations as annoying. The teacher allowed for some disruption in the lessons but could also experience that the disruptive situations became too much. The study further found that the complexity of disruptive situations varied from high to low. Low complexity situations included only a few students located at one place, while the high complexity situations included several students and could be in several places at once. The teacher chose to handle such disruptive situations using an instructional teaching style, or 'teaching by telling', such as 1. Being very clear; 2. Nagging; 3. Yelling; 4. Waiting the students out; 5. Making eye contact and 6. Talking to them later. Although such ways of handling disruptive situations might have been appropriate, they did not lead to a reduction of disruptive situations during the data creation period.

The article showed a need for other teaching strategies to teach the students skills that would reduce the number of disruptive situations in PE and that would be constructive for the students and for the greater good of the society, such as

teaching the students intellectual control, or a more common term, self-control, and personal and social responsibility. Suggestions for doing so are presented in article I.

8.2 Article II—Students' experiences and learning of social inclusion in team activities in physical education

The aims of the study were to understand students' experiences of and behaviour towards social inclusion (and exclusion) in team activities and to investigate how the students learned to become socially inclusive in team activities.

Based on the written narratives conducted at the end of each PE lesson, the students, in general, had positive experiences of team activities with a ball. However, the students disliked when peers demonstrated exclusive behaviour in these activities. In team activities, the students could experience group members passing the ball, not passing the ball, not playing in their correct position and a feeling of irritation when group members did not pass the ball, as well as enjoyment when scoring goals. Team activities could therefore provide both positive and negative experiences for the students. In the case of the exclusive behaviour of others, the students were motivated to speak up, but rarely did so because they did not think it would help. By contrast, the students could provide positive feedback when excluding behaviour led to a successful outcome for the team and showed exclusive behaviour themselves. The teacher could 'teach by telling' the students to pass the ball or by having rules, and the students wanted their teacher to tell the students who did not pass the ball to pass the ball. Thus, it appeared that the PE teacher's instructional teaching style (external control) was in accordance with what the students wanted. However, the use of instructional teaching style or teaching by telling to pass the ball in one activity was not transferred to the next activity in which the teacher did not interfere in the students' passing of the ball.

The article indicates the need for teachers to observe and analyse social inclusion in team activities to elucidate students' implicit goals in the activity, and together with the students' experiences in the activity to discuss and agree upon a common explicit goal. It was proposed that teachers might use the elements of the co-operative learning model (positive interdependence, promotive face-to-face interactions, individual accountability, social skills, and group processing) as a useful reflective framework in the observation and analysis of team activities. Furthermore, the learning of social inclusion must take place throughout the team

activity and be based on the students' experiences, including being inspired by the educational perspective of Dewey. Suggestions for doing so are shown in a model, 'learning through experiences and reflection', in article II.

8.3 Article III—"It's Not Just About the Activity, It's Also About How the Activity is Facilitated": Investigating Students' Experiences in Two Different Competitive Situations in Physical Education

The aims of the study were twofold: 1. To investigate students' experiences and goals in competitive situations and 2. To investigate students' experiences and goals in one competitive situation where the teacher focused on winning and one competitive situation where the teacher focused on learning and development.

The teacher mainly facilitated competitive situations with the logic and values of sport. This way of facilitating situations influenced students' experiences in both negative and positive ways. Some students disliked the pressure of winning, while others liked it. Students could reduce their effort if it were not a competition but could also reduce their effort if they thought that they would lose in the competition. The students' goals in competitions were mainly winning and not losing.

The teacher facilitated one competitive situation—the wrestling activity—with the aim of winning, while another competitive situation—the running test activity—with the aim of learning and improvement. The teacher's own experience was that he was motivated in competitions, and he further used testing as a means for evaluating his improvement in his own training. The teacher motivated his students in the wrestling activity to provide high physical effort and to win every wrestling round. The outcome of the wrestling rounds was highlighted after a few rounds by the teacher asking which students had not yet lost any rounds, and the two students who had not lost any matches had a final round while the rest of the students watched. The teacher motivated the students in the wrestling activity by saying 'come on, you can take him'. In other words, motivating the students through social comparison and to elicit a high level of effort. The goals in this situation were therefore in line with a sport discourse. The teacher motivated his students in the running test activity by referring to the usefulness of the test, by saying 'the goal of taking a test is to measure whether your training is working'. The students therefore had a pre-test, a period of training and a post-test. The teacher further emphasized the importance of training for seeing progress in the students' testing, and the students answered written questions concerning the

running test: whether they improved and the possible reasons for their improvement or lack of improvement.

The students had both negative and positive experiences in the wrestling activity and the running test activity. However, the students' goals in the wrestling activity were mainly winning and not losing, while in the running test activity their goals were mainly improving. Furthermore, some students reduced their effort in the wrestling activity, while they did not in the running test activity. The reasons seemed to be based on rational choice. The students' performances in the wrestling activity were recorded dichotomously as either a win or a loss, while in the running test activity the students' performances were recorded at their exact time (rather than a ranking list). Therefore, in the wrestling activity, the students could use appropriate energy to win, or they could give up if they thought they would lose the round and thereby save energy to win subsequent rounds where the outcome was less certain, to achieve as many wins as possible in the contest. In the running test activity, the students' goals were to improve, and they therefore needed to provide maximum effort in the testing, both for the usefulness of testing and to get the best time. Therefore, the students adapted differently to these situations, influenced by how the situations were facilitated.

The article indicates the importance of teachers having clear learning outcomes for the lesson, following up on them and being sure that students are aware of these learning outcomes and find them useful in their everyday lives.

9 Discussion and implications

The overall purpose of the study was to investigate students' experiences and learning in situations in PE. An overall aim of the thesis was to discuss alternative ways, which teachers might use, to facilitate situations for learning in PE. The alternative ways of teaching may help to create or facilitate situations for learning in a way, so it becomes relevant to the students' everyday lives.

The philosophical perspective was inspired by the work of Rorty (1982), and the educational perspective was inspired by the work of Dewey (2015). The background of the thesis was based on the diversity of students' experiences in PE (e.g., Røset et al., 2020; Sjåstad Åsebø et al., 2020; Walseth, 2015) and the seeming lack of focus on learning in PE (Hordvik et al., 2020; Mjåtveit & Giske, 2020; Aasland et al., 2016, 2020). Triangulation of qualitative methods was used to capture different perspectives and in-depth information about situations in PE (Abdalla et al., 2018). The results indicated that students need to learn throughout the activities and that there is a need for including students' expressed experiences of situations in their learning and for teachers to facilitate situations for learning, instead of only 'teaching-by-telling' (Lieberman & Pointer Mace, 2008).

I will discuss how the findings are presented in the articles (Bekker & Clark, 2018), how the findings may be relevant to students' everyday lives, and how my investigation of learning in PE contrasts with that of others (e.g., Quennerstedt et al., 2011). Thereafter, I will discuss different teaching strategies in PE through the teachers in this project and the students' experiences and learning in the three articles. Furthermore, I will discuss the use of the 'learning through experiences and reflection' (LER) model, which was a result of the analyses and discussion in article II. Afterwards, I will discuss the flexibility of the LER model and how the model may be useful in the Norwegian context. Lastly, the methods used in the project proved useful when investigating students' experiences and learning in PE, while the alternative ways of teaching needs further investigation to examine whether these ways are useful. Therefore, I will discuss where we may go from this thesis to further develop teaching in PE, taking a starting point in the students' experiences and learning that are useful for the students in their everyday lives. As such, I will create and suggest an intervention study that may be useful in further research to this end-in-view.

9.1 The presentation of findings in the articles

A presentation, whether verbal or written, 'never just "is" but incorporates a multitude of choices and assumptions in its framing, emphasis, content, and delivery' (Bekker & Clark, 2018, p. 2). It is the presenter who decides what is emphasized or downplayed in the presentation (Bekker & Clark, 2018). Considering the perspective of philosophical pragmatism, I need to justify the usefulness of the presentation of findings in the scientific articles (Rorty & Engel, 2007).

There are different ways of presenting data and results in articles, and I will use article II as an example. One of the aims of the article was to create knowledge of how students could learn to become socially inclusive in team activities. Learning to be socially inclusive was investigated through the students' passing of the ball, because, as stated in article II, 'students should want to pass the ball within the activity due to the possible consequences for themselves and others (Dewey, 2015)'. Consequently, PE teachers should consider 'the behavioural (passing the ball), cognitive and social (understanding why one should pass the ball), and emotional aspects (wanting to pass the ball) of learning (Bailey et al., 2009)'. Therefore, the data were presented through situations, students' narratives and interviews and the teacher interviews. However, the data could have been presented in other ways. For instance, because video recordings were used, it was possible to count the number of passes by the different students. I could therefore have said, using fictitious numbers, that David was not inclusive in the activity because he passed the ball between 0 and 3 times in the floorball activity. If I had made such a statement, then I would have to define what is counted as being inclusive. Should the total number of the passes be between 8 and 15 times in total during a match with a minimum of one pass to each team member? Although the number of passes is influenced by the activity, situations within the activity and the length of the match, the results could have been presented as 1. Low social inclusion is… 2. Medium social inclusion is… 3. High social inclusion is… As such, the intention of the article would cease, because as mentioned, the aim was to create knowledge of how students could learn to become socially inclusive in team activities and the need to include the behavioural, cognitive, social, and emotional aspects of it. As previously mentioned, Larsen and Røyrvik (2017) indicated that the need to count and measure in the Norwegian society is intrinsic to how to think, and it influences what is important to achieve. This would also influence what we consider to be 'true' knowledge. Therefore, including

definitions of low, medium, and highly inclusive students through the number of ball passes may be accepted by teachers when observing whether students are socially inclusive in team activities. However, it may also derail from the focus of teaching students to become socially inclusive beings; a slippery slope is possible here. The teacher in article II could say to the students that passing the ball would lead to better grades. The Norwegian curriculum states that students should 'acknowledge differences between oneself and others in movement activities and to include all, regardless of prerequisites' (UDIR, 2019a, p. 8). If teachers connect the statement from the PE curriculum with the number of passes students give in team activities, then the intentions of article II would fall apart, because it would no longer focus on teaching students to become socially inclusive beings. Instead, teachers may say to students, 'if you want the highest grade in PE, then you must be socially inclusive in team activities and pass the ball at least once to each student on your team and in total make over eight passes'. Such statements, obviously, will not teach students to pass the ball within the activity because of the possible consequences for themselves and others (Dewey, 2015). Therefore, the number of passes was downplayed, and the behavioural, social, cognitive, and emotional aspects of being socially inclusive were emphasized (Bekker & Clark, 2018).

In short, the presentation of the articles was intended. Therefore, the focus was not on defining what social inclusion was by stipulating a certain number of passes, which may have resulted in teachers using external control (e.g., referring to grades, telling students to pass), but on understanding how one may use teaching strategies to teach students to become socially inclusive beings through behavioural (passing the ball), cognitive and social (understanding why one should pass the ball) and emotional aspects (wanting to pass the ball) of learning (Bailey et al., 2009).

9.2 Findings of relevance for students' everyday lives

As indicated by Dewey (2015), people experience and learn throughout their lives. These experiences and learning may be positive, negative, constructive, destructive, explicit, or implicit. There is a difference between peoples' experiences and learning in their everyday lives and students' experiences and learning in schools, because the teacher can make students attentive to their experiences and learning and direct them in a constructive direction in schools (Dewey, 1916, 2015). The articles indicate how teachers might facilitate situations

in PE lessons that include experiences and learning in activities that are relevant to the students in their everyday lives.

Article I showed that teachers could include students' experiences in low and high complexity disruptive situations in a way that students could 'see' the consequences of their own and others' behaviour. In high complexity disruptive situations, these consequences were in the form of students sharing their different experiences of the situations. In the low complexity situations, the probable consequences were in the form of the students' own learning and utilization in their everyday lives. In both low and high complexity situations, teachers may help students to look for other, more appropriate, actions to execute in the activities. Looking at PE as a social system, the teacher may also help students to learn appropriate actions to contribute to the learning environment that the students and teacher want, that is, by teaching personal and social responsibility. In this case, the students learn intellectual control (being attentive to the possible consequences of one's behaviour) and can perform/learn such skills in praxis. At the end of the PE lesson, the teacher may address the learning of intellectual control and personal and social responsibility in the students' everyday lives.

Article II showed that there could be some discrepancy between what students said they did and what they did. Students could implicitly contribute to a learning environment that they did not explicitly want. Article II proposed a model where teachers could observe and analyse students' behaviour in activities and help students to become attentive to their experiences, goals, and actions in activities. Doing this could help students to see the consequences of their actions and whether these consequences were in line with their goals and what they wanted. The circular model could help students to learn through activities and to work towards a common goal. The combination of experiences and reflections would help the students to see the consequences of their actions. For instance, if a student did not pass the ball to others on his or her team, then the students would learn the consequences of one's actions in the reflection session where the students and teacher shared their experiences of the activities. In a similar way as mentioned in article I, the teacher may relate whatever should be learned (e.g., co-operation) in that activity to the students' everyday lives.

Article III showed that the teacher's facilitation of situations influenced the students' experiences, goals, and effort in these situations. Article III indicated that competitive situations could be facilitated in such a way that they influenced

students towards a growth mindset, which is more useful when students face adversity or obstacles in their everyday lives.

In short, PE teachers can teach students intellectual control, personal and social responsibility, co-operation, competing in a constructive way and relevant learning strategies, to influence students towards a growth mindset and to provide other skills deemed relevant for students in the society. However, teachers cannot observe whether the students use the learned actions from PE lessons and have the competence to transform them so that they are relevant in the students' everyday lives. Furthermore, it might not be enough to ask students in interviews whether they perform their learning in other domains of life outside school, because there might be a discrepancy between what the students say they do and what they do, as seen in article II. Because of the complexity of situations in everyday life, no situations would be the same, and it is therefore the students themselves that need to transfer their learning from situations in PE into their everyday lives. The teachers can only help the students to understand the possible consequences of their actions and to teach suitable actions in different situations. Therefore, the practical outcome of learning in situations in PE would always include probability when being transferred into students' everyday lives.

9.3 Investigating students' learning in PE

Studies have shown how students learn in PE through meaning-making, previous experiences, negotiations, group work, peer-assisted learning, tactical games model and the use of devices such as video feedback when learning (Barker et al., 2015; MacPhail et al., 2008; Nowels & Hewit, 2018; Potdevin et al., 2018; Quennerstedt et al., 2011; Quennerstedt, Annerstedt, et al., 2014; Quennerstedt, Öhman et al., 2014). However, in contrast to this thesis, such studies have not suggested how to create learning situations for the students. One important reason seems to be the different kinds of situations that are investigated in PE. The mentioned articles investigated learning situations, while I took a starting point in situations that students experienced as most important in the PE lessons. I will therefore start to discuss learning in PE using the arguments provided by Quennerstedt et al. (2011), which I relate to, before I show where I think our studies depart from each other.

Quennerstedt et al.'s (2011) important paper challenges the dualism between mind and body, individual and social, and agency and structures when investigating learning in PE, because the perspective one uses influences one's

findings. For instance, '*If the individual [agency] is the starting point, the individual tends to appear as being free to form her/his actions independent of the sociocultural context. If the starting point is the sociocultural context, it often appears as determining the individual's actions*' (Quennerstedt et al., 2011, p. 161). Furthermore, they argue that holism is not the solution to these problems because it reduces or removes the possibility of making divisions and separations when organizing knowledge about learning in PE. Quennerstedt et al. (2011) suggest using a transactional approach, where processes take place in the encounter between human beings and their surroundings and investigating the meaning people make in the transactional processes to investigate learning (I have used the term "interaction instead of transaction", which I will use in the following). As such, meaning is connected to the relations that are created in and by action. In contrast to investigating learning through the term 'meaning-making' in PE, I have organized the knowledge of learning in PE through the physical, social, cognitive, and emotional domains (Bailey et al., 2009). This way of organizing the knowledge of learning was useful to show that learning in the cognitive domain (e.g., I learned that I must and shall pass the ball...) before a student is in the situation does not necessarily lead to the physical outcome (of passing the ball) within the situation (article II). Therefore, organizing the data in this form showed that there is a difference between cognitively learning what one should do in a situation and acting upon it in the situation. As we saw in article II, students expressed that they wanted others to pass the ball and would pass the ball themselves. However, within the team activities, the situations included positive feedback from their peers when dribbling and scoring, which could lead to other actions.

Quennerstedt et al. (2011) argue that one may investigate the students' meaning making in indeterminate situations (educational situation is interrupted), in contrast to habitual situations. When students act in a habitual way (in accordance with their predispositions of acting) in a certain situation, everything proceeds without hesitation. Learning, however, occurs when these habitual ways are interrupted. The students need to define the interruption and provide an appropriate response, which again leads to a new predisposition to act, i.e., learning (Quennerstedt et al., 2011). Although I agree with their statements about new predisposition to act and learn, it seems to me that the situations I have investigated in this project are somewhat different from the situations Quennerstedt et al. (2011) would have investigated. The reason is that

Quennerstedt et al. (2011) seem to be interested in investigating *learning situations* in PE. As such, concepts such as critical didactic incidents and didactic moments (Amade-Escot, 2005; Quennerstedt et al., 2014) are useful. By contrast, I argue that the students' habitual ways of acting in situations are important to include and investigate, if students' experiences such situations as important. That is, some students in article II could not pass the ball in team activities in a habitual way, while other students in the activity experienced it as negative. Still, both the students who experienced the situations as negative and the students who did not think about it could learn from such non-passing situations- if the teacher facilitates for it. In this way, one may investigate the students' experiences and what happens in the PE lessons and suggest how to create situations for learning that are of relevance for the students. As such, one needs to investigate students' experiences and actions in situations over time, to investigate not only the students' predisposition to act but also their further actions (Dewey, 2015). For instance, in article I some students experienced disruptive situations as fun and thereby did not change their predisposition to act in further situations – which led to a continuation of such actions. In article II, a student seemed to change his predisposition to act in further situations (passing the ball) because of his previous experiences (situations), but within further situations, the student did not pass the ball (habits), seemingly due to his experiences within the situation (positive feedback of scoring goals and successful dribbling opponents). As such, the student's changed predisposition to act did not lead to changed actions in further situations. In article III the teacher facilitated the running-test situation in an educative way, which changed students' predisposition to act in competitive situations and lead to further actions in accordance with the changed predisposition to act. Such investigations of students' learning in PE, lead in this thesis, to indicate what students may learn in PE and that teachers may need to both change the students' predisposition to act (physical, social, cognitive and emotional domains) and observe and analyse the students' experiences and actions in further situations, to see whether there is an accordance between the students' changed predisposition to act and their actual actions in further situations. Such knowledge may contribute to a discussion about what we want PE students to learn and how teachers facilitate such learning.

9.4 Teachers in this project

Both teachers had good intentions for their students and tried to give their students positive feedback. The feedback could be specific, but was mostly unspecific

(Mosston & Ashworth, 2008). The teachers' goals, as reported in the interviews, were mainly that their students were in physical activity in the lessons and in their spare time and that the students enjoyed the activity, had fun together in the activity and demonstrated prosocial behaviour (e.g., fair play). One may see these goals in article I, where the teacher aimed to reduce disruptive situations that ruined the lessons for other students; in article II, where the teacher told students who did not pass the ball to start passing the ball; and in article III, through the teacher's focus on students showing physical effort in the activities. The teachers stopped disruptive situations, taught students to pass the ball, and to make a high level of physical effort by 'teaching by telling' (Lieberman & Pointer Mace, 2008). There are plentiful terms in the literature that have similar, although not exact, meanings. For instance, 'teaching-by-telling' is like reproduction styles, 'teacher-centred/directed learning', and 'sage on the stage', where the purpose of the instruction is to replicate specific known skills, knowledge and/or do what the teacher says (Chatoupis, 2018; Goodyear & Dudley, 2015; Mosston & Ashworth, 2008). By contrast, in production styles such as 'student-centred/directed learning' or 'guide on the side', the teacher invites the students to discover new information that may also be new for the teacher (Chatoupis, 2018; Goodyear & Dudley, 2015; Mosston & Ashworth, 2008). A review study found that reproduction styles were used more than production styles internationally (Chatoupis, 2018). Moen et al. (2018) found similar results in Norway—that PE lessons were mostly teacher directed. Teacher-directed lessons may be seen as a subcategory of reproduction styles, if they include a focus on learning, rather than a non-teaching ideology (e.g., Mosston & Ashworth, 2008; Morgan & Bourke, 2008; Morgan & Hansen, 2008a).

In this thesis, I have used the term 'facilitate situations' to show the direct contribution of the teacher to the students' experiences and learning. However, a similar term, 'teacher-as-facilitator', has been strongly associated with student-centred environments, which again has been misinterpreted as the teacher creating a task and leaving students to work together to learn (Goodyear & Dudley, 2015; Hattie, 2012). Although the students can learn from each other (peer-assisted learning), this applies to less complex tasks but not to more complex ones (Hennings et al., 2010). Furthermore, peer-assisted learning was deliberately facilitated by the teacher in Hennings et al.'s (2010) study, rather than just leaving the students to work together on a task. In short, leaving students to work alone without facilitation from the teacher may lead to more random group work on a task (e.g., Barker et al., 2015), and facilitation by the teacher without concrete

suggestions may not work in more complex tasks (Hennings et al., 2010). Therefore, there is a possibility that my use of the term 'facilitate situations' may be misinterpreted in the same way as the term 'teacher-as-facilitator' has been. Another term that has been introduced is the teacher as an 'activator' (Hattie, 2012); 'the teacher activates new learning possibilities using a range of direct and indirect instructional behaviours to support and enhance students' learning' (Goodyear & Dudley, 2015, p. 286). This definition of an activator seems to be like Mosston and Ashworth's (2008) claim about using a range of different teaching styles to provide effective teaching. Instead of changing my use of the term, which may later be misinterpreted or become inadequate (Goodyear & Dudley, 2015), I will provide some examples of what I mean by 'facilitate situations for constructive experiences and learning'.

In the introduction: The teacher introduces the theme for the lesson, and the teacher and students create a shared goal. The shared goal will influence the students' intentions in the activity and thereby their actions, experiences and learning in the activity. In the PE lessons: The teacher decides the starting point for what happens in the PE lessons, including the shared goal, and facilitates situations for constructive experiences and learning. That is, the teacher may talk to an individual student, group or the whole class and ask about the students' experiences and learning to find a starting point. The teacher asks questions, open-ended, leading or closed, or provides information to the students, to influence the students' experiences and learning of the situations that have occurred and open-up actions that lead to further experiences and learning for the students in the activity. At the end of the PE lessons: The teacher begins with what happened in that PE lessons and asks questions or provides information that transfer the students' actions, experiences and learning in that PE lesson to other domains in the students' lives.

As such, 'facilitating situations for constructive experiences and learning' means that the teacher is always involved in the students' learning processes, both as a part of the social system and by facilitating situations in the social system. Therefore, the teacher creates situations for learning, asks questions and provides information through the 'teaching-by-telling' approach, when 'facilitating situations for constructive experiences and learning'. The 'teaching-by-telling' approach and asking questions should not be considered 'the versus approach' (Mosston & Ashworth, 2002). Instead, they should be looked at as two approaches that lead to different possible consequences (articles I and II). For instance, in

article I it is not suggested that a 'teaching-by-telling' style should be abandoned, only that it would have different consequences in the form of learning in PE. Sometimes 'teaching-by-telling' is necessary in a particular situation, but the given information should later be connected to students' learning and understanding. Teachers therefore need to be guided by clear goals in their teaching where their teaching behaviour is a chain of decision-making (Mosston & Ashworth, 2002, 2008). The teaching goals may be directed towards cognitive, social, emotional, and physical domains (Bailey et al., 2009). Although some areas may be more prominent than others, it is impossible to restrict experiences to only one area (Mosston & Ashworth, 2002). The learning goals within these areas should further be useful for the students themselves in, and for, society (UDIR, 2019b).

9.5 Students' experiences in PE

The literature review conducted in this thesis shows that the students' experiences in PE are diverse and complex (e.g., Barker et al., 2014; Quarmby et al., 2019; Rekaa et al., 2019; Røset et al., 2020; Sjåstad Åsebø et al., 2020; Trout & Graber, 2009; Walseth, 2015). The students' experiences in the present project were not an exception. However, I did not investigate students' religions, cultural backgrounds or other possible factors that may have influenced their experiences in PE, unless they were mentioned by the students themselves or important in the investigated situations. Nevertheless, the students' experiences of such 'categories' are present and influence the students' further experiences in PE.

It may seem obvious that students enter PE lessons with diverse and complex experiences and that the students' experiences within PE lessons are diverse and complex, as supported by the literature review and this thesis. It may also seem obvious that students learn from their experiences, as supported by, for instance, Dewey (2015) and Quennerstedt et al. (2011), and this thesis. If one concurs with these two statements, it might also seem obvious that it would be useful to include students' experiences in PE. As such, it is interesting that PE lessons in Norway seem to be mainly teacher directed (Moen et al., 2018). As argued at the end of the literature review of students' experiences in PE, I will now discuss the potential consequences of the students' experiences in this thesis; how can one make students' experiences in the PE lessons educative for them?

The students in this project had positive and negative experiences of disruptive situations, social inclusion in team activities and competitions. The students were able to contribute to both positive and negative experiences for their peers, and

although they could be aware, they mostly seemed unaware of their roles in producing such experiences. Interestingly, some students who contributed to disruptive situations, and thereby ruined the learning opportunities for others, had positive experiences of such situations, while the students whose learning opportunities were ruined had negative experiences of these situations. Although this was not surprising, it is interesting in an educative sense because the positive experiences of contributing to disruptive situations may strengthen this way of behaving in the world. It will influence the goals of these students in activities and thereby increase their competence in disruptive behaviour (e.g., Bandura, 2012). In other words, the positive experiences in contributing to disruptive situations may influence the students' adaptations to certain environments (Dewey, 2015; Rorty, 1982; Sigmundsson et al., 2017), such as in environments that the students believe are boring or when they must wait for others (article I). To become educative for the students, those students who had positive experiences of contributing to disruptive situations should instead have negative experiences of such unwanted situations. The teacher could remind or be strict with these students to stop the disruptive situations, but as highlighted in article I, these students still found such situations as enjoyable. In other words, the teacher did not influence the way these students looked at disruptive situations; they did not change these students' predisposition to act, and therefore these students would probably continue to contribute to disruptive situations. The students who did not contribute to the disruptive situations and continued with their tasks might ideally have both positive and negative experiences of such situations; they might have positive experiences for managing to maintain their focus on the task even though there were some disruptions, and negative experiences for not helping or not knowing how, to stop the disruptive situations. Of course, this depends on how the students were involved in such situations.

One may see similar findings in article II. Students who did not pass the ball had positive experiences of such behaviour when scoring goals and when they were successful dribble opponents. Students who did not receive the ball because of such behaviour had negative experiences of such situations. As in article I, the students who had negative experiences of students not passing the ball rarely spoke up, because they did not think it would help much. In contrast to the findings in article I, the students who had negative experiences of peers who did not pass the ball provided the positive experiences for those students who did not pass the ball by giving positive feedback when such behaviour was seen as successful.

Furthermore, students could have negative experiences of other students not passing the ball and, at the same time, not passing the ball themselves when they had higher physical skills than others in a team activity. In articles I and II, students' experiences were influenced by situations where the students were the main active participants, that is, when something 'just happened' and was not the intention of the teachers. The teachers did not want the students to contribute to disruptive situations or to not pass the ball to their peers. As one may see from articles I and II, the students' contribution to these situations seemed to be a result of impulses in the immediate situations, or because of implicit or explicit goals in the situations. For instance, in article I some students did not know why they contributed to disruptive situations, and in article II students stated explicitly that they wanted team members to pass the ball while their implicit goal within the activity was scoring goals and winning. Although the teachers could have facilitated situations of learning in these situations and thereby influenced the students' experiences of these situations and suitable actions in such situations, the students' experiences and actions that contributed to unwanted situations were not the intentions of the teachers. In contrast to articles I and II, the teacher in article III deliberately facilitated activities that influenced students' goals and, consequently, the students' experiences in the situations.

As one may see in article III, the teacher mainly facilitated competitive situations with the goal of winning. The teacher's intention to create such a goal was to motivate the students to increase their physical effort in the situations and take 'the last step, to push oneself'. Although the intention was good, the goal of winning had some consequences for the students' experiences. It led to both positive and negative experiences of the situation. By contrast, the teacher's goal of the running test activity was to teach students about how to use testing for monitoring ones' improvement. This situation too led to both positive and negative experiences of the situation. The distinction, however, was that the negative experiences of the running test activity were less related to winning. This can be studied further in article III. Here, I will focus on the possible consequences in the students' everyday lives. A study showed that negative memory of PE and sport could lead to reduced physical activity later in life (Cardinal et al., 2013). If the same consequences apply to competition, then it is likely that students who have negative experiences of competition in PE might be less willing to compete or might avoid competition when they feel that they are failing later in life. The negative experiences of competition in PE might therefore 'rob' some students of

the experiences of participating in physical competitions in their spare time, clubs, and social events at work. This may further reduce their interactions and opportunities to get to know other people in such interactions. Students who have positive experiences in competitive situations may further participate in competitive situations. However, both the students who have positive and negative experiences of competition in PE with the aim of winning will be 'robbed' of other experiences in competitions, because they will not experience what could be learned in competitions. In our everyday lives, we need to compete with others, such as getting a job or a spouse. In both cases, I will argue that there are 'competition' experiences present. What do you do if you do not get the job or if you are rejected? How did you approach the job interview or the person? Therefore, the goal of a competitive situation is important. Students might need to experience or learn strategies when competing and facing challenges. For instance, a strategy could be what is the goal, what influences our performance to reach such a goal, which actions should one pursue and what has been learned after the performance? What should one do when one does not get the job, or one is rejected? As such, learning constructive ways of looking at unsuccessful outcomes and how to deal with such outcomes and other challenges in one's life, may be learned in PE lessons. Whether learning in PE would be transferred in other situations in life, is an empirical question which need to be investigated further. However, the habitual tendency to look constructive at unsuccessful outcomes and challenges may be started in PE and addressed by the teacher as an educator. To use Dewey's words on the role of an educator:

"it is his business to be on the alert to see what attitudes and habitual tendencies are being created. In this direction he must, if he is an educator, be able to judge what attitudes are actually conducive to continued growth and what are detrimental" (Dewey, 2015, p. 39).

Therefore, the students' experiences must be linked to their learning because their learning influences their goals, actions, and experiences in situations.

Overall, students' experiences were influenced directly and indirectly by their peers, their teachers and the activities. These findings therefore show the importance of looking at PE lessons as social, open, complex systems and indicate that teachers should aim to influence this system through facilitating situations, so it influences students in a positive direction (articles I–III; Dewey, 2015; Ovens et al., 2013; Postholm, 2013). It is therefore not just the students with unwanted behaviour or low competence in some skills that can learn, but all the students.

What kind of learning environment do we want, and which actions are suitable to produce such environment? These actions will include taking personal responsibility for oneself and social responsibility for helping others to learn or maintain the preferred learning environment. As one can see in articles I–III, these actions or skills are not something that magically appear through activities but something that the students need to learn through facilitated or created situations for learning within the activities and PE lessons.

9.6 Students' learning in PE

A study by Redelius et al. (2015) showed how teachers might articulate the learning outcomes to students in some activities and not in others. They further argued the importance of teachers articulating the aims in the PE lessons so that students perceive PE as a subject of learning. Their emphasis on articulating learning outcomes in PE is important because other studies have indicated that there might be a non-teaching ideology in PE (e.g., Curtner-Smith, 2009). In fact, Redelius et al. (2015) showed that when students got questions concerning what the students had learned, and they were not sure, and the teacher had not expressed the learning aims in the lesson, they gave statements such as 'cooperation perhaps' (p. 647). As such, Redelius et al. (2015) argue that when students had nothing else to say, a legitimate answer could be co-operation, seemingly irrespective of what the students were doing. Based on my personal experiences as a teacher educator, pre-service teachers in PE may say that they are going to have a team activity in a PE lesson because the students should learn to co-operate with each other but do not provide any information on how the students can learn to co-operate. It seems that the legitimization of learning co-operation in PE is accepted without specifying how co-operation should be learned. In this sense, I think the vocabulary of Dewey (2015) is useful; students would learn *something* about co-operation in team activities, but that is not the same as saying that the co-operation learned is educative for the students (Dewey, 2015). Altogether, the above-mentioned information shows the usefulness of the 'learning through experiences and reflection' model, mentioned in article II. I will come back to this model in the next section. Now, I will discuss the possible consequences of not facilitating learning in an educative way for the students.

In this project, the teachers could show both a non-teaching ideology and teach students through 'teaching-by-telling' (Morgan & Bourke, 2008; Morgan & Hansen, 2008a). One example of a non-teaching ideology in PE was when the

teacher gave their students a ball and let them play as they wanted (e.g., article II). The teachers in this project could either join in with the students or act as an observer or referee. Quennerstedt et al. (2011) also showed that a class teacher may assume a referee's role when students are playing ball sports. In such cases, the teachers' main roles were either to play with the students or to ensure that the students followed the rules. In either case, the teachers did not facilitate learning of physical, social, cognitive, or affective skills (article II; Bailey et al., 2009). However, that is not the same as saying that the students did not learn anything; only that their learning was arbitrary and not facilitated in a constructive direction. For instance, in article II, the students learned implicitly that the most important thing is to have good physical skills, because then one may dribble and score goals and thereby receive positive feedback. Because the teacher did not facilitate the situation for learning, the students with high physical skills did not necessarily perceive other students' negative experiences of this way of acting. If we consider other studies in a similar way, we may find similar examples. For instance, Lyngstad et al. (2016) showed how students could learn hiding techniques as a way of not losing face in activities. One student 'found a place on the wing along the edge of the field of play, thus avoiding involvement in the game. She took part in the game/class, but only to the minimum. She was afraid of being criticized by the others on her team if she lost the ball or made a mistake' (p. 1137). As one may see, the mentioned student learned *something*; that is, she would receive negative feedback if she failed in the activity and reducing her involvement in the game would reduce the opportunity to make mistakes. Although it is a good strategy to avoid losing face, it is not very educative. In fact, this would be what Dewey (2015) called mis-educative, because it robs this student of further experiences in similar situations in her everyday life. These experiences include not only the experiences of playing similar games, but everything connected to such games, such as the social aspect of playing with others and talking about the activity with others after the activity. The avoidance of similar activities in the student's everyday life will further rob her of experiences through such activities. Furthermore, the students who give negative remarks are also robbed of experiences, because in the long term, people may avoid those who are 'rude', displaying rude behaviour in some situations, in activities and perhaps in other areas in life. Therefore, these 'rude' students will be robbed of experiences of interacting with some people. They will not be a person others want to work with as a colleague. Moreover, these 'rude' people cannot freely interact with other people who dismiss such behaviour and

therefore do not become enriched by participating with these people (Dewey, 1927).

The relevance of 'teaching-as/by-telling' (Lieberman & Pointer Mace, 2008) as a teaching style has already been discussed. However, I will briefly discuss what students may learn from such a teaching style. First, the students wanted the teacher to tell students' who, in the students' view, caused negative experiences for others to change their behaviour. Apparently, the students wanted their teacher to do so through 'teaching-by-telling' (e.g., article II). As we saw in articles I and II, such teaching was only effective in that situation. If teachers use the 'teaching-by-telling' style in all situations, then some kinds of behaviour might transfer from one situation to the next as habits (article II; Dewey, 2015). However, such habits do not automatically lead to an understanding of why students should change their behaviours based on the possible consequences. Being attentive to the possible consequences of one's actions and having the competence to perform different actions in situations may influence students to choose some more desirable actions than others. As we saw in article III, the teacher may influence the students' goals in an activity, and, similarly, the teacher may facilitate situations where the students see the consequences of their actions. For instance, through sharing experiences of an activity in a group, and thereby influencing which actions students deem desirable. Students' actions would therefore be influenced by their intellectual control (Dewey, 2015). Furthermore, by facilitating shared goals in the group consisting of students and the teacher, some actions would be more desirable than others through the social control of the group. In article II, it is proposed that the teacher can facilitate situations for learning, create shared goals and help students to become attentive to the possible consequences of their actions, through the 'learning through experiences and reflection' model.

9.7 The potential of the 'learning through experiences and reflection' model

The `learning through experiences and reflection´ (LER) model was created because of the challenges and `paradox` concerning learning to become social inclusive in team activities in article II. The challenges and `paradox` were discussed with what happened in the observation/video recordings, what the students and teacher said, the co-operative learning model and Dewey's educational element which was found useful based on the findings in the article. The LER model was created because of this overall discussion. However, the LER

model work only as a tool teachers may use when creating situations for learning, because models should not redefine the purpose of PE and are no substitute for a thoughtful and thorough PE programme (Landi et al., 2016). In contrast to other models, which might have been conceptualized to address the limitations of the field (Landi et al., 2016), the LER model was constructed as the result of necessity and opportunity from research on situations in PE; what happened and students' experiences in PE determined the necessity and opportunity of the model. As such, the LER model has been 'customized for the context and students for which they are employed' (Landi et al., 2016, p. 10), and other models and theories have been included as important areas within the LER model, that teachers may consider when creating situations for learning (article II). As such, the LER model is just a tool for creating learning situations starting from the point of students' experiences and what happens in situations in PE. Teachers still need to include their aims for the lessons and have a thoughtful and thorough PE programme (e.g., Landi et al., 2016).

The main justification for the LER model is that humans learn through their experiences in the world, and the learning is not linear (Article II; Dewey, 2015; Moy, Renshaw, & Davids, 2016; Sapolsky, 2017; Sigmundsson et al., 2017). Therefore, teachers need to begin with an aim or goal for their lessons but should be opened to changing these aims or goals after the PE lesson has started. For instance, the teacher may have the goal of teaching students about strength training but might end up with a lot of behaviour corrections (e.g., article I). In this case, teaching strength training needs to be balanced with teaching intellectual control and personal and social responsibility. Hence, intellectual control (article I). Both behaviour corrections and teaching the students intellectual control will take time away from teaching students strength training, but the difference is that teaching the students intellectual control is useful for the students in their everyday lives (article I). Furthermore, teaching the students intellectual control will help make the teaching of strength training more effective because the teacher will not need to continuously correct the students' behaviour. In the articles II-III, but also in hindsight article I, the LER model may be used to take a starting point in what happens in PE and include important learning such as intellectual control, becoming social inclusive, direct towards a growth mindset, in PE lessons and students' everyday lives. As such, the model is created to include students' experiences of the activity, share their experiences, agree on a shared goal and work on the goal(s) through discussing concrete actions to perform. Furthermore,

while the students experience whether these actions are working in the activity, the teacher is observing and analysing the students' actions connected to the shared goal and observing and analysing other important situations that happens in the activity. This circular process is therefore useful to include students' experiences in their learning process and, at the same time, teach students about learning strategies in co-operative and individual tasks and challenges. Article II indicated that the main challenges in the present class for facilitating situations to create inclusive beings were influenced by the students' implicit goals of wanting to successfully dribble and score goals. However, solving this challenge through the model allows other challenges to arise, such as some students 'hiding' behind other students and not wanting the ball, receivers who are not visible to the passer, the passer not receiving important cues in the environment for passing, the lack of competence of passing in in-game situations or decision-making taking too much time before passing (e.g., Lyngstad et al., 2016; MacPhail et al., 2008). Therefore, the model is less useful if the teacher does not have the competence to teach or observe and analyse students' physical, social, cognitive, or affective skills (Bailey et al., 2009). As such, the model is not an overall solution to help students learn in PE, and it is not the only thing PE teachers need to know. To the contrary, the model is most useful when teachers have the competence of teaching students physical, social, cognitive, and affective skills (Bailey et al., 2009). That is the reason article II used the model and included the co-operative learning model (Johnson & Johnson, 2009; Pozo et al., 2016). If the teacher needs to teach students skills other than those mentioned in this theory and model, such as physical skills, they need to find suitable theories or research. Wulf (2013) found in her review and research that an external focus (e.g., on the movement effect) enhanced motor performance and learning relative to an internal focus (e.g., body movements). In this case, teaching student physical skills through the LER model includes holding such knowledge or competence.

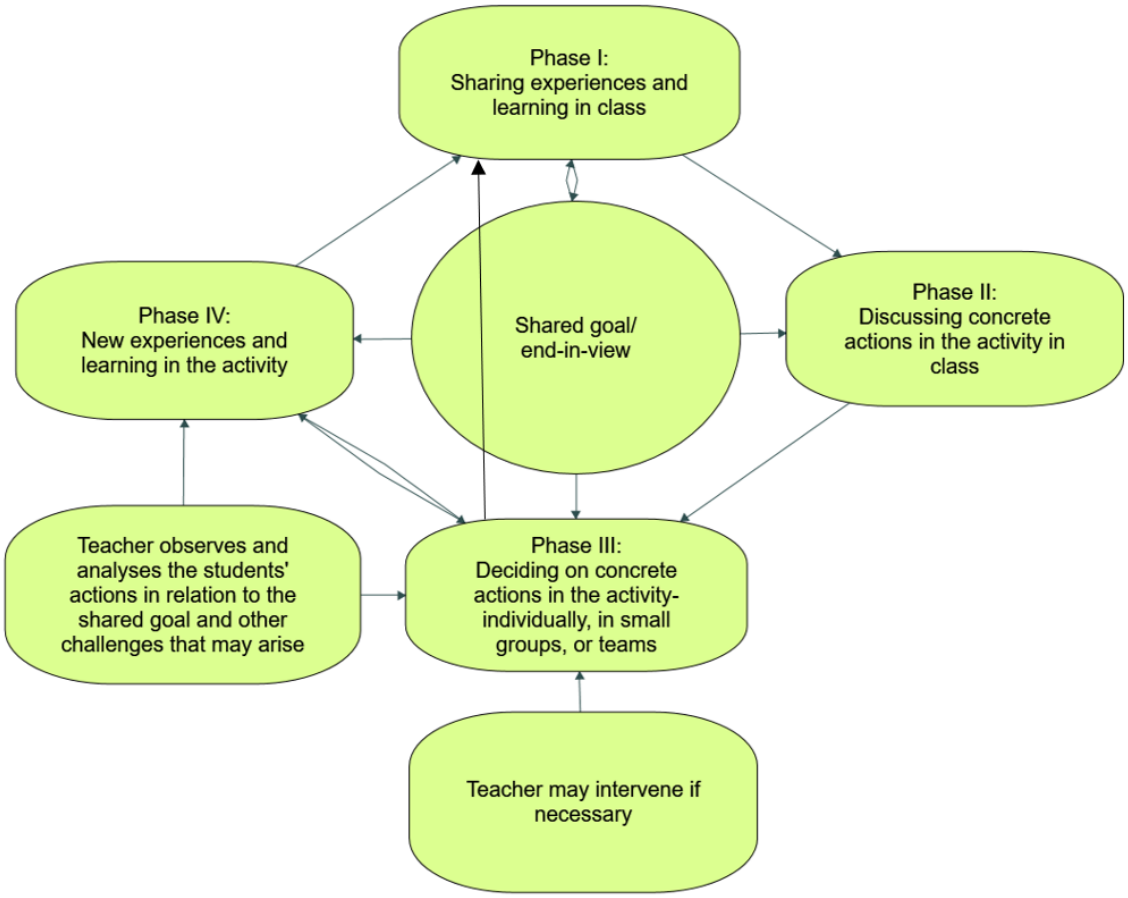
9.8 The flexibility of the 'learning through experiences and reflection' model

Although the LER model accepts different teaching styles depending on the situation, such as providing information or asking open, leading, or closed questions, one may see that it would be mainly considered to be 'production style', as mentioned by Mosston and Ashworth (2008). That is, if teachers want their students to reproduce certain movements in dance choreography, for instance, the

LER model is less useful. The model was constructed because of the challenges mentioned in article II, in addition to draw on other theories and research. However, I do see that the arrows in the model may be a bit misleading and seemingly reduce the claimed flexibility of the model. In addition, the teacher's role in the different phases of the model might be unclear (e.g., addressing the 'teacher as a facilitator' misinterpretation has already been discussed). To show the teacher's role in each phase and the flexibility of the model, I have made a general description of the model. The necessity of a general model emerged also because of some confusion after I had introduced the model to my pre-service teachers at the University of Agder and they were employing the model in their teaching of their peers in PE. The pre-service teachers were video recorded while teaching, and during the presentation of the lessons and subsequent discussions in class, it appeared that the teachers' role in the model was unclear when there were different themes or activities in the PE lessons.

First, using the model, teachers would present a theme or activity at the start of the lesson, where students are able to share their experiences and learning. In that way, the teacher can transform the students' previous experiences and thereby meanings and expectations for the PE lesson ahead. Thus, to create a shared goal or end-in-view in the lesson. Model 1 shows the direct influence of the teacher in phases I and II (like article II), where the teacher facilitates the discussions and possible actions and consequences in a constructive direction. In addition, it shows that the teacher observes and analyses what happens in the situations in phase III, where the teacher may intervene with the individual, groups, or teams if necessary. The teacher may ask questions or provide information. In 'worst case' scenarios, the teacher may even gather all the students in a half-circle and go back to phase I. Going to phase I is necessary if individual students seem confused, or the groups or teams have challenges in co-operating or including everyone in the group. As such, the situations in the PE lesson have led to a more pressing matter that the teacher needs to address to help students overcome the challenge. This challenge is most likely to happen in the first 'round' of the model, because the students and the teacher might not be sure of the most important thing to learn. Furthermore, in phase IV, the teacher should mainly observe and analyse the students' actions in relation to the shared goal and other challenges that may arise and need to be worked on later, after one is satisfied with the performance on the present shared goal. However, if something 'severe' happens, the teacher must, of course, intervene. After phase IV, it might not be necessary to go to phase I. Instead, the

individual student, groups or teams may go to phase III and reflect on or discuss their performance in relation to the shared goal and reflect on or discuss further actions to execute in the activity. One may also collapse phases III and IV into each other if the teacher perceives it to be useful in a certain kind of activity. To make the LER model even more complex, based on what happened in the situations and the students' experiences of the situations in the first round of the model, the teacher may see the necessity of helping students create individual goals in an individual activity, or different goals between one group or team and the next. In short, the LER model is potentially very complex and is influenced by the competence or skilfulness of the teacher.



Model 1. A general description of the 'learning through experiences and reflection' model.

9.9 Including the LER model in the Norwegian context

Although the LER model may stand alone and be unrelated to political documents such as the Norwegian education programme and the PE curriculum, the teachers' teaching cannot. In the following, I will therefore show the LER model in the context of the Norwegian education programme and the PE curriculum (UDIR, 2019a; UDIR, 2019b).

An important part of the LER model is that students reflect on and discuss their experiences and learning with each other and the teacher. The teacher's role is to facilitate the discussion in a constructive manner. One may include the model in article I, when teaching students intellectual control and social responsibility. By combining the discussion of the students and the teacher's facilitation of the discussion, the students may learn through active participation to respect that human are different and to solve the conflict in a peaceful way (UDIR, 2019b). The model may also be useful to teach students learning strategies and build a foundation for lifelong learning, with the teacher giving the students increasing responsibility for their own learning and development, based on what the students need in different situations in PE (UDIR, 2019b). Concerning social learning and development, article II shows how the model is useful for learning to become socially inclusive in team activities. As such, students may learn to consider what other students think, feel, and experience, and use this to create the foundations of empathy and friendship. The teacher facilitates learning of communicative skills and co-operation that provides students with encouragement and the competence to state their own opinions and to speak up for others. The students may therefore learn to listen to others and, at the same time, argue for their own opinions, which provides foundations for handling disagreements and conflicts and seeking solutions in the community (UDIR, 2019b).

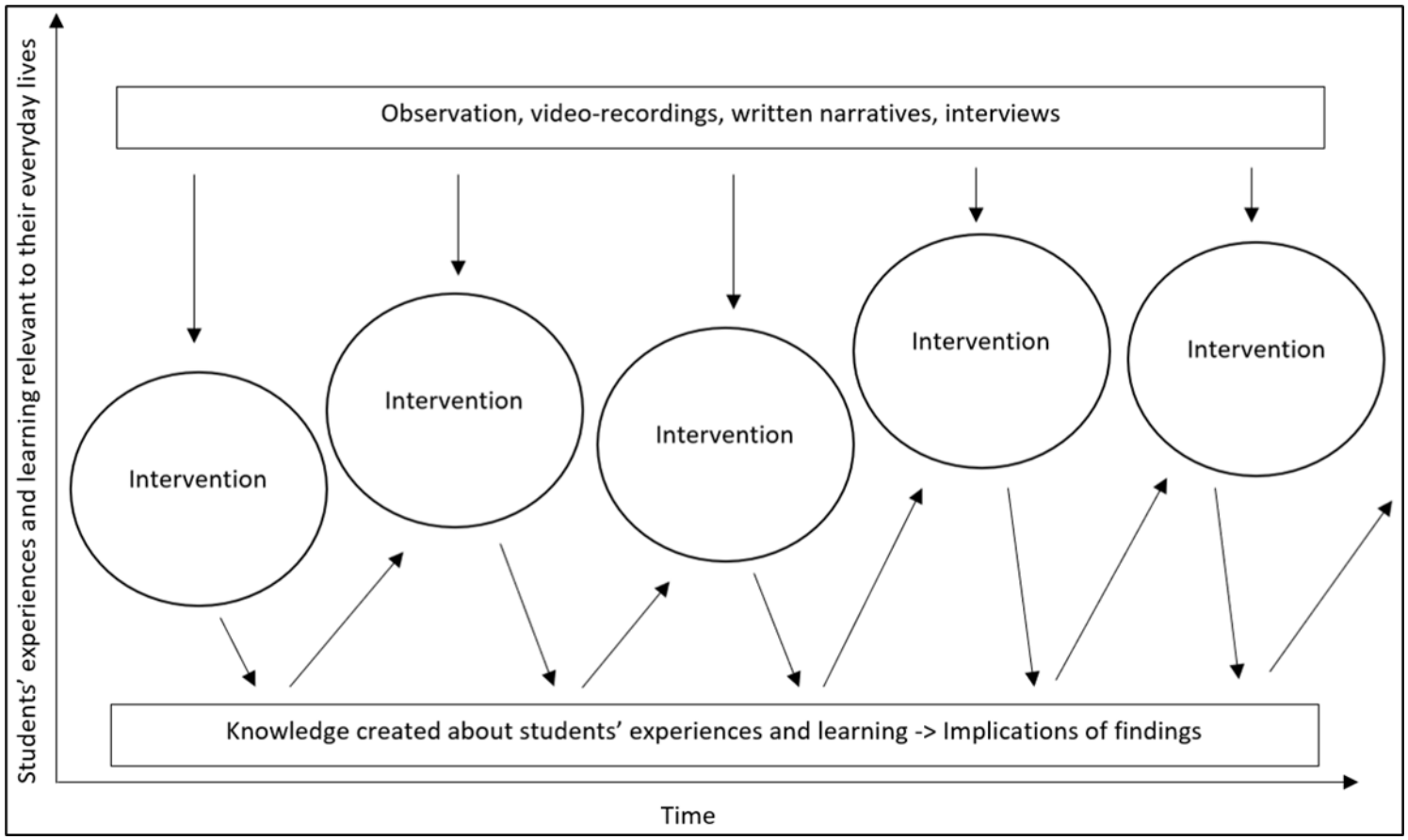
The most frequently used verbs mentioned under the competence goals in 10th grade in the Norwegian PE curriculum are reflect, understand, and implement (UDIR, 2019a). These verbs are essential in the LER model, because the students should reflect, discuss, and understand the consequences of their actions in situations. To understand these consequences, the students need to implement their actions and learning in activities and thereafter reflect on the consequences and possible consequences in their everyday lives. As such, the students may understand the consequences and possible consequences of their actions through reflections on their experiences. However, the model needs to be adapted to the different themes or activities mentioned in the PE curriculum (UDIR, 2019a). For

instance, in the competence goal of 'Understand and implement lifesaving first aid' (UDIR, 2019a, p. 8), the teacher may ask for the students' experiences and learning of first aid and facilitate a discussion by providing relevant knowledge the students may use in the discussion. However, the concrete actions the students shall perform in the activity need to be fixed and conducted in a certain way to become lifesaving for the person receiving first aid. The same applies to other activities where there are opportunities for injury. The teacher may use the model, but certain performance requirements need to be understood by the students before they approach a potentially risky activity.

9.10 Where do we go from here? —Developing teaching in PE

If the reader agrees that the aim of PE lessons is to create constructive experiences and learning for the students that are also relevant to the students' everyday lives, and that the LER model is useful in such manner, the reader may also agree with me on how to proceed in further research in PE, to develop our teaching within the subject. A process I consider useful for further research is to 1. Create intervention studies where skilful/expert teachers hold competence of the LER model and knowledge about students' experiences and learning in PE; 2. Investigate the intervention studies using methods such as observation and video recordings, written narratives about students' experiences conducted at the end of each PE lesson and interviews of the students' and teachers' experiences and learning/teaching by including video clips about overarching themes; 3. Use the new knowledge to improve further intervention studies and 4. Continue from point number 1. This research process is, therefore, like the LER model, a circular process—or a spiral, if the reader prefers this term. Furthermore, all such research articles should discuss further implications for teachers' teaching, based on the consequences or possible consequences of the students' experiences and learning in PE. The number of intervention lessons must be sufficient to create robust data, from which some practical implications could be drawn.

I intend to begin such intervention studies described above and hope other researchers will join me in a collaborative effort of creating useful knowledge to further develop teaching in PE. Model 2 shows how I picture the simplified development of quality interventions suggested in this section. Building on the knowledge of previous intervention studies would also help PETE teachers to be up to date on research when teaching their pre-service teachers.



Model 2. Flowchart of how each intervention is built on the knowledge and practical implications of the previous intervention. The created knowledge and practical implications from the previous intervention may have unknown consequences on the students' experiences and learning in further interventions, and therefore the quality of the intervention (students' experiences and learning relevant to their everyday lives) may not necessarily increase, but will, nevertheless, contribute with knowledge and implications for further interventions.

The quality of the intervention may be investigated by triangulation of the data. For instance, in a scenario where the students do not give up in competitive situations (from observation and video recordings) and the situations the students liked the most or the least are about learning and not comparing oneself with others (from narratives and interviews), investigation may show that the students' behaviour (third-person perspective), the students' experiences (first-person perspective) and the students' learning (triangulation) are towards a learner mindset or a growth mindset (Dweck, 2019). Therefore, comments such as 'the thing that I liked the best was that I scored three goals' would reflect a lower quality of intervention than comments such as 'I liked best that my team got better at including each other so everyone did their part on the team, which led us to score goals'. In short, the students' experiences and learning are relevant to the students' everyday lives.

One may see that an important aspect of the intervention studies is not to measure fixed variables or areas but to investigate the consequences of what happens in complex situations over time. Such knowledge is useful for PETE teachers when educating future teachers. However, in the pre-service teachers' professional socialization phase of becoming PE teachers (Templin et al., 2016), one needs to be sure that those pre-service teachers who graduate possess teaching competence based on knowledge of students' experiences and learning in PE. Therefore, we need to know what pre-service teachers have learned in the PE education programme. As such, both theory and practical teaching are equally important (Johnson, 2013), and practical teaching must include theory and knowledge about students' experiences and learning and teaching in PE (articles I–III; Backman & Pearson, 2015; Blankenship & Coleman, 2009). The pre-service teachers should therefore complete their education with a practical exam, investigating whether they know how to apply their knowledge in practical settings. By investigating the quality of pre-service teachers' teaching, and thereby also the quality of our education programme, including the field experiences during the education programme (Ronfeldt & Reininger, 2012) in this way, the pre-service teachers may overcome the practice–theory gap when entering schools as teachers (Liston et al., 2006), and, more importantly, we may be more confident that our pre-service teachers graduate as competent teachers, able to have a positive influence on their students' everyday lives. Using a pass/fail dichotomy instead of grades on pre-service teachers' final exam would further help us to send out only pre-service teachers who are ready to teach in the subject. In addition, it will increase the motivation of pre-service teachers to learn and care about collective learning experiences with others (Chamberlin et al., 2018). In contrast to the teachers of pre-service teachers in the study of Backmann and Pearson (2015), one cannot be resilient to fail pre-service teachers who are not yet ready to teach. While these pre-service teachers may become experienced teachers after several years in the field of teaching, it is not the same as being skilful or expert teachers. Furthermore, all teaching interventions related to students' learning work better than no teaching (Hattie, 2012). Therefore, experienced teachers may experience that their teaching is working, although they may not be as effective or useful for students' learning as the skilful/expert teachers (Hattie, 2012). Further, being described as a skilful teacher would change in accordance with our knowledge on students' experiences and learning in PE. PE teachers therefore need to be updated on the knowledge development in the field. Pre-service teachers who are not yet

ready to teach should be failed at the last practical exam and allowed to try again until they succeed or give up. While it may seem obvious, the ‘final practical exam’ is a better tool than graded theoretical exams for determining whether graduated pre-service teachers can become skilful teachers rather than only experienced teachers.

10 Concluding remarks

The aim of the project was to investigate students' experiences and learning in situations in PE. The general research questions were: "What do students experience and learn in/of situations they perceive as important?" and "How do situations in PE influence students' experiences and learning?" These questions were investigated by: 1. Students wrote narratives of their experiences of important situations from 8th grade. 2. Students were interviewed about these narratives. 3. Teachers were interviewed about their teaching. 4. Students' and teachers' behavior were observed and videorecorded in PE lessons in 9th grade. 5. Students wrote narratives after each PE lesson about their experiences in/of the most important situations in that PE lesson. 6. Students and teachers were interviewed about situations in PE, their experiences, and students about their learning and teachers about their teaching. These methods took a starting point in what happened in the PE lessons and the students' experiences and learning. Therefore, the data was thematically analyzed bottom-up and theories were chosen to understand the results of the analyses. The thematic analysis resulted in three articles and overarching themes about situations students perceived as important, disruptive situations, social inclusion in team activities, and competitive activities. Further, it was discussed how the teacher could facilitate situations for learning in PE.

Findings showed diversity and complexity of students' experiences and actions across situations in PE. In article I, students who participated in disruptive situations by joking, splashing water, pushing each other, throwing balls, and retaliating, could experience the situations as fun, annoying, or did not know. Students who tried to end, avoid, or distance themselves from the disruptive situations, could experience the situations as annoying. In article II, students' experiences of team activities were mainly positive, but they could also have negative experiences of peers who demonstrated excluding behaviour in these activities. Although the students in the team activities wanted their peers to pass the ball, their actions could contribute to excluding behaviour by applauding when such behaviour led to a successful outcome for the team. In article III, the students had both positive and negative experiences towards the pressure of winning in competitive situations. Students could reduce their effort if it was not a competition but could also reduce their effort if they thought they would lose in the competition. However, when the teacher facilitated a running test activity with the aim of learning and improvement, it seemed to influence the students' sustained effort

and a goal of improving their performance in the activity. The teachers in this project mainly used the 'teaching-by-telling' strategy (Lieberman & Pointer Mace, 2008), which was useful in some situations but seemed to lead to immediate behavioural change instead of learning. Therefore, these results showed the need for teachers to include students' experiences of and actions in situations in PE, to understand the situations and to create situations for students' learning.

Overall, the articles showed that 1. PE lessons are an open social system where the situations influence the participants' (students and teachers) actions and experiences; 2. The same situation is experienced differently by the participants and influences their actions differently; 3. It is the teacher who facilitates situations in PE; 4. Students' goals before an activity may be changed by situations in the activity and 5. Situations in PE could lead to a continuum in students' learning, from arbitrary (non-teaching) and external control (teaching-by-telling) to facilitated learning (e.g., using the LER model). Overall, the articles in this thesis showed a need for 1. Teachers to include and try to understand students' experiences of situations; 2. Teachers to focus on learning in situations; 3. Teachers to help students to become attentive to the consequences of their actions and 4. Teachers to facilitate learning throughout the activities (including a concrete goal, experiences, reflections, and suggestions of concrete actions).

This thesis contributes to knowledge about challenges in PE and how to solve them in a way that is useful for the student. However, more research is needed in this area. Furthermore, we need research on how to implement such knowledge in the professional phase of teachers' socialization processes of becoming teachers, to solve the challenge of non-teaching ideology, teaching-by-telling and the status quo in PE. When will we know that we have the right strategy for solving this challenge? I suggest that the answer is when one may observe that pre-service teachers' practical teaching is in line with such research as conducted in this project. Thus, closing the theory–practice gap. The 'new' teaching will create further and different challenges in situations in PE lessons, and such research will therefore be a continuous process. I believe that the ends-in-view should be the relevance for the students in their everyday lives.

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Articles I-III

Article I

Hovdal, D. O. G., Larsen, I. B., Haugen, T., & Johansen, B. T. (2021). Understanding disruptive situations in physical education: Teaching style and didactic implications. *European Physical Education Review*, *27*(3), 455–472. https://doi.org/10.1177/1356336X20960498

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Understanding disruptive situations in physical education: Teaching style and didactic implications

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Abstract

Several studies have emphasized the importance of handling disruptive situations in the physical education (PE) learning environment; however, few have investigated complex disruptive situations in PE and included both teacher and student perspectives. The aims of this study, which discusses an alternative teaching style for reducing disruptive situations, were to gain a better understanding of student and teacher experiences of complex disruptive situations in PE, and to explore how the teacher handled these situations. The philosophical perspective used in this study was Rorty's philosophical pragmatism. Methods included written narratives, interviews, observation, and video recordings of PE lessons. Data were thematically analysed. The results showed the complexity of teacher and student experiences in disruptive situations in PE. Disruptive situations occurred when there were environmental opportunities for them, such as during periods of waiting and situations in which the teacher spoke too much, did not pay attention to the whole class, or did not intervene. The teacher used an instructional teaching style for handling disruptive situations, including being very clear, nagging, yelling, waiting them out, making eye contact, and talking to them later. The instructional teaching style provided fewer opportunities for the teacher to understand the students' behaviour, fewer opportunities for students to learn self-control and

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personal and social responsibility, and did not lead to a reduction of disruptive situations over the data creation period. The practical consequence of this teaching style seemed to be the frequent use of behaviour corrections for reducing disruptive situations.

Keywords
Physical education, didactics, disruptive situation, disruptive behaviour, class management, behaviour management

Introduction

Physical education (PE) provides many opportunities for disruptive behaviour, with students moving in large spaces, diverse student populations, poor acoustics, large class sizes, the need to incorporate simultaneously moving bodies, implements, and objects safely (Cothran and Kulinna, 2015), and high levels of noise influencing both student learning and teacher health (Ryan and Mendel, 2010). Handling behavioural issues might be even more difficult in PE than in other subjects (Chepyator-Thomson and Liu, 2003). The myriad interactions taking place between students, teachers, and equipment (McCaughtry et al., 2008) in different environments, such as the gym, weight room, outside field (Alstot and Alstot, 2015), and swimming pool, may combine to contribute to disruptive situations and the need for behaviour management (Cothran and Kulinna, 2015). Behaviour management refers to 'the teacher's ability to provide clear behavioural expectations and use effective methods to prevent and redirect misbehaviour' (Pianta et al., 2008: 44), and a similar concept, class management, generally refers to preventing undesirable behaviour or dealing with it once it has occurred (Barker and Annerstedt, 2016; McCormack, 1997). Altogether, behaviour and class management deal with preventing and handling disruptive situations. The concepts of behaviour issues, behaviour problems, and misbehaviour used in this article all refer to situations perceived to be disruptive by teachers and/or their students in their respective PE classes. Disruptive situations include those in which the teacher and/or class are disturbed briefly or for a significant period (Supaporn et al., 2003).

Disruptive situations affect the learning environment, of which teachers are important influencers (Postholm, 2013). Student misbehaviour might initially be mild or moderate in nature (Cothran and Kulinna, 2007), but it should be addressed; waiting until it becomes severe is referred to as the 'wait to fail' approach (Hecker et al., 2014). The 'wait to fail' approach may lead to continual misbehaviour such as noncompliance, defiance, and aggression (Lane et al., 2005), which may disturb other students and make it difficult for teachers to instruct (Lane et al., 2002).

Behaviour problems constitute one of the major reasons why teachers do not feel comfortable with their work, and may also cause burn-out (Friedman, 2006; Lewis et al., 2008; Postholm, 2013). For students, behaviour problems may interfere with learning and lead to negative experiences through the creation of an atmosphere of discomfort (Finn et al., 2008). PE may contribute to students' learning and experiences within the physical, social, cognitive, and emotional domains (Bailey et al., 2009), but behaviour issues may limit some of this learning. If teachers spend a lot of time managing students' (mis)behaviour, they have less time available for organizing and facilitating learning (Kulinna et al., 2006). However, behaviour issues might be an opportunity for social and emotional learning (Bailey et al., 2009). Therefore, the quality of PE lessons depends on the teacher's approach to behaviour management (Alstot and Alstot, 2015;

Arbogast and Chandler, 2005; Cothran et al., 2003) and class management skills (Barker and Annerstedt, 2016; Cothran and Kulinna, 2015; Cothran et al., 2003; Supaporn et al., 2003). Moreover, class management has shifted from a behaviouristic understanding of focusing on pupil behaviour and discipline to understanding the class as a social system (Postholm, 2013).

The social system in PE is complex and thus may require complexity thinking to understand and manage disruptive situations (Ovens et al., 2013). A key concept of complexity thinking in this case is to think of open rather than closed and predictable systems (Ovens et al., 2013). An open social complex system implies that no two situations would be the same, and this should be taken into consideration when making suggestions regarding behaviour management. Further, students and teachers may not assign the same meanings to the same events (Cothran et al., 2003). Research has shown that student reports both differ from, and share some similarities with, teacher reports of student misbehaviour, suggesting that teachers and students should be included in research designs for a more effective learning environment in which the needs of both teachers and students are best met (Cothran and Kulinna, 2007). To gain a better understanding of class management in this case, one needs to know what behaviours are occurring in the class (Cothran and Kulinna, 2015). Considering the sheer volume of events occurring in large spaces (Cothran and Kulinna, 2015) and the overlapping nature of class events (Supaporn, 2000), it is difficult to observe accurately all the behaviours that occur (Cothran and Kulinna, 2015). Barker and Annerstedt (2016) showed how a video camera might be used to make it easier to describe teacher and student behaviour in a PE lesson. However, students might conceal their behaviour from teachers (Hastie and Siedentop, 1999), and students and teachers may have different perspectives regarding the same class event (Cothran and Ennis, 1997; Stork and Sanders, 2000). The possibility of different perspectives between students and teachers makes it difficult to define what constitutes misbehaviour (Cothran and Kulinna, 2015).

In Norway, state schools educate approximately 95% of pupils in grades 1–10. Norwegian society is considered egalitarian, with few differences between schools (Veland et al., 2009). In secondary school, most students are in the same class from the eighth through 10th grades, and the teacher usually teaches two or more subjects in her/his class. In 2009, 39% of ninth-grade students in Norway reported disruption in almost every subject and lesson in school (Ogden, 2015).

Ogden (2015) indicated three levels influencing disruptive situations. The first level is planned and structured lessons and activity, which concerns communication and the implementation of the activities. The second level is preventive class management, such as preventing and correcting behaviour at the initial stage before it escalates and interferes with activities. The third level is behaviour corrections, which includes stopping unwanted behaviour before it influences others and getting the class back on track. Further, one may influence disruptive situations through learning. The Teaching Personal and Social Responsibility model aims to teach students responsibility for their own and others' well-being and strategies to exercise control over their own lives in their social environment (Pozo et al., 2016). The model has shown a positive influence on students in three ways: (a) reduced aggressiveness and disruptive behaviours; (b) improved self-control, caring, conflict resolution, responsibility, enjoyment, relatedness, empathy, self-confidence, self-esteem, and self-efficacy; and (c) less truancy, less tardiness, better grades, and both vision and motivation towards an academic and professional future (Pozo et al., 2016). From a pedagogical perspective, Dewey (1938) emphasized the importance of teaching students to exercise control over their own lives in their social environment. He argued that students' intellectual control (self-control) may influence social life and communication, which are important aspects of

a society (Dewey, 1916), and that the development of self-control should be facilitated through meaningful experiences (Dewey, 1938).

Because of the complexity of disruptive situations in PE and the potential to not only inhibit learning, but also create situations for learning, the aims of this study were to investigate the circumstances in which disruptive situations occur in PE, and to examine student and teacher experiences and behaviour in disruptive situations.

Methods

The triangulation of multiple methods (Abdalla et al., 2018) in this study is based on Rorty's philosophical pragmatism (Rorty, 1982). Pragmatist methodology focuses on purposeful human activity (Allmark and Machaczek, 2018). The main reason we chose the 'pragmatism' method is that 'for Pragmatism, the start point of scientific inquiry is a human purpose, the endpoint, whatever behoves us to believe to serve that purpose best' (Allmark and Machaczek, 2018: 1306). We therefore approached the field by looking for meaningful patterns that could be of relevance for the field. We identified the overarching theme 'disruptive situations in PE'. We used different methods for creating relevant knowledge regarding the complexities of disruptive situations in PE. Triangulation between interviews, written narratives, observation, and video recordings were used to complement each other and reduce the limitations of the different methods (see Table 1 below). The number of interviews and observations were chosen to provide enough data to understand the situations, and these data were further thematically analysed (Braun and Clarke, 2019). The participants and the researcher spoke the same language (Norwegian). The quotations in the Results section have been translated into English. The translation of the quotations was undertaken with the support of a professional translator and checked for the intended original meanings (Van Nes et al., 2010).

Participants

Two secondary classes from two different schools in the south of Norway participated in the study. The classes consisted of 49 students (16 boys and 8 girls from one class, and 12 boys and 13 girls from another) and their two male PE teachers, who were also their main class teachers.

Ethical considerations

The schools' principals, teachers, and students were informed of the study verbally and in writing, and the students' guardians were informed in writing. Ethical considerations were fully considered before, during, and after each data creation stage (Kvale, 2015). Written consent was obtained from the teachers, students, and students' guardians. This study was approved by the Norwegian Centre for Research Data (NSD- 58504) and the Ethics Committee of the Department of Sport Science and Physical Education at the University of Agder.

The study

This study was conducted over a one-year period, from the end of the students' eighth-grade year until the end of their ninth-grade year (i.e., ages 13-15 years). The first data creation stage consisted of written narratives regarding the situations (peers, teachers, and tasks) in PE that the eighth-grade students liked the most and least. The second data creation stage consisted of individual interviews

Table 1. Overview of data creation in the study in chronological order.

Methods	Participants	Data creation	Strengths	Limitations
Written narratives 1.	All students from two classes (49 students).	224 written narratives.	1. Students' stories from their own experiences. 2. Every student's voice is heard. 3. Students can concentrate in a calm environment and write as much as they want. 4. Stories are more coherent. 5. Not disrupted by a researcher.	1. The researcher (main author) cannot ask follow-up questions.
Interviews.	12 students and their two PE teachers.	43 transcribed pages.	1. Information about the students' and teacher's own experiences, interpretations, and meanings. 2. In-depth information. 3. Follow-up questions from the narratives and the present interview.	1. The researcher (main author) does not know the context of the situations.
Observations, video recordings with a 360° camera, audio recordings of the teacher using a microphone.	All students (49 students) and their two teachers from two classes.	14 PE lessons (1050 min in total). Eight PE lessons with one class and six PE lessons with the other.	1. Contextual information. 2. Close to relevant situations. 3. Repeated observation of the situations. 4. Panoptic overview. 5. Opportunity to listen to what the teacher said and the dialogue with students. 6. Able to use video clips later in the interviews.	1. Teachers and students might be influenced by the observer and video recordings. 2. Difficult to hear the students' voices.

(continued)

Table 1. (continued)

Methods	Participants	Data creation	Strengths	Limitations
Written narratives 2, at the end of each PE lesson.	All students from two classes (49 students).	453 written narratives.	1. Students have fresh memories of the situations in the present PE lesson. 2. Connect students' narratives to video-recorded situations. 3. See written narratives 1.	1. The researcher (main author) cannot ask follow-up questions.
Interviews.	16 students and their PE teacher from one class.	64 transcribed pages.	1. Follow-up questions from the narratives and video clips. 2. In-depth information from the narratives and video clips. 3. Contextualized information (video recordings).	

of 12 students and their two PE teachers. The third data creation stage consisted of observation and video recordings of 14 PE lessons (eight in one class and six in the other). The fourth data creation stage consisted of written narratives from all the students conducted at the end of each PE lesson. The fifth data creation stage consisted of individual interviews of 16 students and their teacher from one class. The selected class was chosen because disruptive situations were found to be more prominent in this class in the first four data creation stages, which allowed the complexity of disruptive situations within one context (one class) to be investigated. Table 1 shows the methods, participants, data creation stages, strengths, and limitations of this study.

Data creation stages

The written narratives from the first data creation stage were posed as questions to facilitate richer data (Patton, 2014). The questions were related to the students' positive and negative experiences of situations in PE with peers, teachers, and tasks (created at the end of eighth grade), e.g. 'Tell me about a situation with your teacher in PE that you liked. What happened and why did you like it?' This narrative was relevant to the theme 'positive experiences with the teacher'. In later questions, students could write about all their noteworthy positive and negative experiences with their peers, teachers, and tasks from their last year (resulting in 224 narratives in total). The students answered questions on their computers using an individual code, and their answers were transferred directly to a memory stick.

For the second data creation stage, semi-structured individual interviews were conducted with the students and teachers in a separate room. The interviews were audio-recorded. The student interviews lasted 5–20 minutes, depending on the themes and situations. The student interviews related to their first written narratives and aimed to gain a deeper understanding of their experiences and learning. The open-ended questions included 'Tell me more about this situation', 'What did you experience?', 'What was the physical environment in this situation?' (location, equipment, and so forth), 'What did the teacher and peers do in this situation?', 'What did you do in this situation?', and 'What did you learn from this situation?' These questions were asked in different ways depending on the student and their degree of understanding. The interviews with the teachers were related to the aim of the subject, learning structure, learning style, good lessons, motivating and helping students, and activities in the subject. The teacher interviews took approximately 30 minutes.

In the third data creation stage, the first author observed and made field notes on the PE lessons. In addition, the PE lessons were recorded using a 360° camera. The teachers were audio-recorded using a device utilizing Bluetooth and an intercom. The researcher used complete open unobtrusive participant observation (Angrosino and Rosenberg, 2011; Thorpe and Olive, 2016) by observing and video recording the PE lessons from the stands at the side of the field. There were two data gathering strategies: 'observe and look for nothing' (researcher) and 'observe and record everything' (360° video and audio recordings) (Thorpe and Olive, 2016; Wolcott, 1981). The 'observe and record everything' strategy was made possible by the 360° video recording and the opportunity to watch the videos several times. The students also wrote narratives at the end of the PE lessons so that the researcher could find these situations later (fourth data creation stage).

The written narratives from the fourth data creation stage were created at the end of the students' PE lessons with no time limits. The narratives concerned the most negative and positive experiences of the just-completed PE lesson, e.g. 'Tell me about the situation that you liked the most in the PE lesson. What happened and why did you like this situation the most?' The narratives

in this sense were relevant to the 'positive experiences in PE lessons' theme. The students could write as many narratives as they wanted. In total, 453 narratives were written.

The individual interviews from the fifth data creation stage (one class) took place in a separate room. They were audio-recorded using a voice recorder. The interviews with the students were related to their first written narratives, the first interviews, the narratives conducted after each PE lesson, and the notes from observations and analysed video recordings of the PE lessons, e.g. 'You said in your first interview that . . . what do you think about it now?', 'In the narratives written after the PE lessons, you wrote . . . can you tell me more about that?', and 'If we look at this video recording from the PE lesson, can you tell me more about this situation?' Student interviews lasted 6–30 minutes depending on the number of situations investigated and how much the students talked. The interview with the teacher of the class was related to the socio-cultural environment in the class, the main theme of 'disruptive situations' in the class, video clips of 'disruptive situations', and understanding the choice of behaviour in these situations, e.g. 'Tell me about the socio-cultural environment in the class . . . you said it could be a bit noisy (disruptive situation) in this class . . . can you tell me more about that?', 'How did you experience this situation (from the clips)?', 'Why did you choose this kind of behaviour?', and 'How do you handle disruptive situations?' The teacher interview lasted approximately 60 minutes.

Data analysis

Interviews, field notes, and video recordings were transcribed into written text and analysed together with the narratives. All data were thematically analysed with the help of NVivo 11, using the following six basic steps outlined by Braun and Clarke (2006) and Braun et al. (2016): (a) familiarize yourself with the data; (b) generate initial codes; (c) search for themes; (d) review themes; (e) define and name themes; and (f) produce the report. In the following paragraphs we show how the overarching theme developed, provide an example of the data analysis, and present the resulting main themes and subthemes.

In one of the teacher interviews (second data creation stage), the teacher indicated that disruptive situations occurred in his PE lessons: 'And you can see that there are many [students] who are joking and ruining, yes . . . ruining [it] for the others'. The researcher's first notes from the first PE lesson stated that there was 'a long introduction to the lessons' and 'a lot of disruption'. Further observation and viewing of the video recording of the PE lessons showed that disruptive situations occurred throughout all PE lessons. The student narratives conducted at the end of each PE lesson indicated that disruptive situations such as 'everybody was joking' and 'students ruined the warm-up' occurred.

Table 2 provides an example of how multiple methods were used to create main themes and subthemes. Table 3 shows the resulting main themes and subthemes.

Results

The main themes 'environmental opportunities for disruptive situations' and 'teacher's handling of the situations did not reduce the disruptive situations' were created from narratives, interviews of students and a teacher from one class, observations, field notes, and video recordings. In this section, we first outline when disruptive situations occurred and how they were experienced, and then consider how the teacher handled disruptive situations. Next, we outline a complex situation

Table 2. Illustration of how a main theme was created.

Data	Main theme	Subtheme
1. Observation/video recording/field notes: In the swimming pool, two students (Susanne and Boris) were splashing water at each other, disturbing surrounding students, while the teacher lectured. 2. Written narrative from Sara: 'I did not like it when students were splashing water while the teacher talked'. 3.1 Interview with Boris: 'We did it for fun, sort of'. 3.2 Interview with Susanne: 'He did it to annoy me, so I had to retaliate'.	Environmental opportunities for disruptive situations	Teacher did not intervene

Table 3. Overview of the main themes and subthemes in this study.

Main themes	Subthemes
Environmental opportunities for disruptive situations	1. There was a long waiting time (between ending one activity and starting the next, or within the activity) 2. The teacher spoke too much 3. The teacher did not maintain attention on the whole class 4. The teacher did not intervene
Teacher's handling of the situations did not reduce the disruptive situations	1. Being very clear 2. Nagging 3. Yelling 4. Waiting them out 5. Making eye contact 6. Talking to them later

that was escalating from two students joking to several students joking, and the students' and teacher's experiences in this situation. The source (i.e. observation, interview, written narrative) of each data excerpt in this section is indicated in parentheses after the text. Field notes and video recordings are included as observations. Pseudonyms are used to ensure student confidentiality.

Environmental opportunities for disruptive situations

Disruptive behaviour occurred when there were environmental opportunities for it. These included: (a) There was a long waiting time (between ending one activity and starting the next, or there was a long waiting time within the activity); (b) The teacher spoke too much; (c) The teacher did not maintain attention on the whole class; and (d) The teacher did not intervene (discussed in a later section).

During these situations, students could start to joke, wrestle, push, poke, and pinch each other (observation and interviews). During a waiting time situation, Kevin was hugging Amanda until he saw Tom walking by. Kevin started to clap Tom on his head, and they started to wrestle (observation). Kevin expressed the situation in this way when he observed the video recording (interview): 'I'm not sure what we were doing, but it is just for fun. We are good friends. Everyone is

good friends. It was not to be cruel. We are still doing it'. Tom expressed the situation in the following way (interview): 'We were joking a bit. I think it was me who started it'. The situation at this point was not considered disruptive by the researcher for the following reasons: the students were waiting for the next activity; the two involved students said it was for fun and that they were joking; and the observation did not indicate that the students disturbed/irritated other students with their behaviour.

The behaviour became disruptive when the teacher gathered the students and began introducing the next activity. The two students were slow to join the group and the teacher yelled at them. They stopped wrestling for a moment but started again when the teacher continued to introduce the next activity. At the gathering, they picked on each other despite the teacher reminding them to stop (observation). Kevin and Tom therefore disrupted the teacher, who was trying to introduce a new activity, and their peers, who were trying to listen. The reason the joking continued into the teacher's introduction for the next activity was expressed by Kevin (interview) as follows: 'After a while, the joking might have become too much, making it hard to calm down again'.

Another situation where two students disrupted the teacher's introduction to an activity occurred in the swimming pool (observation). In this case, the directly involved students did not think it was fun, but thought it was either neutral or did not like it (interview). Susanne and Boris were splashing water at each other, but another girl, Sara, also got splashed (observation). She did not like it or the fact that they disturbed her when she was trying to listen to the teacher (written narrative and interview). Boris, who perceived the situation as neither positive nor negative (interview), started the splashing, and Susanne, who did not like the situation (interview), retaliated. Neither of them stopped the splashing until one was about to swim to the other side of the pool (observation), although the teacher and the assistant had told them to stop. The reason they did not stop might be as Susanne expressed (interview): 'He splashed water at me, so I splashed water back. He did it to annoy me, and I did it to retaliate. I do not remember. He continued, so I continued'. Because Susanne did not like the situation, the researcher asked why neither of them stopped the splashing. This action did not seem to cross Susanne's mind: 'Maybe because we each wanted to hit back? I am clueless. I don't think of such things'.

In a situation where the teacher spoke too much and took several minutes to introduce a lesson or activity, the students started to do other things, such as talking to each other (observation). The situations started as minor incidents, but escalated until the teacher said, 'Stop that, okay!' This also occurred when the teacher gathered the students in a group to give them information and did not see every student. Some students sat down on the floor or on a bench or started to talk to each other. This disrupted other students, who seemed to lose concentration, giving the opportunity to escalate further (observation). Because the teacher did not maintain his attention on the whole class, he did not perceive the disruption until after it had escalated. This made it harder for the students to stop the disruption and for the teacher to handle the disruptive situation (observation and interviews). These situations could be experienced as annoying by other students. As expressed by Cassandra (interview): 'If the teacher says that they (students) should not talk and they continue, then it becomes like, could you finish talking, because we want to start'. She said that the students either stopped talking when they had finished what they wanted to say or stopped talking immediately after the teacher reminded them to be quiet. Observations showed that the teacher had to remind the students to stop joking or talking several times in some of these situations.

How the teacher handled disruptive situations

The teacher said that the students' focus could be lacking in the PE lessons after being more sedentary in other subjects. He therefore needed to remind the students several times to calm down (interview): 'We use some time on this issue, and you have probably seen it too. That I have to repeat it several times before it gets completely calmed down'.

The teacher did not want to yell at the students (unless he saw bullying) because he felt it would influence the relationship he had with them. Although he did nag the students (observation), he did not want to because he perceived it to be less effective for handling disruptive situations. He explained the strategies he used as: being very clear ('I go to them or get them to come to me, and I say, "Now we need to calm down"'), making eye contact ('I experience that if I make eye contact with them, then they calm down'), waiting them out ('In many situations I try to wait them out, because this seems to work. Because other students start to react a little, the students who want to get started'), and talking to them later ('Something I often do in subjects such as PE is that I don't intervene in the situations, but rather, bring the issue up later unless it is at the expense of others. For example, if you sabotage your team').

Observations showed that these instructional ways of handling disruptive situations worked in the immediate situation. However, the disruptions frequently returned, and no decrease in disruptive situations throughout the PE lessons was observed by the researcher (first author).

A complex situation

Escalation from 'a bit' disruptive to highly disruptive seemed to occur in more complex situations where the teacher did not intervene or maintain attention on the whole class. In the following paragraphs, we outline this transformation.

The PE lesson was inside a PE hall of approximately 500m^2. There were 20 students and their PE teacher in the PE lesson. The activity consisted of nine stations, each with different training drills, and the students threw dice to see which station their group was going to. Each group consisted of two or three students. Music was played while the students exercised. The main situation occurred at the 'plank' station (Wikipedia, 2020).

Two male students (group 1) were doing the plank activity on a gym mat, while three female students (group 2) waited their turn. Kevin and Sigurd (group 3) arrived and Kevin pretended to push one of the students doing the plank and Sigurd poked him. Heidi (group 2) stopped Sigurd and pushed him lightly away (observation). Her reasons for intervening were as follows (interview):

> They were concentrating, and I was waiting for them to finish . . . then [Kevin and Sigurd] arrived and started to joke and stuff like that. And since we came before them and the others [doing the plank] were concentrating, then I thought, you can move a bit.
>
> It was annoying, even though they did not do anything to me. I know how it is to get annoyed when doing strength training, you know . . . We had to wait for them to finish [the plank] and they were joking with them.

Meanwhile, the teacher was going to the PE hall door to get a student who had just left the room and did not observe the situation. When the teacher came back, group 1 had finished, group 2 was doing the plank, and group 3 was waiting their turn and starting to dance (observation). When

asked their reasons (interview), Kevin said: 'I don't know, I think it was because of the music or something', and Sigurd said: 'We just waited for the mat, so we started to joke with each other'.

The dancing situation did not seem to be disruptive (observation) but gave the students something to do while waiting (interviews and observation). However, it became distracting for the students who were doing the plank (group 2) when Kevin started to jump up and down (dancing) in front of their heads. They did, however, only briefly look up before they focused on the plank again. Kevin pretended to push them with his foot, before Karl and Christian (group 4) arrived. Kevin, Sigurd, Karl, and Christian pretended they were going to fight, until it was Kevin and Sigurd's turn to do the plank. While Kevin and Sigurd were doing the plank, group 5 (female group) arrived at the station and started to do the plank outside the mat. Chris and Sondre (group 6) did not participate in this PE lesson and were lying on the mat at another station. At this point, they left the mat and joined the joking (observation). When asked their reasons (interview), Chris said: 'There were people there, so I thought that I should go there', and Sondre said: 'I don't remember, I think I just went with the person I was in the group with'.

Chris and Sondre pushed down the students doing the plank (group 3) with their feet and pushed them over, so they were not able to do the plank. Currently, several groups were at the same station. Two softballs at the side of the field were picked up, and Chris threw a ball at Kevin, who was doing the plank. After Kevin and Sigurd finished, group 4 (Karl and Christian) started doing the plank. Kevin and Sigurd pushed them over, and Chris and Sondre pushed Karl and pretended to step on Christian, who was lying on the mat. The teacher saw this situation and removed the softball when he arrived at the station. He then started to talk to a group that was about to throw the dice again (observation).

The situation started with pretending to push over students that were doing the plank, and escalated to poking them, physically pushing them over, and throwing softballs at them. Even though students could distance themselves from the situation by doing the plank at the side of the mat or intervene in the situation to make it stop, the disruptive situation continued to escalate (observation). We therefore interviewed the students who contributed to the disruptive situation that escalated. Kevin, Sigurd, and Karl describe their experiences of the situation as follows:

> At least, we became happy . . . we had more fun really, I think (Kevin)
>
> I think it was just some friendly joking. Nothing more. It was a fun, enjoyable situation, we were tired, and we wanted to have some fun, sort of (Sigurd)
>
> It became more fun. I do not remember (Karl)

Chris and Sondre said that they did it for fun (interview). When asked what they liked the most about the situation, Chris responded: 'I don't know if I liked anything or not', and Sondre said: 'I don't remember what I liked about it though'. Heidi's experience was that: 'It was annoying, even though they did not do anything to me' (interview). The teacher saw the video recording of the situation and said that 'If I had seen it straight away, then I would have taken action . . . In that situation I probably should have been sharper with the boys. Because I think it went too far' (interview).

In this situation, there were students who enjoyed it, students who neither liked nor disliked it, and a student who thought it was irritating (interviews). There were students who contributed to the

situation, students who distanced themselves from the situation, and a student who tried to stop the situation (observation). One may further see that the teacher did not have an overview of the situation or intervene in the situation, which allowed it to escalate (observation and interview with the teacher).

Discussion

In this study, we investigated the circumstances in which disruptive situations in PE occurred and the students' and the teacher's experiences of, and behaviour in, these situations. The rationale for this investigation was that the research problem was socially situated, and the inquiries were natural, situational, and grounded in the mentioned problems (Kaushik and Walsh, 2019).

From this study, we saw that disruptive situations could occur when students had to wait for a long period of time, the teacher spoke too much, the teacher did not maintain attention on the whole class, or the teacher did not intervene. These situations provided environmental opportunities for disruptive situations. Although teachers might consider these environmental opportunities for disruptive behaviour when planning and organizing the lessons (Ogden, 2015), we focus the discussion on how teaching styles might influence student behaviour and experiences in these situations. In this study, choosing an instructional teaching style to address disruptive situations seemed to provide fewer opportunities for the teacher to understand the students' behaviour and for the students to learn self-control and personal and social responsibility, and did not lead to a reduction in disruptive situations. We first discuss the possible consequences of the teaching style before we discuss how a teacher might understand and handle disruptive situations in PE.

An instructional teaching style

The teacher's use of an instructional teaching style in this study was due to the need to get the students to calm down, listen, and stay on task. In other words, the students' behaviour was influenced by external control (Dewey, 1938). This external control might reduce the opportunity for each student to learn personal and social responsibility in a group (Pozo et al., 2016). We might therefore draw from Dewey that the instructional teaching style could become non-educational (unreflecting) or even mis-educational (teaching mindlessly that students should not disrupt themselves or others) because students do not learn to think consciously through possible alternative actions or attend to consequences (Dewey, 1938). Further, they may not develop habits and attitudes that open other lines of growth or help them evaluate the quality of their future experiences (Hildreth, 2011). However, simply removing the teacher's external control might lead to an escalation of disruptive situations and make the learning of personal and social responsibility more arbitrary, as indicated in the present study. The removal of the teacher's external control could be replaced by the control of the students' blind desires (Dewey, 1938). When the teacher did not exercise control over the students in this study, some students started doing other things for fun or retaliated without knowing why. Therefore, replacing the teacher's control over the students with the students' blind desires might not be optimal. Conversely, to exercise control over the students' behaviour, the teacher might need to observe all the students and respond immediately to possible disruptive situations to avoid escalation (Ogden, 2015). Alternatively, the teacher could facilitate the students' learning of intellectual control, called self-control (Dewey, 1938). By teaching the students self-control, the teacher could reduce her/his time spent on external control of student behaviour and the need to observe the students. In learning personal and social development, the

students might help each other to maintain their preferred learning environment, which, in this case, is whatever the teacher and students have agreed upon.

Understanding disruptive situations

To consider PE lessons as complex, open social systems where the teacher and students may not assign the same meaning to events (Cothran et al., 2003; Ovens et al., 2013; Postholm, 2013), one needs an approach that not only considers the teacher's own experiences of the situations, but also the students' (Dewey, 1938). It could therefore be argued that the teacher should ask about the students' experiences and the reasons for their actions in these situations before the teacher try to influence the students' own and shared goals in the lessons by teaching personal and social responsibility (Pozo et al., 2016). Drawing on Dewey (1938), the training might be based on the students' experiences and influence the students' (shared) meaning of their experiences (of disruptive situations), which would lead to further experiences and a new understanding of these experiences.

Handling disruptive behaviour in complex situations

As one may see from the Results section *A complex situation*, a disruptive situation could escalate from two students joking to several students joking. For the sake of clarity, we simplistically define the first part of the situation (two students at a station) as a low complexity situation and the last part of the situation (several students at different stations and areas) as a high complexity situation (Ovens et al., 2013).

In the low complexity situation, the teacher had the opportunity to discuss the situation with the students to try to understand their experiences and perspectives and further influence their behaviour/learning in a positive direction (Dewey, 1916). For example, if the teacher noticed that a student pretended to push or poke another student doing the plank (for fun) while waiting their turn, the teacher might have asked the student why they did it, and get the answer, 'I don't know, it was just for fun'. The teacher might consider a few questions about the organization of the PE lesson or how to handle the situation concerning the student: (a) Is the structure of the lesson providing opportunities for disruptive behaviour? and (b) How can I help this student learn self-control (if this seemed to be lacking)? Further, one needs to consider whether learning better self-control is important. Self-control is an aspect within personal and social responsibility (Pozo et al., 2016) that is important for groups and society, but may also increase the likelihood of interpersonal, social, and career success for students themselves (Ren et al., 2018; Tangney et al., 2004). Those with weak self-control and lower social status are more likely to ignore or violate rules (Cummins, 1999; Ren et al., 2018). Because self-control has a direct influence on society through the individual, one may also consider it a life skill that might be learned in PE (Opstoel et al., 2019). Based on this study, being able to handle disruptive situations in the complexity of PE (Postholm, 2013) requires knowing where relevant information might come from and how to gather it. Handling each situation requires (or is facilitated by) existing relevant knowledge of its likely causes, or the motivation and capability to obtain such knowledge. According to Teunissen and Dornan's (2008) work, this could be about the teacher's lifelong learning. If a teacher does not know what could influence self-control, then he or she might consider seeking this information. In our self-control example, if a teacher can help students to see the bigger picture regarding the consequences of their behaviour, then they might be motivated and become more able to exercise self-control (Fujita,

2008). Further, the teacher might help those students to look for other ways of behaving in the environment that are not disruptive for other students.

In the high complexity situation, facilitating constructive learning based on student experiences and perspectives might be more time-consuming. The teacher may need to be in several places at the same time. One could therefore consider reducing the complexity of the situation, for example by gathering all the students in a half-circle. In this less complex situation, the teacher may facilitate the students' learning of self-control and personal and social responsibility (Pozo et al., 2016). For example, they could discuss disruptive situations in general, considering why disruptive situations occur, how they influence the learning environment, and what the teacher, the individual student, and the class can do to reduce these situations. Further, they may discuss the students' different goals in the lessons to create a shared goal (Casey and Quennerstedt, 2020), or, more specifically, to identify the behaviours that are appropriate while waiting their turn (or any other issue at hand). At the end of the lessons, the teacher might direct the relevance of the learning towards other aspects of life, such as other subjects, break time in school, leisure time, and later work (Pozo et al., 2016). This way of handling disruptive situations might therefore influence the students' self-control and personal and social responsibility, which may be positive for the students themselves and society (Dewey, 1916; Gordon and Doyle, 2015; Pitter and Andrews, 1997; Pozo et al., 2016).

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Article II

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Students' experiences and learning of social inclusion in team activities in physical education

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Abstract

Physical education (PE) can be a context in which students are 'educated through the physical', which includes the possibility to learn social inclusion as an important life skill and contributor to the greater good of society. A key goal in the Norwegian educational system is that such positive life skills become internalised in students. The aims of this study were to understand students' experiences of and behaviour towards social inclusion – such as passing the ball – in team activities and how the teacher facilitated the learning of social inclusion. We use Dewey's pedagogical perspective on education, and Johnson and Johnson's cooperative learning model to discuss possible consequences and implications of our findings. The participants consisted of two secondary classes from two state schools in Norway, where one class was investigated in depth. Methods comprised written narratives, interviews, observation and video recordings of PE lessons. Data creation was triangulated, and thematic analysis was conducted. The results highlighted a paradox between students' experiences of and behaviour towards social inclusion in team activities. Students disliked socially exclusive behaviours, but they often provided positive feedback when the behaviour was seen as successful in the context of a game; furthermore, students could themselves behave in a socially exclusive manner. Although the teacher could 'teach by telling' the students to pass the ball or by having rules, passing the ball did not become internalised in students.

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We discuss a model of 'learning through experiences and reflections', according to which students may learn to become socially inclusive beings.

Keywords
Physical education, didactics, social exclusion, social learning, experiences, team activities

Introduction

There are different ways of thinking about physical education (PE). For example, PE can be thought of as 'education of the physical' and as 'education through the physical' (Anderson, 1997; Goudas, 2010; Laker, 2000). Although 'education of the physical' is important, thinking of PE as 'education through the physical' allows the potential for developing life skills in PE (Cronin and Allen, 2017; Cronin et al., 2018, 2019; Goudas, 2010). Life skills include aspects such as 'behavioral (communicating effectively with peers and adults) or cognitive (making effective decisions); interpersonal (being assertive) or intrapersonal (setting goals)' (Danish et al., 2004: 40). As such, this definition of life skills includes social skills, and PE might be an important context for learning such skills (Bailey et al., 2009).

The Norwegian context

The present study was conducted in Norway, where state schools educate approximately 95% of students in grades 1–10 (Veland et al., 2009). Norwegian society is in general considered egalitarian with a relatively small number of students living in poverty, modest cultural diversity, and only small differences between schools (Veland et al., 2009). Although Norwegian society is in general considered egalitarian, there has been an increasing number of students living in poverty in recent years (Epland and Normann, 2020). At secondary school, most students are in the same class from grade 8 to grade 10 (age 13–16 years), and the teacher usually teaches two or more subjects. The Norwegian curriculum for PE (grades 8–10) states that one of the main learning outcomes is to 'acknowledge differences between oneself and others in movement activities and to include all, regardless of prerequisites' (UDIR, 2019a: 8). Therefore, the present article focuses on social inclusion as a life skill. Furthermore, to be counted as a life skill, social inclusion needs to become an internalised part of students and be employed in different settings (Gould and Carson, 2008; Pierce et al., 2017). Indeed, a key goal of the Norwegian education programme is for students to learn positive skills that become internalised (UDIR, 2019b). In other words, students' social skills, such as social inclusion, should be carried throughout their education and into their everyday life in society (Casey and Quennerstedt, 2020).

Social inclusion in PE

Social inclusion and exclusion in PE have been investigated in different ways. Munk and Agergaard (2015) noted that research has focused on exclusion as 'something being done' to students and has been directed towards social categories such as gender, physical skills and minorities. In contrast to searching for exclusion based on groups, Munk and Agergaard (2015) investigated the complex interactions within a group of students and found that students' lack of

physical skills and necessary social relationships might lead to exclusion in activities. We acknowledge that categories such as gender, physical skills, social relationships and minorities may influence social inclusion and exclusion in activities in PE. However, in this study, we analysed the students' experiences of social inclusion and exclusion in situations within team activities in relation to their learning of social inclusion. In this way, we examined social inclusion as a skill of each individual student within a group and how it was learned within situations in PE; for example, whether students passed the ball to each other during team activities such as floorball, and, thus, how social inclusion was learned through passing the ball in cooperation with the team.

Within the context of PE, social inclusion is important because it influences the social interactions in PE and the creation of meaningful experiences. Beni et al. (2017) noted that social interactions were identified (together with fun, challenge, motor competence and personally relevant learning) as important for creating meaningful/positive experiences in PE. In contrast, by citing an example from Carlson (1995), Beni et al. (2017) also noted that social interaction may lead to negative experiences with 'feelings of isolation': 'I don't feel that I am a part of gym. I feel left out, not really a part of that team feeling' (471). A Norwegian study (Røset et al., 2020) showed that students who did not receive the ball in team activities and/or received negative comments were less motivated to participate in the activity. Thus, social exclusion might lead to negative experiences in PE and social inclusion might lead to positive experiences (Beni et al., 2017). Furthermore, social inclusion is an important aspect of cooperation (Deering, 1996) and might be learned in PE. However, simply participating in PE and sports does not automatically lead to positive outcomes such as being socially inclusive (Bailey et al., 2009; Opstoel et al., 2020), and grouping students together does not automatically lead to cooperation (Dyson and Casey, 2016) or social inclusion. Therefore, social inclusion could be considered as a social skill that might be learned within the framework of the cooperative learning (CL) model (Dyson and Casey, 2016; Johnson and Johnson, 2009). Although the PE teacher did not specifically apply the CL model in this study, it can be used to highlight elements within PE lessons where social inclusion may be learned in team activities.

Cooperative learning in PE

Casey and Goodyear's (2015) review of CL in PE indicated the potential of CL as a pedagogical model to contribute to learning within physical, social, cognitive and affective domains (Bailey et al., 2009). It was emphasised that further research was required on the affective domain to clarify the contribution of the model (Casey and Goodyear, 2015). To achieve learning within these four domains in PE, CL is built on five elements, which we apply here to PE (Casey and Goodyear, 2015; Dyson and Casey, 2016; Johnson and Johnson, 1991, 2009). (a) Positive interdependence includes an understanding that each student is mutually dependent on each other for success and everyone must do their part of the work. Thus, a shared goal is important. (b) Promotive face-to-face interaction includes students encouraging and helping each other to increase the group's effort to achieve and complete the tasks to reach the shared goal. (c) Individual accountability includes each student being accountable for his/her effort on the team, and that peers expect a contribution from each other. (d) Social skills (interpersonal small group skills) include communication between students and asking for clarification, discussing, asking peers to contribute and giving praise for their contribution. (e) Group processing includes reflecting on their performance, functioning as a group, and setting and reflecting on goals: what is the goal and how is it to be achieved?

Casey et al. (2009) suggested that CL should be introduced over a few lessons of a unit before students become comfortable working in their groups and can begin cooperating with each other. Regarding social skills, Casey and Goodyear (2015) found that CL had the potential to teach students to cooperate, work together as a team to learn, develop good social relations, and to show care, concern, empathy and respect for each other, while supporting and encouraging each other to learn. Therefore, the CL model may be a useful framework for examining social inclusion in team activities. However, considering Dewey's (2015) idea of learning through experience, the starting point should be the students' experiences in the activities.

The educational perspective of Dewey includes his idea of experience and education, that is, the need for the experience of children and young people in schools to be 'one of education of, by, and for experience' (Dewey, 2015: 29). Casey and Quennerstedt (2020) argue that adding Dewey's idea of education and experience to Johnson and Johnson's (2009) five elements would broaden the educative element to CL in PE:

> Such an educative element would redirect focus towards the capacity of further and richer experiences, expanding the possibilities for further actions and experiences where cooperation is lived, and thus being something that should be discovered in an embodied process of inquiry (Casey and Quennerstedt, 2020: 1030).

By including the educative element of CL, Casey and Quennerstedt (2020) argue that there should not be a single notion of CL and emphasise the importance of students' experiences in PE. Together, the five elements of CL and Dewey's idea of education and experience may provide both opportunities for PE teachers to examine their own teaching and for students to explore their experiences of social inclusion in team activities (Casey and Quennerstedt, 2020; Dewey, 2015). We therefore use Dewey's educational perspective with the CL model to discuss possible consequences and implications of our findings.

Aims of the study

Considering Dewey's notion that school (PE) should be education of, by, and for students' experiences and the importance of social inclusion for students' meaningful experiences (Beni et al., 2017), the first aim of this study was to investigate students' experiences and learning regarding social inclusion in team activities. The second aim was to investigate how the students learned to become socially inclusive in team activities. In this way, the present study may contribute to discussion on including Dewey's educative element in the CL model (Casey and Quennerstedt, 2020) through adding 'real-life' experiences of social inclusion and learning to socially include others through team activities.

Method

This study formed part of a larger research project investigating experiences and learning in PE. One of the overarching themes, 'social inclusion and exclusion in team activities', resulted in this article. The triangulation of multiple methods (Abdalla et al., 2018) was based on Rorty's (1982) philosophical pragmatism and pragmatist methodology (Allmark and Machaczek, 2018; Feilzer, 2010; Morgan, 2007). Pragmatists are interested in investigating human needs and helping to solve these needs (Rorty, 1982). The present study indicated a need for students to become socially

inclusive in team activities, and thereby the overarching theme 'social inclusion and exclusion in team activities' was created from the field. Data were gathered through written narratives, observation combined with video recordings, and interviews. These methods were triangulated to complement each other and to reduce the limitations of each single method (Appendix 1). Furthermore, these methods together with the theoretical framework of CL (Casey and Goodyear, 2015) and the educative element of Dewey (Casey and Quennerstedt, 2020) allowed us to investigate and discuss students' learning in PE (Quennerstedt et al., 2014). The number of interviews and observations were chosen to gather sufficient data for a clear understanding of the situations and perspectives (Braun and Clarke, 2019). In the interviews, all participants and the researcher spoke Norwegian, and the quotations in the Results section have been translated into English. The process of translation of the quotations was undertaken with the support of a professional translator and quotations were checked for their intended original meanings (Van Nes et al., 2010).

Participants

The data creation was conducted at the end of grade 8 and was completed by the end of grade 9 (i.e. age 13–15 years). The participants came from two secondary school classes from two different schools in the south of Norway. In total, there were 49 students: 24 (eight girls and 16 boys) in one class and 25 (13 girls and 12 boys) in the other; in addition, two male PE teachers participated, who were also the main teacher for each class.

Ethical considerations

The school principals, teachers and students were informed of the study verbally and in writing, and the students' guardians were informed in writing. Written consent was obtained from the teachers, students and the students' guardians. This study was approved by the Norwegian Centre for Research Data (NSD-58504) and the Ethics Committee of the Department of Sport Science and Physical Education at the University of Agder.

Data creation

The process of data creation consisted of five stages (Appendix 1). The first dataset comprised written narratives of situations (peers, teachers and tasks) in PE that the grade 8 students liked the most and the least. The second dataset consisted of individual interviews of 12 students based on the first dataset to gather richer data (Patton, 2014), as well as an interview with their two PE teachers. The third data creation stage consisted of observation and video recordings of 14 PE lessons (eight in one class and six in the other). The fourth data creation stage comprised written narratives from all students conducted at the end of each PE lesson concerning situations they liked the most and the least in the PE lesson. More detailed information on these datasets is available elsewhere (Hovdal et al., 2020). The fifth dataset consisted of interviews with students (11 boys and eight girls) and their PE teacher from one class. The student interviews were related to their narratives created after the PE lessons, observations and video clips from the PE lessons. For example, the researcher asked, 'From this video clip, can you tell me about the passing of the ball?' The interviews with students were also related to the socio-cultural environment and cooperation in general. The interview with the PE teacher focused on the degree of cooperation between

students and their learning to cooperate in class, both in general and specifically in different team activities and situations. For example, the researcher asked, 'How do the students learn cooperation in this class?' and 'From this video clip, can you tell me about the cooperation?' The notion of social inclusion was later extracted from the interviews.

Follow-up questions were used to ensure that answers were sufficiently detailed (Rubin and Rubin, 2011). For example, when a student commented that he should pass the ball more often, the researcher could reply 'Why should you pass the ball more often?' or 'In which situations would you not pass the ball?'.

Data analysis

The interviews and video recordings were transcribed, and together with the written narratives and field notes, a thematic analysis was conducted (Braun and Clarke, 2006, 2019; Braun et al., 2016). The data were organised using NVivo 11 and analysed with the six basic steps outlined by Braun and Clarke (2006): (a) familiarising yourself with the data; (b) generating initial codes; (c) searching for themes; (d) reviewing themes; (e) defining and naming themes; and (f) producing the report. The transcripts and written narratives were read several times, in addition to viewing the video recordings, to glean an overall sense of the relevant data in this study (Braun and Clarke, 2006). Initial codes were generated systematically from all data sources (Appendix 2), and we looked for potential themes, which were then reviewed (Braun and Clarke, 2006). The processes of defining and naming the main themes (Appendix 2) were ongoing processes that overlapped with producing the report (Braun and Clarke 2006), for which we selected vivid, compelling examples that related back to the aims of the study and the literature (Clarke and Braun, 2006). To highlight the complexity of the students' experiences and learning, we include an example of one student (David) in the Results section. Appendix 2 illustrates how the themes were constructed from the data.

Creating the overarching theme

The creation of the overarching theme in this study – social inclusion and exclusion in team activities – arose from repeated readings and views of the interviews, narratives, field notes and video recordings (Creswell and Creswell, 2017). Our interest in the created overarching theme started after a student wrote in his first narrative that he did not like floorball because he did not feel included. We interviewed him to further explore his experience with this activity and situation (Rubin and Rubin, 2011). In the interview, he said that he felt that he was not included in floorball because his more skilful group members did not pass the ball to him; at the same time, he said that he might do the same (i.e. not pass the ball) in football, in which he said he was a much better player. Thus, we became interested in investigating inclusion in team activities. This interest was strengthened after the total of 453 narratives conducted after each PE lesson were analysed (Appendix 2). From these, 242 narratives consisted of situations that students liked in PE. Figure 1 quantifies the qualitative themes where students described positive situations from each observed and video-recorded PE lesson (Creswell and Creswell, 2017). The figure illustrates the themes about which students overall had the most positive narratives; in turn, this allowed us to investigate the overarching theme in greater depth through interviews (Rubin and Rubin, 2011) in the fifth data creation stage. The number of narratives within each theme is included in parentheses. As shown, the themes 'fun activity' (60) and 'team activities' (62) had the highest overall number of

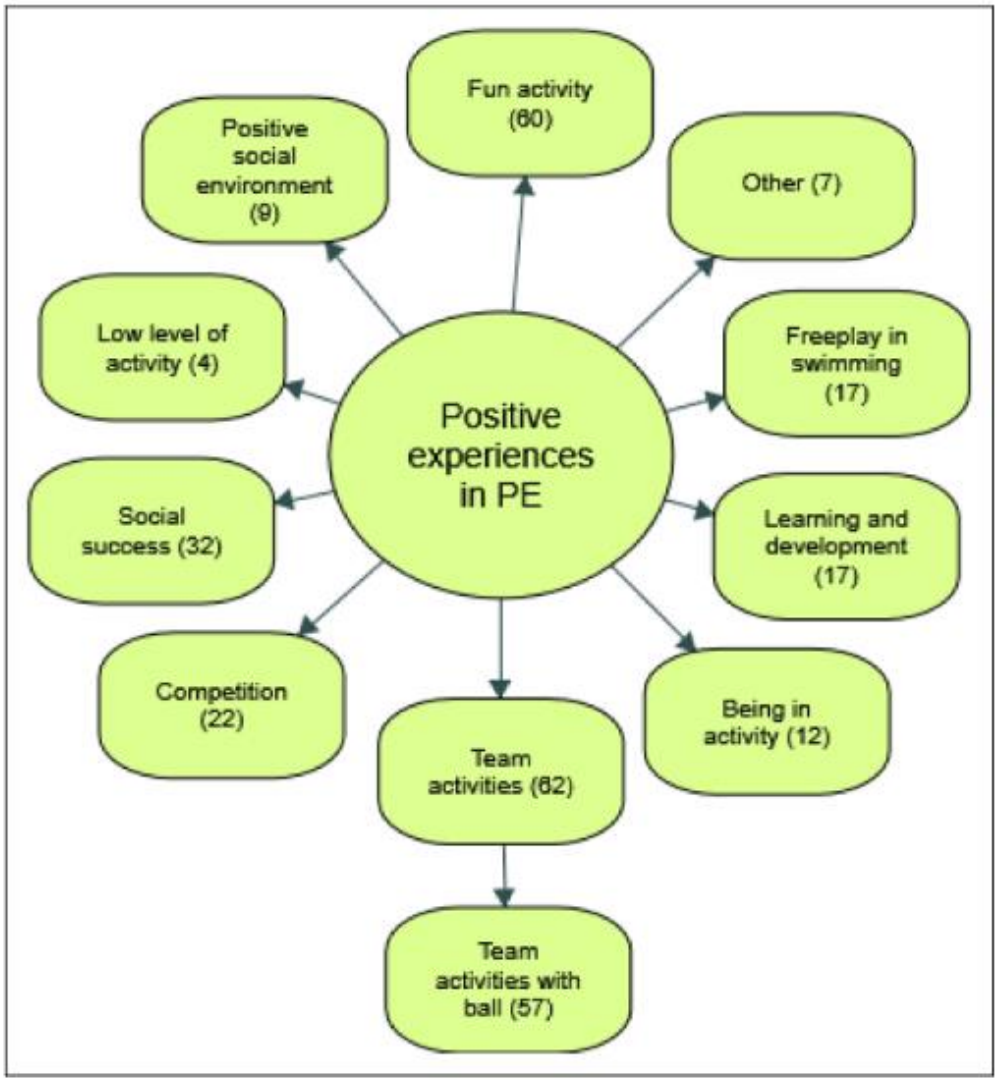


Figure 1. Themes created based on the students' narratives written after each PE lesson.

narratives. Within 'team activities', the subtheme 'team activities with ball' had the highest number of narratives (57).

Results

To understand the students' experiences and behaviour concerning social inclusion and social exclusion that we present first, we focus on the following themes: the positive feedback given in team activities, the paradox between students' experiences and actions of socially exclusive behaviour, and how social inclusion was learned in team activities.

Students' experiences of social inclusion and exclusion

The theme 'team activities with ball' had the highest number of positive narratives in PE lessons (Figure 1) and students were interviewed about this theme. Figure 2 presents students' experiences in team activities with a ball. They had experiences of social inclusion as 'cooperating and helping each other', 'passing the ball' and 'working together'. The students had experiences of social

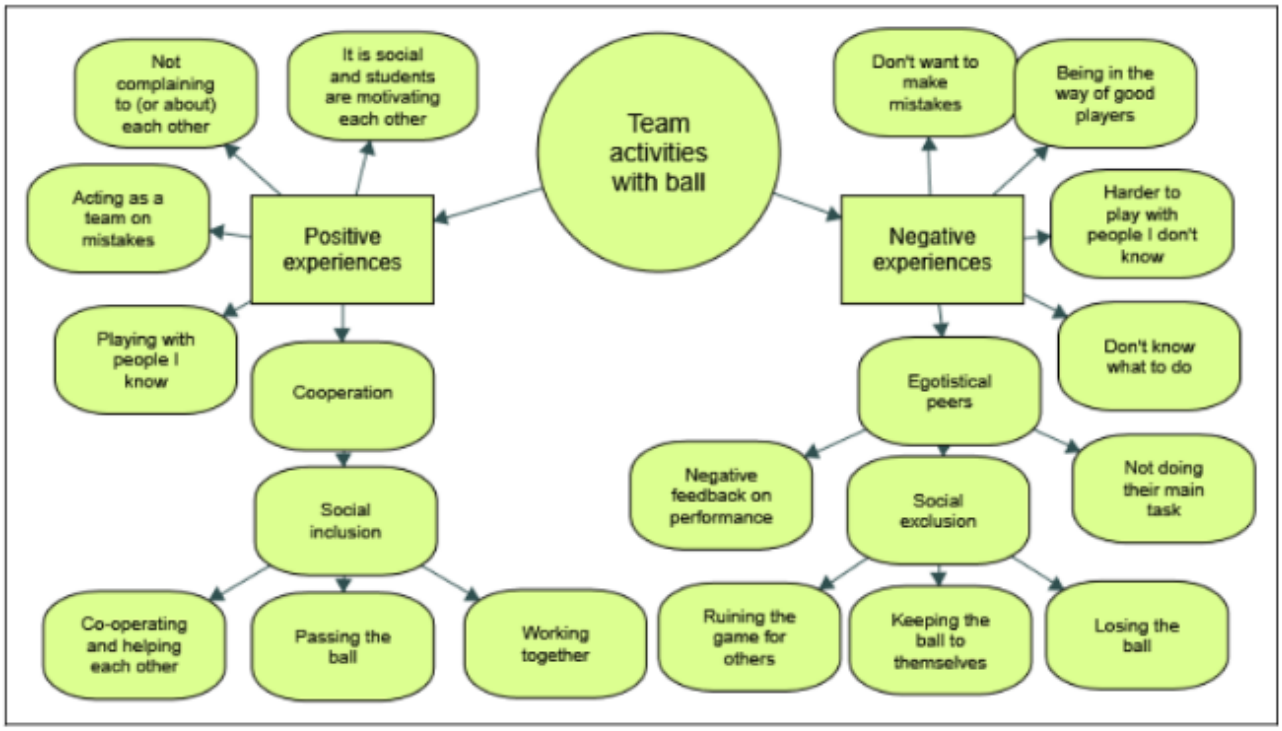


Figure 2. Themes created based on students' interviews (fifth dataset), which included video clips of situations in PE activities.

exclusion such as 'ruining the game for others', 'keeping the ball to themselves' and 'losing the ball'.

We investigated further whether the students' experiences of social exclusion were sufficiently important to warrant changes. In their interviews, students said that some peers were 'egotistical'; furthermore, such group members could make the activity 'more boring', 'it was annoying', 'they were less fun to play with', 'you might try less hard because you never got the ball', 'it was irritating that you tried to include others in activities you were better at, but others did not do the same in activities they were better at', and 'sometimes it was okay not to pass the ball, as long as it did not happen too much'. Hence, students seemed to have an incentive to tell others who were behaving in a socially exclusive manner to pass the ball more often. At the same time, socially exclusive behaviour might become normalised, as noted by Clara:

> We have, sort of, gotten used to it. Because it is the same [students who do not pass the ball]...

When the researcher asked about passing the ball in team activities, Ole answered:

> It is a difference between who is wanting the ball for themselves, and others, who do not want the ball, you notice a difference. But... that is not something one can do much about really.

Positive feedback in team activities

In their interviews, students responded that they received the most positive feedback in team activities, as expressed by Cassandra:

> It is most often when we are in teams. Because you are doing something good for the team, sort of.

The students appreciated the positive feedback and believed that they mainly received positive feedback during the activities when they did something 'good', as noted by June:

> Yes, I feel that. At least, if they score a goal or manage to win the ball, or something like that. Then they [the students] say something positive.

In the following section, we offer a concrete example of one student, David, to show how positive feedback could occur in a team activity. The students played the game of football on an indoor hard court the size of a handball court. The students were divided into three teams; while two teams played against each other, the third team watched. Several times when David got the ball, dribbled past an opponent or scored, his peers and the PE teacher shouted 'Good!', 'Wow!', or applauded. He scored six goals, but no one applauded the last two, although you still heard 'Come on, David!' during the game. After the PE lesson with the football activity, David wrote in his narrative that he liked scoring goals the best.

The paradox between students' experiences and actions of socially exclusive behaviour

The following section is based on all five data creation stages. David wrote in the first narrative that he did not like floorball because he felt that he was not included, and reported in the subsequent interview the following:

> There are several teams, and some [students] are better than others. Yes, and then they . . . well, those who play floorball [outside school] might be better than others, and maybe they want to do it themselves. So then, so then, there would not be so much play together.

David reasoned further that he himself tended not to pass the ball in football and concluded that he should and would pass the ball more often in the future:

> mm, I probably learned that when I play football, then I maybe should pass the ball more often myself. Not just playing with myself but play as a team.

David, thus, became aware that he gave the same kind of experience to others that he himself disliked. Therefore, we investigated during the observation of PE lessons whether David regulated his behaviour – as he said he would – concerning passing the ball. After a PE lesson with floorball, he wrote that he liked this team activity situation the best in the PE lesson because of the cooperation with one particular teammate. However, based on observation and video recordings, only his peer passed the ball to him, and not the other way around. David dribbled when he got the ball until he lost it or took a shot at a goal. When he was goalkeeper, he left his position as keeper to dribble past opponents to try to score.

In the second interview with David after the observation and video recordings, he was asked about cooperation in general. He said that he passed the ball more often in football now, since the first interview. When he was asked about the narrative in which he related he liked the cooperation between him and one particular teammate, he said that cooperation in the team was generally good. David said that he and his teammate passed the ball back and forth to each other, playing wall passes. He was asked whether the kind of situation would influence him to pass the ball or not:

Not for me, at least. I kind of pass the ball to everyone.

He elaborated noting that cooperation made the game better:

When we pass [the ball] to each other, it leads to scoring goals.

The researcher showed him a clip of the floorball competition activity and asked if this was the situation he was referring to in the narrative, which he confirmed. He was asked about the video clip:

Well, I saw that we had a good passing game.

Furthermore, he reported that he liked this floorball activity better than the floorball activity he mentioned in the first narrative and interview, where he felt he was not included. He liked both scoring goals and the cooperation, but he liked the cooperation the best. The video clip showed every situation when he got the ball in floorball and he did not pass the ball once. David was shown the video clip again and he was asked to note the cooperation. This time, he reported that he did not pass the ball once:

I did not count properly, but it was not that many [passes], hehe.

David had two explanations for this. First, he was not used to thinking about passing the ball during the activity, but he could think about it before the activity started; second, he said that he wanted to 'score goals himself'.

Learning social inclusion in team activities

The PE teacher said in his second interview (fifth data creation stage) that the class mostly talked about team activities (cooperation and social inclusion) before the lessons; based on observation, the teacher used an instructional method (external control) during the activities to get the students to pass the ball. This was later supported by interviews with the students, in which they said that the teacher could tell them to 'pass the ball' or there was a '[teacher] rule', such as they had to pass the ball to everyone on the team. The students also suggested that the teacher should state clearly at the start of the activity that players had to pass the ball and, furthermore, should remind the students to pass the ball during the activity.

The students reported in the interviews that they learned social inclusion and cooperation in team activities in the following ways: 'by playing the game', 'the teacher told them to cooperate or by having rules to pass the ball', 'by changing the teams', 'by passing the ball in pairs before the start of a game', and 'the teacher said that passing the ball more often would lead to getting better grades'. Based on observation and video recordings, only two of these means of learning social inclusion seemed to be of any importance. First, although some students had a lower skill level in passing the ball in the different ball activities, it was nevertheless sufficient for some cooperation with group members. Second, when the PE teacher told the students to pass the ball, they passed the ball more often in that particular activity, but not in the next. The researcher therefore asked Ole about how their team cooperated in a floorball activity:

> We do not plan anything, sort of . . .

Ole was then asked what he learned about cooperation:

> I don't think I learned anything that I didn't know, sort of. I think I knew most of it before [the activity].

In short, the students did not seem to learn anything explicit about social inclusion. David said in his interview that he was not used to thinking about including his group members during the activities. Overall, there seemed to be a need for students to learn social inclusion within the activities.

In one specific situation, the teacher tried to improve the boys' handball game (the activity was divided between the boys and the girls) by stopping the game and asking questions and giving information. On one of these occasions, one student was not paying attention and was playing with the ball, and others just seemed to be waiting to go on with the game, based on where they were looking and their lack of participation in the talk. One student, Birger, was asked about how he would remember information best from these talks:

> The teacher provides information, but [the students] also pay attention. The teacher gathers us in a half-circle and then we pay better attention than when we stand still on the court and focus on playing.

David noted that sometimes there was too much information:

> Because he [the PE teacher] said a bit much in a short time, I didn't catch everything.

The students said that although the PE teacher's talk helped them to play better, it was not much fun; there was too much explanation, so it was easy to lose focus because they just wanted to get on with the game, and some did not pay attention. One student mentioned that he learned more when the teacher asked questions, instead of just giving the answers, as recalled by Trond:

> I would have remembered it [the information] best if I had answered correctly . . . you remember it better when you give the right answer, instead of him [the PE teacher] telling you that you should play like this, and yeah, you will not get the same feeling, sort of. Then you just feel that you get an instruction [external control], 'this is how you do it'. Instead of him asking you, and let you do some of the work.

On the other hand, Trond did not want the teacher to ask questions if the teacher already had decided the answer:

> I remember it best when he just tells us. In that video clip, it was not like that. But many times, many students answer and a lot of it is wrong. And then it becomes like, okay. You get confused sort of, if you are not sure yourself. And people are giving a lot of answers and talking over each other. And the teacher gives us [the right answer] afterwards, but you have heard so many things that . . . you do not pay attention in the same way.

Furthermore, the students wanted their teacher to organise shorter team activities and have talks before and after the activities, and only make brief comments during the activity.

In summary, although students had the highest number of positive narratives in PE related to 'team activities with ball', they disliked when peers demonstrated exclusive behaviour in these activities. In team activities, the students could experience group members passing the ball, not passing the ball, not playing in their (correct) position, and a feeling of irritation when group members did not pass the ball, as well as enjoyment when scoring goals. Team activities could therefore provide both positive and negative experiences for the students. In the case of the exclusive behaviour of others, the students were motivated to speak up, but rarely did so because they did not think it would help. In contrast, the students could provide positive feedback when exclusive behaviour led to a successful outcome for the team and further showing exclusive behaviour themselves. The teacher could 'teach by telling' the students to pass the ball or by having rules, but such behaviour was not transferred to the next activity in which the teacher did not interfere in the students' passing of the ball. In situations where the teacher stopped the activity to teach students to cooperate, the students could lose concentration and not 'catch' everything the PE teacher said if he spoke too much; information was remembered best by students when the teacher asked questions without just one correct answer already decided.

Discussion

The aims of this study were to investigate students' experiences and learning concerning social inclusion in team activities and how the PE teacher facilitated the learning of social inclusion. To this end, we examined the social, contextual and pedagogical circumstances (Bailey et al., 2009) in PE activities. Our discussion focuses on the following three aspects: the paradox between the students' experiences and their behaviour, the PE teacher's approach to social inclusion, and how students might be taught social inclusion in team activities.

The paradox between the students' experiences and their behaviour

The findings revealed an apparent paradox in some of the students' behaviour. We discuss this paradox through the students' implicit and explicit goals (Warburton and Spray, 2017) because they influence the students' understanding of and behaviour in the world. The students' explicit goal of social inclusion seemed to be overruled by their implicit goal of receiving positive feedback within the activities (Warburton and Spray, 2017). For example, in football activities, the students applauded and gave positive feedback when peers successfully dribbled and scored through socially exclusive behaviour. Furthermore, the students did not, in general, speak up when they had experiences of their group members' socially exclusive behaviour, possibly because they did not think they could change this behaviour. Bandura (2012) noted that people are less likely to do something if they do not believe they can obtain the outcome they desire. Consequently, the students may say that cooperation and inclusion in a team are important, but during the activities, the social environment influences the students' goals (e.g. successful dribbling and scoring goals) towards what gives them a good feeling. Casey and Quennerstedt (2020: 1031) argue that the teacher should 'recognise that students have different ends-in-view when participating in cooperative learning activities'. As a result, it may be important to both reach a shared explicit goal before the activity (Casey and Quennerstedt, 2020) as well as work at the explicit goal throughout the activity.

The PE teacher's approach to social inclusion

The PE teacher is an important part of the social environment and the creation of the environment. In this study, the teacher used an instructional teaching style (external control) to tell students to pass the ball or by having a rule to pass the ball. The students wanted their teacher to tell their group members to pass the ball more often when some members behaved in a socially exclusive manner. Thus, it appears that the PE teacher's instructional teaching style (external control) accorded with what the students wanted. However, the pedagogical circumstance (Bailey et al., 2009) of 'teaching as telling' (Liebermann and Pointer Mace, 2008: 226) did not appear appropriate because students did not seem to learn to become socially inclusive in the activities. To extrapolate from Dewey's work on democracy and education (1966), although PE teachers may compel students to pass the ball by means of a rule, it will not change their disposition to not passing the ball. Hovdal et al. (2020) showed that handling behaviour issues through the teacher's external control (e.g. being very clear and nagging) had short-term effects, but not necessarily long-term effects, and further argue that learning in these situations was necessary. Thus, as indicated by Dewey (1966), there is a difference between passing the ball as a physical result through external control and passing the ball through intellectual endeavour. Therefore, the goal should be to include the students' disposition for social inclusion by developing within them an internal and persistent direction in the right way concerning social inclusion (Dewey, 1966). Dewey rejected any move to impose ultimate or external ends of education (Hildreth, 2011). Instead, he used the term 'ends-in-view', which 'keeps our attention on the ends of the particular task at hand and reminds us that ends are always provisional and changing throughout the course of educational experiences' (Hildreth, 2011: 34). If the students cannot anticipate the possible consequences of their behaviour and the teacher does not point these out, then it would be impossible for students to guide their actions intellectually (Dewey, 1966). Instead, their actions would be influenced by their (blind) desires (Dewey, 2015) or their implicit goals (Warburton and Spray, 2017), as the present study showed. In this case, increasing the students' autonomy (Sun et al., 2017) within the activity might reduce the degree of social inclusion in the teams.

One may argue that if the teacher used external control to make students pass the ball in all the activities, then it may lead to the habit of passing the ball. Nevertheless, it would still not become an intellectual action that might be transferred to other domains in life as a life skill (Dewey, 1966; Pierce et al., 2017). There is a difference between passing the ball through external control or habits and passing the ball through intellectual control based on the possible consequences of the action (Dewey, 1966). In this case, the goal of the teacher is to influence the students in a positive direction through intellectual behaviour based on the possible consequences of the students' behaviour (Dewey, 1966). Furthermore, through sharing the students' experiences in the activities and agreeing on rules and goals, it might be said that the students are also part of a social control (Casey and Quennerstedt, 2020; Dewey, 2015). Therefore, Dewey indicates the need for a balanced consideration of the individual and the social 'ends-in-view' of education (Hildreth, 2011).

Teaching social inclusion in team activities

Opstoel et al. (2020) and Dyson and Casey (2016) noted that simply participating in PE or grouping students together does not necessarily lead to positive outcomes, such as learning to socially include others. Teachers might be inspired by the elements of the CL model (Johnson and Johnson,

2009) for teaching students social inclusion, although we recognise that 'education is a complex endeavour and that education rarely functions in mechanistic ways, where a certain input or intervention will produce a certain outcome' (Quennerstedt, 2019: 613). Casey and Quennerstedt (2020) argue that there should not be one single notion of CL and included Dewey's notion of the importance of experience in education. We now discuss the students' 'real-life' experiences inspired by the five areas (elements) in the CL model (Johnson and Johnson, 2009), which might be important for learning social inclusion in team activities/cooperative activities, and to build on the discussion of Casey and Quennerstedt (2020).

The PE teacher and the students should agree on a shared explicit goal (Casey and Quennerstedt, 2020), which would be learned within and throughout the activity. The students might be motivated to share an explicit goal or a reality with others where the students perceive the same events in similar ways (Higgins, 2019) and verify with others what the right end or goal is, thereby making it meaningful and worthwhile to pursue (Cornwell et al., 2017). Based on the present study, we would emphasise the importance of learning throughout the activity. Learning to pass the ball through external control, which may lead to the habit of passing the ball, is not the same as understanding why one should pass the ball. However, learning that one should pass the ball through reflection (e.g. before the PE lesson or activity) does not necessarily lead to passing the ball, as shown in this study. Moreover, students should want to pass the ball within the activity due to the possible consequences for themselves and others (Dewey, 2015). Therefore, PE teachers should consider the behavioural (passing the ball), cognitive and social (understanding why one should pass the ball), and emotional aspects (wanting to pass the ball) of learning (Bailey et al., 2009).

In team activities, the students could experience group members passing the ball, not passing the ball, not playing in their (correct) position, and a feeling of irritation when group members did not pass the ball, as well as enjoyment when scoring goals. In sum, students had several different experiences in the activities. The teacher should use these experiences to create shared meanings and future experiences (Casey and Quennerstedt, 2020). In this way, the teacher would facilitate a discussion connecting the shared goal in the activity with the students' experiences. Experiences connected with, for example, social inclusion, could be reflected upon and the students and teacher should consider further actions to create a social environment that may lead to more and better learning of social inclusion and positive experiences. The role of the PE teacher during the activities is to analyse and observe the behaviour connected with the shared goal and to prepare important questions that may in turn lead to students learning of/in the situations. We see that this part of the process has similarities with group processing in the CL model (Johnson and Johnson, 2009). According to Dyson and Casey (2006: 6): 'Group Processing is best understood as a reflective, guided discussion that is student-centered, that is, guided by the students rather than driven by the teacher'. Both group processing and social skills are important parts of the learning (Johnson and Johnson, 2009).

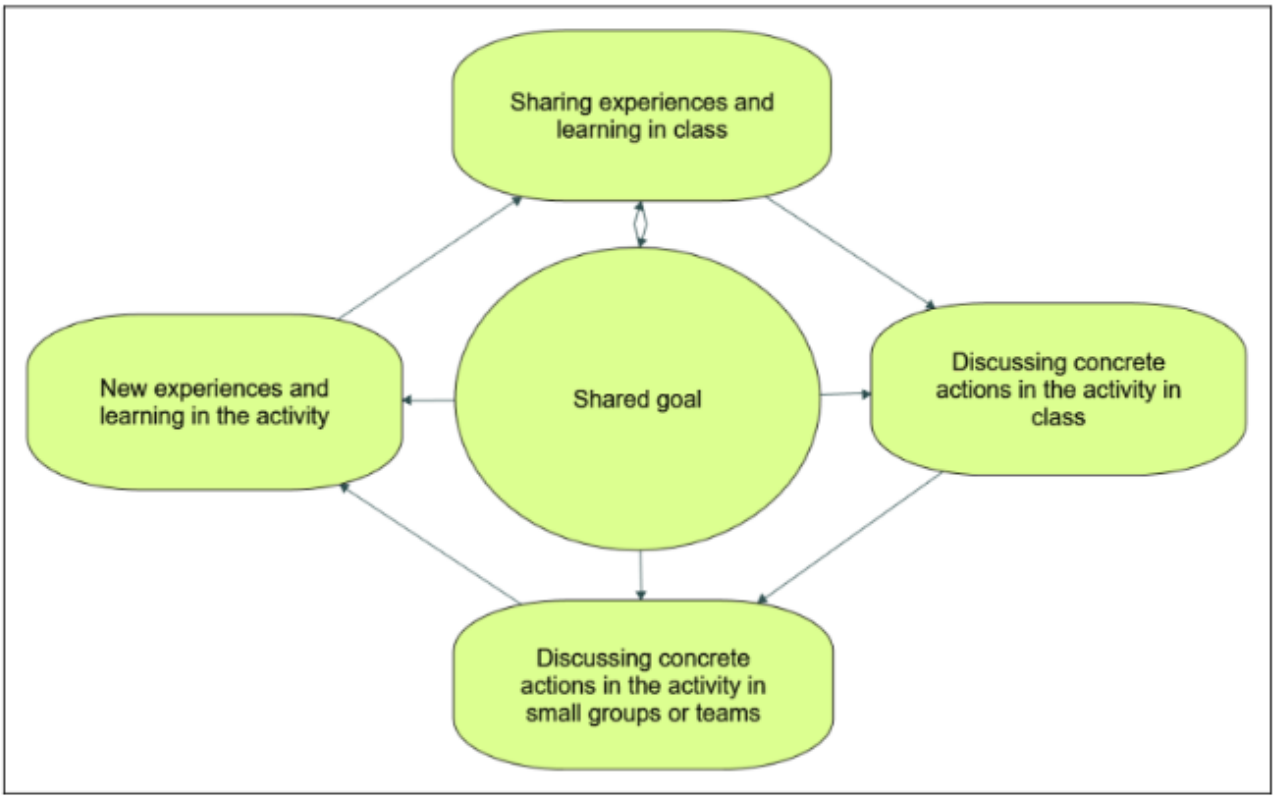
The teacher's role is to guide this discussion in a constructive direction through asking questions and providing students with relevant information (Dewey, 1966; Sutherland et al., 2019). One may argue that asking questions should be the first consideration, to provide students with the opportunity to share experiences that may lead to further experiences (Casey and Quennerstedt, 2020). Moreover, the teacher should guide the students in a constructive direction through these questions by asking more leading questions and/or giving information when appropriate. However, the teacher should be aware of the time spent on talking, because as noted in this study, the students disliked the teacher talking too much, as they would lose concentration and end up not listening, which reduces the learning experiences (Bailey et al., 2009; Beni et al., 2017).

Students in the present study seemed to be individually accountable when they successfully dribbled and/or scored goals but not when they did not pass the ball. Johnson and Johnson (2009) and others (e.g. Dyson and Casey, 2016) have argued that students should take responsibility for doing their part of the task for their group and learn something in the process, and that students should be able to rely on their group members doing their tasks in the group (positive interdependence). Following Dewey (2015) and the importance of students' experiences, the teacher must ask the individual student how they performed their part in the cooperation with group members, their experiences of this, and what else they could do. In case someone forgot to pass the ball or chose not to pass the ball (or for other reasons), as did David in this study, the teacher should explore how individual students might help their group members (to remember) to do this during the activity, thereby increasing the belief that this kind of behaviour can be affected and changed (Bandura, 2012). That said, students should be allowed to dribble the ball, as long as it does not become 'too much'; what counts as 'too much' would have to be based on the experiences of the students and the PE teacher and the aims of the activity.

To create an environment in which students help each other to do their part, it is necessary for them to feel physically and emotionally safe (Dyson and Casey, 2016). To this end, small groups might serve better in promoting the explicit role of encouraging and learning from each other (Dyson and Casey, 2016). In contrast to the conventional fixed number of players in sports, PE activities such as handball, football and floorball could instead have a varied number of group members. Taken together, the five elements of CL could provide a useful reflective framework for teachers when learning outcomes in team activities are focused on social inclusion (Dyson and Casey, 2016). For instance, are students encouraging and helping each other to pass the ball? ('promotive face-to-face interaction'); are students individually accountable when not passing the ball? ('individual accountability').

Model 1 illustrates how students 'learn through experiences and reflections'. The model is based on the present findings, in particular on the need to highlight the paradox between the students' expressed desired behaviour of others (social inclusion) and their actual behaviour, the group processing element in the CL model (Dyson and Casey, 2016; Johnson and Johnson, 2009), as well as Dewey's notion of experience and growth (Casey and Quennerstedt, 2020).

At the beginning of the activity, the PE teacher should facilitate a discussion on a shared goal, for example, 'social inclusion' in the activity. The students and teacher should share their experiences and learning, followed up by proposing concrete actions that can be taken in the activity to achieve the shared goal. This exercise should probably be conducted with students arranged in a half-circle around the PE teacher to increase the possibility of the students paying attention. Yet, this process should not be too time-consuming, otherwise students would lose concentration and focus. Thereafter, the students break into small groups/teams and decide how they are going to implement these concrete actions in the activity. The most 'time-consuming' part of the model should be the students' experiences and learning during the activity and the PE teacher's observation and analysis of the students' behaviour and implicit goals within the activity. After the activity, students again share their experiences and learning in the class guided by the teacher. This model reflects a circular method of learning social inclusion, or whatever is the chosen shared goal. When the teacher and students are satisfied with the social inclusion in the groups/teams, they agree upon a new shared goal. This learning process is not linear, and the class might later return to the initial shared goal of social inclusion in the team, if necessary. At the end of the PE lesson, the students and the teacher discuss how to apply their learning in PE (intellectually) in other situations in their everyday lives (Dyson and Casey, 2016; Sutherland



Model 1. 'Learning through experiences and reflections' illustrates how the shared explicit goal of classes/groups could influence each part of the cycle, from 'sharing experiences and learning in class' to achieving 'new experiences and learning in the activity'.

et al., 2019). By combining the concrete learning of social inclusion (or other skills) in situations in PE with the intellectual learning of how to be socially inclusive in other parts of their everyday life (e.g. in other school subjects, free time in school, in their leisure time activities, etc.), the learning might become an internalised part of students (Pierce et al., 2017; UDIR, 2019b).

Conclusion

Physical education can be a context in which students are 'educated through the physical', which includes the possibility to learn social inclusion as an important life skill and contributor to the greater good of society. A key goal in the Norwegian educational system is that such positive life skills become internalised in students. This study showed that students may have experiences of socially exclusive behaviour as performed by others, but they do not necessarily act to reduce this behaviour. On the contrary, they might unknowingly facilitate it by giving positive feedback if it leads to a successful outcome (e.g. scoring goals). Although students might dislike socially exclusive behaviour, they may act in a socially exclusive manner themselves. This indicates the need for teachers to observe and analyse social inclusion in team activities to elucidate students' implicit goals in the activity, and together with the students' experiences in the activity, to discuss and agree upon a common explicit goal. We conclude by suggesting that the five elements of CL (positive interdependence, promotive face-to-face interactions, individual accountability, social skills, and group processing) provide a useful reflective framework for teachers to address a variety of issues; for example, are students individually responsible for

passing the ball to others? Are students asking their peers to contribute? Furthermore, the learning of social inclusion must take place throughout the team activity and be based on the students' experiences, as argued by Dewey, and as shown by our model of 'learning through experiences and reflections'.

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Article III

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"It's Not Just About the Activity, It's Also About How the Activity is Facilitated": Investigating Students' Experiences in Two Competitive Situations in Physical Education

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ABSTRACT

Research in the Scandinavian school context has indicated that physical education (PE) is dominated by activities and values from a sports discourse. The main aim of this study was to explore students' experiences of two competitive activities provided by the teacher. The participants were 49 students (13–15 years old) and their two teachers from two secondary schools in Norway. Methods included written narratives, interviews, observation, and video recordings of PE lessons. Data were thematically analysed. Results showed that the teacher-facilitated one competitive activity with the aim of winning and another activity with the aim of educating the students. The teacher's facilitation of the activities influenced the students' experiences, goals, and effort in these activities. The study shows that it is important that teachers have clear learning outcomes for lessons and make students aware of those learning outcomes, and that students find the lessons useful in their everyday lives.

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Introduction

Physical education (PE) in Norway is influenced by a sports discourse (Aasland et al., 2020; Erdvik, 2020). The logic and values of competition in sports, such as high normative performance and test scores, may influence how competitions are perceived by the teacher and students and how the teacher presents competitive activities in PE lessons (Aasland et al., 2020; Aggerholm et al., 2018; Erdvik, 2020; Lòpez-Pastor et al., 2013). However, the degree of influence from the logic and values of sports in PE may differ. Competitive activities in PE may be presented similarly to the way they are presented in actual sports but may also "look-like-competition" inspired by sports (Erdvik, 2020; Larsson & Karlefors, 2015; Ward & Quennerstedt, 2016). Depending on how the competitive activities are presented, being competent in PE may be based upon students' performance and effort in competitive activities and physical tests (e.g., Aasland et al., 2020). Therefore, the intentions behind competitive activities may differ from the intended meaning and aims of competition in PE. According to Hovdal et al. (2020, 2021), Dewey (2015) and the Norwegian education programme (UDIR, 2019a), activities in PE, including competitive activities, should facilitate experiences and learning that are useful for society and the students within the society. We, therefore, investigated the consequences of the way competitive activities are facilitated in PE by considering students' experiences, goals, and effort. In the following, we present research on experiences of competition in PE.

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Research on PE in Norway indicates that most students appreciate the subject (Moen et al., 2018; Säfvenbom et al., 2015). However, the logic derived from competitive sports in PE lessons seems to influence those students that participate in sports in their leisure time to enjoy the subject more than students who do not (Säfvenbom et al., 2015). Providing competition in PE may lead to either positive or negative meaningful experiences for students (Beni et al., 2017). It is, therefore, understandable that 43% of PE students in Säfvenbom et al.'s (2015) study reported that they would like the subject to be taught differently. Students vary in whether they like PE, in general, or competitions in particular, and whether they find competition in PE to be useful or meaningful (Beni et al., 2017; Erdvik, 2020; Munk, 2017; Säfvenbom et al., 2015; Walseth et al., 2017). Experiences of competition that are ambivalent may hinder the student's potential for personal development and learning in the subject (Erdvik, 2020; Nyberg & Larsson, 2014; Redelius et al., 2009; Wilkinson et al., 2013). While the studies mentioned (e.g., Aasland et al., 2020; Erdvik, 2020) have indicated that competitive activities in PE are influenced by sports, they have not focused on how the activities were taught or whether there may be better ways to facilitate competitive activities in PE. Redelius and Larsson (2010) indicated that PE teachers have focused mainly on traditional competitive sports as teaching materials and activities. For instance, pre-service teachers in Norway expected and were more interested in learning multiple games than in learning the nature of teaching in PE (Hordvik et al., 2020), which may place their focus on the activity itself, rather than what ought to be taught and what students are expected to learn (Redelius & Larsson, 2010). Bernstein et al. (2011) stated that competitive activities should be part of a positive learning context where the created atmosphere should focus on learning, rather than certain outcomes. In this sense, the presentation of competitive activities in PE should be different from the presentation of competition or "looks-like competition" in sports (Larsson & Karlefors, 2015; Ward & Quennerstedt, 2016).

The presentation of competition should be in accordance with the Norwegian education programme, which states that "students and apprentices shall develop knowledge, competence, and attitudes for mastering their lives and to participate in work and community in the society" (UDIR, 2019a, p. 3). The Norwegian PE curriculum emphasizes effort as an important competence goal that should be learned in PE: "Effort in PE includes students trying to solve challenges with persistence and without giving up, demonstrating independence, challenging one's physical capacity and cooperating with others" (UDIR, 2019b, p. 8). Providing effort in competitive activities based on the competitive sports values of winning and social comparison are, therefore, not the same as the educational values of attitudes and competence for students to master their lives (Aasland et al., 2020; Erdvik, 2020; UDIR, 2019a). At present, little is known about how teachers present and teach competitive activities in PE in real-life situations and how students perceive these activities. To gain such an understanding, one needs to consider PE activities as open, social and complex systems, and the investigation should take place in actual situations (Dewey & Nagel, 1986; Hovdal et al, 2020, 2021; Ovens et al., 2013; Postholm, 2013).

Drawing on Dewey (2015), one must consider the students' experiences (and learning) in competitive situations. Dewey (2015) stated that schools should be "one of education of, by, and for experiences" (p. 29). These experiences (and learning) should, therefore, be relevant for the students themselves and the society, and the activities should be facilitated by the teacher. Hovdal et al., (2021) introduced a model called "learning through experiences and reflection". The model considers Dewey's (2015) educational perspective, using the starting point of students' experiences and further work on a shared goal that is of relevance for the students themselves and for the society (Hovdal et al., 2021; Dewey, 2015). In short, the circular model consists of the teacher facilitating a discussion in group/class on a shared goal. Thereafter, the students and the teacher share their experiences and learning relevant to the decided goal, followed up by proposing concrete actions to achieve the goal. If it is a team activity, the students break into small groups and decide how to implement such actions into the activity. If it is not a team game, then the students should probably reflect about how to use concrete actions themselves in the activity (the article does not mention this). After the activity, the group/class once again meet and share their experiences and

learning. Based on these experiences and learning, the students and teacher continue with the same goal or change it; therefore, the process is circular (Hovdal et al., 2021). Hence, the students' experiences and learning in competition in PE is influenced by how the teacher presents and facilitates the competitive activities.

In this paper, we look at how the implementation of competition from a sports discourse, or "looks-like-competition" from sports, may influence students' experiences and goals toward social comparison, and how the implementation of competition may influence students' experiences and goals towards developing skills and attitudes that may be useful to them in society. Students who focus on social comparison have been considered to have a fixed mindset, whereas students who focus on learning and development have been considered to have a growth mindset (Dweck, 2019). The growth mindset provides the best opportunities to help students' personal development and lifelong learning (Dweck, 2019; Warburton & Spray, 2017). One of the main reasons for this is that students with a growth mindset may look at obstacles as opportunities for learning and growing, which motivates them to maintain or increase their effort (Dweck, 2019). Students with a fixed mindset may see obstacles as having the potential to make them look bad in front of others and thus, may avoid or reduce their effort (Dweck, 2019) as a self-handicapping strategy or a hiding technique (Coudevylle et al., 2020; Lyngstad et al., 2016; Ommundsen, 2001, 2004). Further, the use of self-handicapping strategies and hiding techniques may depend on the contextual situation (Lyngstad et al., 2016). By looking at situations in PE as open, social and complex systems, students' mindsets are influenced by how the teacher facilitates the activities (Hovdal et al., 2020; Dweck, 2019), such as whether they focus on social comparison and winning, or on learning and development (Dweck, 2019). If the teacher's facilitation focuses on social comparison and winning, one may expect the teacher to provide opportunities for students to see how they perform in relation to others and obtain positive feedback on social success. If the teacher's focus is on learning and development, one may expect the teacher to provide opportunities for learning and development and obtain positive feedback on development and learning strategies (Dweck, 2019; Yeager & Dweck, 2012).

To sum up, the facilitation of competitive activities and testing in PE may draw on logic and values from competition in sports, which may lead to positive and negative experiences for the students and further influence them towards a fixed mindset. The attitudes and values from a fixed mindset are not constructive for students learning to master their lives in society and are, therefore, inconsistent with the Norwegian education programme. In the present study, we investigated students' experiences and goals in competitive activities in general, and in two competitive activities in particular. One competitive activity reflected competitions in general in a class, and focused mainly on winning, while the other competitive activity focused mainly on learning and development. The aims of this study were twofold: (1) to investigate students' experiences and goals in competitive situations; and (2) to investigate students' experiences and goals in one competitive situation where the teacher focused on winning and one competitive situation where the teacher focused on learning and development.

Methods

The present study was a part of a larger research project investigating experiences and learning in PE (Hovdal et al., 2020, 2021). The study was based on Rorty's (1982) philosophical pragmatism and pragmatist methodology (Allmark & Machaczek, 2018; Feilzer, 2010; Morgan, 2007). Pragmatism was chosen because its starting point is from human purpose and its endpoint is whatever behoves us to believe will best serve that purpose (Allmark & Machaczek, 2018). Dewey (1938) stated that "any problem of scientific inquiry that does not grow out of actual (or 'practical') social conditions is factitious; it is arbitrarily set by the inquirer instead of being objectively produced and controlled" (p. 499). Dewey further argued that social science must be in direct relation to the field, whereas in physics, one may use laboratories, where everything is controlled (Delanty

& Strydom, 2003; Dewey, 1938). This suggests that knowledge from social science should grow out of the field, be acquired by controlled observation and exist in actual situations (Dewey, 1938).

In this study, a variant of convergent design and triangulation of multiple methods was used (Abdalla et al., 2018; Creswell, 2014). To enable the various elements to complement each other and to reduce the limitations of each of the single data creation methods, the data creation consisted of a triangulation of written narratives, observations, video recordings and interviews (Appendix). The number of interviews and observations was chosen to ensure that sufficient data were available to understand students' experiences in the situations (Braun & Clarke, 2019). The participants and the researcher spoke the same language (Norwegian). The quotations in the Results section have been translated into English. The translation of the quotations was undertaken with the support of a professional translator and checked for the original intended meanings (Van Nes et al., 2010).

Participants

The participants (13–15 years old) came from two classes from two secondary schools located in the south of Norway. The study started at the end of the students' eighth-grade year and lasted until the end of their ninth-grade year. In total, there were 49 students (16 boys and 8 girls in one class, 12 boys and 13 girls in the other class) and their two male PE teachers, who were also in charge of the students' respective school classes. The follow-up interviews in the fifth data creation stage (see Data Creation section and Appendix) consisted of one class (12 boys and 13 girls) and their PE teacher, because of the importance of context when investigating socially situated situations (O'Brien & Battista, 2020).

Ethical Considerations

The schools' principals, teachers and students were informed of the study verbally and in writing, and the students' guardians were informed in writing. Written consent was obtained from the teachers, students and the students' guardians. The participants were ensured confidentiality and anonymity (using code sheets separated from the written narratives and anonymous interviews). The video recordings were stored on an external hard drive. This study was approved by the Norwegian Centre for Research Data (NSD-58504) and the Ethics Committee of the Faculty of Health and Sport Science at the University of Agder.

Data Creation

The data creation process consisted of five stages (see Appendix). The first dataset consisted of written narratives at the end of the students' eighth-grade year regarding situations (with peers, teachers and tasks) in PE that the students liked the most and least. The second dataset consisted of individual interviews with 12 students and their two PE teachers. These students were selected to facilitate richer data based on the themes created from the first dataset (Patton, 2014). The third data creation stage consisted of observation and video recordings of 14 PE lessons (eight in one class and six in the other). The fourth data creation stage consisted of written narratives from all the students, conducted at the end of each PE lesson, concerning the situations they liked the most and the least in the PE lesson. The first four datasets provided the foundation for the fifth data creation stage (see "Creating the Overarching Theme" section below). The fifth dataset consisted of interviews with 19 students from one class and their PE teacher. The follow-up interviews in the fifth data creation stage focused on the students' experiences and goals in different (competitive) situations in PE and the teacher's experiences in and reasons for the facilitation of different competitive situations. The main dataset in this article consisted of the observation/video recording from the third data creation stage, students' narratives from the fourth data creation stage and the interviews of the students and teacher in the fifth data creation stage.

Data Analysis

The interviews and video recordings were transcribed into written text, and together with the written narratives and field notes, were used to conduct thematic analysis (Braun & Clarke, 2019). The data were analysed bottom-up using the six basic steps outlined by Braun and Clarke (2006): (1) Familiarizing yourself with the data; (2) Generating initial codes; (3) Searching for themes; (4) Reviewing themes; (5) Defining and naming themes; and (6) Producing the report. The analysis of the narratives, interviews and observation/video recordings were on a semantic and/or latent level (Braun & Clarke, 2019). As shown in Table 1, one may see an analysis on the semantic level of the data creation under the category "Sub-theme", and an analysis on the latent level of the data creation under the category "Main theme". The main themes and the sub-themes each provided information on different levels of the overarching theme of "competitive situations in PE". Therefore, the Results section presents competitive situations in PE in general, and in two specific contrasting competitive situations, to address the aims of the study. Consequently, the main themes and sub-themes will be baked into the result section. In the following section, we show how the overarching theme was created. Table 1 provides an example of how multiple methods were used to create the main themes and sub-themes. Table 2 shows the resulting main themes and sub-themes.

Creating the Overarching Theme

The creation of the overarching theme in this study, competitive situations in PE, came from repeated readings and viewings of the interviews, narratives, field notes and video recordings (Creswell & Creswell, 2017). Based on the first written narratives (first dataset), the students did not like "competition" and "testing and normative pressure". The teacher said in his first interview that he could use competitions as a way of motivating the students in PE. In the observation and video recordings (third data creation stage), the researcher (main author) noticed students giving up and "not trying" in the wrestling activity. Students were not observed giving up in the running test activity. Students' written narratives about the wrestling and running test activities (fourth dataset) indicated differences in whether they liked the activities. The students liked or disliked wrestling based on their performance in relation to others. By contrast, students liked or disliked the running test based on their personal improvement. In other words, the goals in the wrestling activity were related to normative success, while those in the running test activity were related to their improvement. This led to an interest in investigating these activities further in the fifth data creation stage. The main findings in this paper are derived from the students' narratives in the fourth dataset, which led to the use of relevant clips from the video recordings (third dataset) and further interviews of the students and the teacher (general questions and questions based on the video clips) for the fifth data creation stage.

Table 1. Creation of main theme from third, fourth and fifth datasets.

Data	Main theme	Subtheme
(1) Observation/video recordings/field notes: Students are wrestling. Most students put in a high level of effort, while some seem to make less effort. (2) Written narrative of Charlie: I liked wrestling the least in the lesson, because I suck at it. 2.1. Interview with Charlie: I: What do you think about the wrestling? Charlie: There were not that many [who "tried"], or they knew they would lose. I: What do you think about that? Charlie: I think it is fine if you know that you will lose. Then you do not need to try as much as you can. 2.2. Interview with teacher: Some of the students do not get motivated at all, and almost leave the mat, on purpose.	Focus on normative success	Reduced effort if losing

Table 2. Overview of the main and sub-themes in this study (from third, fourth, and fifth datasets).

Sub-themes	Main themes
(1) Pressure to perform	Focus on improvement
(2) Goal of improvement	
(3) Maintain effort	
(1) Goal of winning	Focus on normative success
(2) Goal of not losing	
(3) Goal of performing at best	
(4) Stressed and uncomfortable	
(5) Pressure to win	
(6) Poor relative performance	
(7) Increased effort to win	
(8) Reduced effort if losing	
(9) Give up if losing	

Results

In this section, we first present the students' experiences of competition through their written narratives which were conducted at the end of each PE lesson, and show their experiences of competition in general. We then present how the teacher provided the situational contexts of two competitive activities and the students' experiences of these activities.

Students' Experiences of Competition in PE in General

Figure 1 (below) shows the quantification of qualitative themes (Creswell & Creswell, 2017) and presents the students' narratives written after each of the 14 PE lessons (fourth data creation stage). The number of narratives within each theme is shown in parentheses. Situations in "Competition" provided both negative and positive experiences in PE. While the themes "Losing" and "Social success in activities" (such as winning) refer to the results of a competition, the theme "Competition" consisted of experiences within competitions and is slightly more diverse (see Table 3). We, therefore, interviewed the students further about competition in general and within the context of their PE lessons.

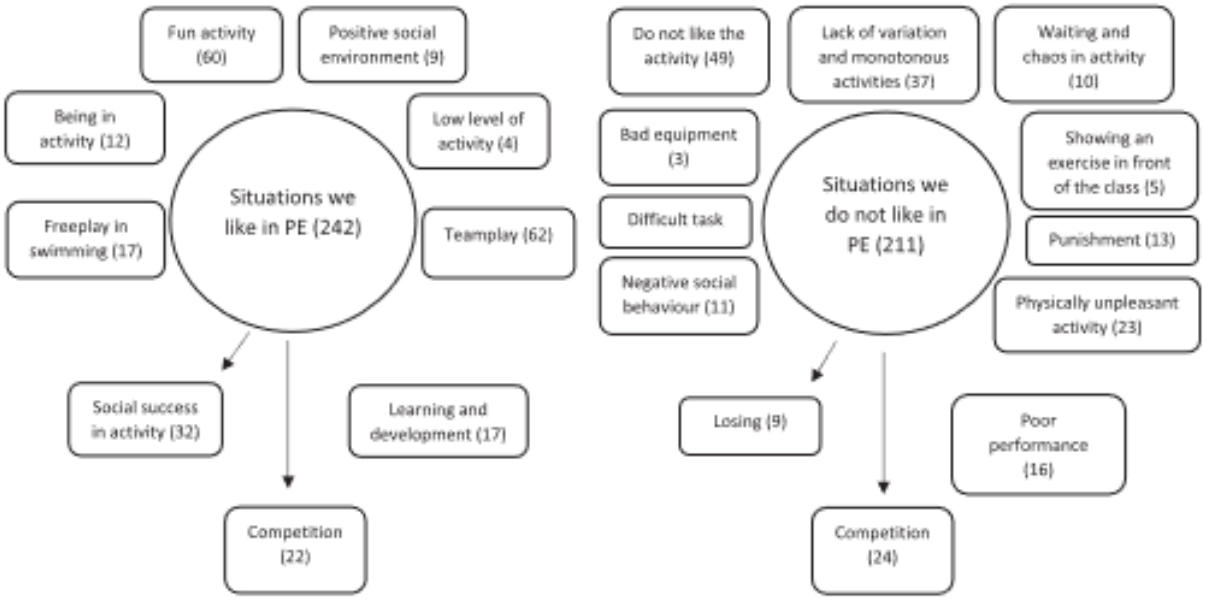

Figure 1. The themes created from the students' narratives written at the end of each PE lesson. The full model is provided for transparency of the resulting themes.

Table 3. Illustration of narratives within the theme competition in Figure 1 (fourth dataset).

Narratives	Main themes
(1) I liked the game where we were turning around the boards. I thought it was fun because it was a competition. (2) I liked floorball the best. Because I love playing matches and competing. (3) I liked the wrestling the best because I could see how strong I was. It was also challenging to wrestle with others, so that was the most fun.	Positive experiences of competition
(1) I did not like the relays, because I do not like competition, and it is stressful. (2) I did not like the biathlete thing, because I got dizzy and felt pressure to perform well. (3) I did not like the last match in football, because I felt that I was just in the way.	Negative experiences of competition

The students expressed in their interviews that activities in PE often ended up as a competition. If the activities were not competitive, then the students sometimes perceived them as less important and reduced their effort, as indicated by Ole:

> I feel that they do not care as much. Even though the competition is not important. If we are running, then we are not doing what we should be doing exactly. We are running, but not as well as if it had been a competition … I feel that at least my effort and what I am doing becomes better when it is a competition.

The students could further perceive their competence in relation to others in competitions. According to Victoria, not mastering a team running competition could mean that one was not good at it, ran slowly or did not pay attention. She was asked about what it would mean to be running slowly and said it was in relation to others: "If you are running slow and they (other students) catch up with you, then the team loses". The students could also reduce their effort in competitions if they believed they would lose. Sara expressed it in this way: "Then I do nothing. I do not think really. I do not really think that much about it. I just thought that 'Oh, then I just don't care' [about trying], ha-ha". These comments were consistent with the observation and video recordings. The goal with the competitions was winning or not losing, as indicated by Stefan:

> To win as much as possible—I did not have a goal of winning the whole competition, but to win as much as possible … The goal is to win every match without losing, and to end up in the final and win it. To become the best.

To sum up, competitions could provide both positive and negative experiences for the students and lead to both an increase and a decrease in effort. In the following, we present two competitive situations: one in which the teacher influenced the context by focusing on winning and effort, and another in which the teacher influenced the context by focusing on learning, improvement and effort. These two situations were experienced differently by the students regarding the competitive aspect of the situations.

Experiences of the Wrestling Situation

Wrestling was one of the activities that became competitive in the PE lessons. The wrestling activity was organized so that every student was wrestling at the same time, one student against another. The groups (of two) were wrestling on their own mats, which were placed in a circle around the teacher who stood in the middle. One round lasted until one of the students had won and all groups had to be finished before the next round started. If one pair tied, then they wrestled again while the other students waited and watched. After the first round, the winners went to the next mat, and the losers waited on the mat for the next opponent. After a few rounds, the teacher asked whether anyone had not lost a match yet, and students would raise their hands if they had not. At the end of the wrestling activity, they sometimes had a final match, where two students wrestled and everyone else watched. The teacher gave the following reason for organizing the final: "I think it is because, sometimes, to give recognition to those who, yes, are simply good at it. I think it is a nice thing to do". In his last interview, the teacher explained why he used competition as motivation:

> It is a bit difficult to answer really. It is to trigger the competitive instinct, to make it easier to take the "last step", to push oneself. Having a goal or something to reach for. It is normally important for motivation, I think …

The teacher used competition as motivation because he himself also became motivated by competition:

> Also, I often become triggered if there is some competition. It does not need to be something big, it can be a quiz, Ludo [a board game] or anything. At least, I get triggered by the competition aspect. And I think that is something normal to be [triggered], but to different degrees.

The teacher was further asked about how he motivated the students in the wrestling activity:

> Mmmm … er … yes, how do I motivate them? I do not know. I do not always think about how I do it. I can [motivate] during, like in the moment. Then I can, like, cheer them on, and [say] "come on, you can take him". Or try to get them geared up. Some of the students do not get motivated at all, and almost leave the mat, on purpose. I see that. And I do not put a lot of focus on it, if they do not want to, so … Mostly, I think it works well for the vast majority, and most of them do their best. At least, it seems that way to me.

After a PE lesson that ended with a wrestling activity, the teacher came to the researcher (main author) and said that it seemed that the students liked this activity. However, the student narratives indicated that the students were more ambivalent. There were 19 students in this PE lesson. Different activities were completed, with handball as the main activity, based on the length of time spent. Two students liked the wrestling activity the best in the PE lesson and seven students liked the wrestling activity the least. The students were then interviewed about two wrestling activities they had completed in the PE lessons. The students who disliked these activities said it was because they were "stressful and uncomfortable", there was "pressure to win" and they had "poor performance compared with others". One student had goals of "winning", "not losing" and "doing what the teacher said". This seemed to be related to the pressure of winning, as expressed by Sara: "It is the competitive instinct. I feel that I almost must win. Yes, I think that is the problem".

The students who liked the wrestling activities said that this was because they increased their effort because they had wanted to win, and that "it was fun". These students expressed their goals as "don't know", "making an effort", "winning" and "performing as well as possible". In contrast to the students who found the pressure to win to be a negative experience, these students seemed to enjoy the pressure, as expressed by Clara: "I am getting a little geared up. I have a bit of a competitive instinct".

The students' answers indicated that their goals were mainly winning and not losing, and this could lead to positive and negative experiences.

Experiences of the Running Test Situation

The running test was one activity that did not seem to become competitive in the PE lessons. The students had completed a pre-running test activity before the start of the observation and video recordings in this study. The students had the opportunity to run one to three laps, where one lap was circa 1 kilometre. The students had to work out which length suited them best and then run that number of laps in their post-test. The students' post-test activity was observed, and a video recording was made by the researcher (main author). In the post-test, the students ran in groups based on their number of laps. In a PE lesson before the post-test, the teacher reminded the students of the importance of training to improve their time. At the post-test, the teacher focused again on their improvement. The teacher said the students' times aloud at the finish line but did not focus on the normative success. His feedback was related to their improvement and effort. In the following PE lesson, the students answered questions on their computer regarding the running test activity and their improvement or lack thereof as a part of the running test activity. For example, they indicated whether they had improved their time and what the reasons might be. The teacher explained the goal of the running test activity as follows:

> There are perhaps several goals, but we have changed the direction over recent years towards the idea that they are going to take a test. Then [they] train, or at least have the opportunity for a period of training, and then take a new test. Thereafter, they reflect on their improvement or deterioration. That is really the main goal. A reflection. What influenced this performance?

Altogether, it seemed that the running test activity focused on the students' improvement. The teacher was, therefore, asked whether the focus on the students' personal improvement was intended (in contrast to the "Social success" mentioned in the wrestling activity):

> Yes, it is. We have worked on it. That for the running test activity, it is about yourself and your achievement and your improvement. We do not run for a top three, really. And I do not have the impression that they [students] have been that focused on how fast the others ran. Some of them might have some internal competition, maybe. But [if they do], it is likely to be two boys who are at the same level and use it to push each other, which I think is positive. But they are not that occupied with what everyone else did, or what time he or she ran in. It is just positive. "Wow, you did so well". But yes, the goal in that situation is that they should be concerned with themselves. And their improvement. That is quite clear.

The teacher was asked about how he motivated the students in the running test activity:

> I say that if you are going to do a test, then you have to do your very best. If you do not, then the test will not be worth much. And the goal for taking a test is to measure whether your training is working. That is the reason you are testing. I do it myself in my training, in my spare time. Comparing where I am this year, to [where I was] last year, for example. If the training worked well or if I need to do something different. So, the main goal is to teach them that. And in the longer term, maybe they can design and conduct their own test. In other words, trying to create an understanding for why it is important to test, and why we do it.

The students had their post-test in one PE lesson, which directed their narratives towards the running test activity. The students had positive experiences and narratives of the following: the warm-up, that they were cheering each other on, that it was good weather for running, that when they had finished the test run, they felt they had made a good effort and that they improved their time. Their negative experiences and narratives were as follows: it was cold, the running itself, there was not enough time for the test, the teacher said their time aloud at the finish line, the run led to a sore throat, peers were watching when they ran, there was pressure to perform, they did not perform as well as they had hoped and they experienced competition and stress. Overall, the students did not seem to be as occupied with their performance in relation to others, or to indicate that they had "given up", as they had in the wrestling activity. However, two students said that they did not like it because of the "competition and stress". These narratives seemed to include the students' performance in relation to others. Sara said the running test activity was stressful: "It is because we are running with others. That I am running with my friends. I want to beat them, sort of". Cassandra also said it was stressful:

> I do not know, or anything [about the running test being stressful]. The running test activity is talked about a lot—what did you get—and I heard it on the video clip straight away: "what did you get?" immediately after one student passed the finish line. And I think that is the wrong way of looking at it.

Cassandra said that she experienced pressure from talking about the performance and in relation to improving her time. She was, therefore, asked what she thought put her under the most pressure and answered: "Maybe that you have to run faster, or at least run equal to your previous time".

Overall, the running test activity could be stressful for the students, but not in relation to comparing their performances to others (except for Sara and to some degree Cassandra). This might be further illustrated by David, who was the fastest runner in a group that ran three laps. In his previous narratives, David often wrote that he liked winning and scoring goals the best in the PE lessons. By contrast, after the running test activity, he expressed in his narrative that: "I liked it best when I beat my own time by a minute. It shows that the extra training I put in worked". In the interview, he expressed that his goal in this activity was: "Getting better, improvement".

Discussion

Based on the aims of this study and our findings, we discuss how a sports discourse might influence competitions in PE, how competitions could be facilitated in PE and the influence on students' experiences, goals and effort in the activities. We further consider the possible reasons for students providing effort in the wrestling versus the running test situation. We end the Discussion section by discussing the teacher's influence on the students' learning outcomes.

Competitive Activities in PE and Their Complexity

Students might have positive and negative experiences of PE in general, and in competition in particular, and may find competition to be more or less meaningful (Beni et al., 2017; Erdvik, 2020; Moen et al., 2018; Munk, 2017; Säfvenbom et al., 2015; Walseth et al., 2017). The present study showed the complexity of students' experiences in different competitive activities. The findings suggest that most of the competitions in this study were based on a sports discourse rather than on being educative (Aasland et al., 2020; Erdvik, 2020; Gard et al., 2012; Munk, 2017). For instance, in the wrestling activity, giving the two students who had not lost a single match a final round, because the teacher wanted to "give recognition to those who, yes, are simply good at it", would indicate that winning equates to being good at an activity in PE. The teachers' aims for most competitive activities were to motivate students through social comparison and elicit a high level of effort. One may argue that motivating students through social comparison is a legacy from sports ideologies, in contrast to motivating students for learning and development through competitive activities. The findings indicate that the teacher focused mainly on students providing a high level of effort as a goal for physical exertion, in contrast to maintaining or increasing effort when facing obstacles. The main differences between the mentioned goals (winning versus learning, and a high level of effort in physical exertion versus a high level of effort as a way to learn and develop) is an important aspect, and the goals of maintaining or increasing effort under adversity are important for the students' learning and development in ways that are useful to them in society, as well as for society itself (Dweck, 2019; UDIR, 2019a). In this case, we presented two activities to illustrate differences in the facilitation of activities in PE. One competitive situation, wrestling, was facilitated with the logic and values of sports, and another competitive situation, the running test, was facilitated to be educative (Aasland et al., 2020; Erdvik, 2020; Gard et al., 2012; Munk, 2017). In the wrestling situation, the teacher facilitated the activity in a way so that students' normative performances were visible to all; there was a final round between the two best students and a winner was declared. We, therefore, argue that this activity was based on the logic and values from sports, or at least, "looks-like-competition" from sports (Erdvik, 2020; Larsson & Karlefors, 2015; Ward & Quennerstedt, 2016). In the running test situation, the teacher facilitated the activity in a way that allowed the students to decide on the number of laps they wanted to run and improve on and highlighted the importance of training to improve between the pre- and post-test, and the students reflected after the post-test on their improvement or lack thereof. As such, the teacher provided a situation for learning and development closer to the educative goal of the Norwegian Education programme (Bernstein et al., 2011; Dweck, 2019; Redelius & Larsson, 2010; UDIR, 2019a). The running test situation showed that competitive activities in PE do not have to be based on competitive activities from sports logic and values (Aasland et al., 2020; Erdvik, 2020). We, therefore, argue that it is not just about the activity, it is also about how the activity is facilitated.

Different Competitive Situations, Different Outcomes?

The growth mindset provides the best opportunities to help the students' personal development and lifelong learning, and effort when facing obstacles is an important part of personal development (Dweck, 2019; UDIR, 2019b). Students who reduced their effort and gave up when facing adversity

in the wrestling activity may be showing a fixed mindset (Dweck, 2019). These students, in contrast to the teacher's intention, did not become motivated by competition in these situations. Students maintaining or increasing efforts when facing obstacles in the running test may indicate a growth mindset (Dweck, 2019). As well as the motivational environments leading to reduced effort through self-handicapping strategies and hiding techniques (Coudevylle et al., 2020; Lyngstad et al., 2016; Ommundsen, 2004), some of the differences may also be attributable to rational choice in both activities (e.g., Dietrich & List, 2013). For instance, the teacher's different ways of presenting and facilitating the situations might influence a student's adaptation to each situation (e.g., Renshaw & Chow, 2019; Sigmundsson et al., 2017). In the running test activity, the students' goals were mainly to improve their time, and their performance was measured by their exact time, rather than in relation to others (e.g., ranking list). One may argue that the rational choice in this activity is to run as fast as possible and not give up on achieving the best possible time. By contrast, this might not be a rational choice in the wrestling activity, where the students' goals were mainly to win against their opponents and the performance was recorded dichotomously as either a win or a loss. One student said that his goal was to win as many matches as possible, and therefore, his choice of reducing effort and giving up in some matches seemed rational; he provided enough effort if he knew he would win, reduced effort if he knew he would lose and maximum effort if he was not sure whether he would win. Based on his goal in this activity, it seemed to be rational to save energy for the matches where he was not sure whether he would win, and thereby increase his opportunity to win as many as possible. However, although his behaviour (reduced effort in some matches) was rational for the short-term goal (winning as much as possible), it might not be considered rational in the long term regarding personal improvement and mindset when facing obstacles later in life (Dweck, 2019; UDIR, 2019a).

Teacher's Influence on Students' Learning Outcomes

Students may find it difficult to know what they are supposed to learn in PE if the goals or learning outcomes are not well articulated by the teachers (Redelius et al., 2015). In the present study, the teacher clearly articulated the learning outcomes in the running test activity, but not in the wrestling activity. As such, the students seemed to be aware that they should learn to test their performance to observe whether they improved in the running test activity, while in the wrestling activity, they seemed to be less sure. In the study of Redelius et al. (2015), students could answer "cooperation perhaps" (p. 647) as a legitimate answer on what they had learned in the lesson when they had nothing else to say (and seemingly did not know what they were supposed to learn). By contrast, students in the present study seemed to be influenced by a sports discourse (e.g., Erdvik, 2020) in the absence of well-articulated learning outcomes from the teacher. In fact, it could be argued that the teacher himself was influenced by a sports discourse when his only goal for an activity was high physical exertion. These results indicate the importance of teachers being aware of their learning outcomes in PE lessons and to articulate these learning outcomes well to their students, either through teaching-by-telling or by including the students in the process of creating the learning outcomes (Hovdal et al., 2021). The clarity of the learning outcomes for the teacher in this study influenced how the teacher facilitated the activities, what he observed and his further actions (e.g., how he motivated students) in the competitive activities. As already discussed, how teachers facilitate activities influences the students' experiences, goals and efforts in these activities.

To make the learning outcomes educative for the students, the learning outcomes also need to be meaningful or useful for the students in their everyday lives (e.g., Beni et al., 2017; Dewey, 2015). As seen in the present study, one student could reduce her effort if she thought she would lose in the wrestling activity and thereby did not care about the activity, while in the running test activity, a student exerted high effort because he wanted to see whether his extra training had worked. Consequently, in this example, the running test activity may arguably be more useful or meaningful than the wrestling activity for the students in their everyday lives (e.g., Beni et al., 2017; Dewey,

2015). As such, teachers may do well to make the learning outcomes useful or meaningful to the students' everyday lives (e.g., Beni et al., 2017; Dewey, 2015).

Conclusion and Implications of the Study

The present study shows the complexity of competitive activities in PE. Students had both positive and negative experiences in competitive activities based on sports logic. Students were able to reduce their effort when the activity was not competitive, when they thought they would perform poorly, or through rational choice to conserve energy to achieve their overall best performance in the activity. Teachers may facilitate competitive activities based on sports logic and values or on educative values. By facilitating the competitive activities as educative, the teacher may focus on the students' progress and learning, which again, may influence students towards a growth mindset in the activity. This might include, for instance, motivating students to increase their effort by referring to their progress and learning, and the relevance of their learning in their everyday lives. Learning, in this sense, is the physical outcome (improvement) and reflection of why one did or did not improve, and the consideration of what one should try next to improve one's performance in competitive situations. The present study indicates that teachers should reflect on how they might use competitive activities to create constructive experiences and learning for students that is relevant for the students themselves in society and for society itself (UDIR, 2019a). Within the activities, teachers may observe and facilitate situations where the students can articulate their experiences, learning and goals in the activities. This information might influence the teacher to facilitate further situations to move students closer to the activity's goal of being educative, thereby creating a circular method (Hovdal et al., 2021).

Strengths and Limitations of the Study

The main strengths of the study consist of the triangulation of the methods (Appendix), including observations/video recordings and students' and teacher's experiences in real-world natural settings in PE. These methods allowed us to show that teachers do not necessarily construct different competitive activities in the same way (e.g., focusing on winning or learning), but rather, that their facilitation may be a result of their own experiences, reflections and competence in different activities. The methods further allowed us to show the consequences on the students' experiences and learning through different types of facilitation in competitive real-life situations. As a result, one may apply the practical implications of the findings to real-world situations in PE.

A limitation of the present study is that we did not include an in-depth investigation of how the teacher reached a level of competence in facilitating activities such as the running test. Further studies should investigate teachers' socialization processes in PE (e.g., the acculturation, professional socialization and organizational socialization phases) and connect them to concrete actions in natural settings in PE (Templin et al., 2016), thereby understanding how teacher competence is learned within the socialization process of becoming teachers. In this way, the present article may contribute to creating a change in the teacher's facilitation of competitive activities from the logic and values from sports to becoming educational for the students.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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Appendix

Methods	Participants	Data creation	Strengths	Limitations
Written narratives 1.	All students from two classes (49 students).	224 written narratives.	(1) Students' stories from their own experiences. (2) Every student's voice is heard. (3) Concentrate in a calm environment and write as much as they want. (4) Stories get more coherent. (5) Not disrupted by a researcher.	(1) The researcher (main author) cannot ask follow-up questions.
Interviews.	12 students and their two PE teachers.	43 transcribed pages.	(1) Information about the student's and teacher's own experiences, interpretations and meanings. (2) In-depth information. (3) Follow-up questions from the narratives and the present interview.	(1) The researcher (main author) does not know the context of the situations.
Observations, video recordings with a 360° camera, audio recordings of the teacher using a microphone.	All students (49 students) and their two teachers from two classes.	14 PE lessons (1050 min in total). Eight PE lessons in one class and six PE lessons in the other.	(1) Contextual information. (2) Close to relevant situations. (3) Repeated observation of the situations. (4) Panoptic overview. (5) Opportunity to listen to what the teacher said and the dialogue with students. (6) Using video clips later in the interviews.	(1) Teachers and students might be influenced by the observer and the video recordings. (2) Difficult to hear the students' voices.
Written narratives 2, at the end of each PE lesson.	All students from two classes (49 students).	453 written narratives.	(1) Students have fresh memories of the situations in the present PE lesson. (2) Connect students' narratives to video-recorded situations. (3) See written narratives 1.	(1) The researcher (main author) cannot ask follow-up questions. (2) See written narratives 1.
Interviews.	19 students and their PE teacher from one class.	83 transcribed pages.	(1) Follow-up questions from the narratives and video clips. (2) In-depth information from the narratives and video clips. (3) Contextualized information (video recordings).	

Appendices

Application to the Norwegian Centre for Research Data

Approval by the Norwegian Centre for Research Data

Information letter to teachers and students in secondary schools

Application to the Norwegian Centre for Research Data

MELDESKJEMA

Meldeskjema (versjon 1.6) for forsknings- og studentprosjekt som medfører meldeplikt eller konsesjonsplikt (jf. personopplysningsloven og helseregisterloven med forskrifter).

1. Intro		
Samles det inn direkte personidentifiserende opplysninger?	Ja ● Nei ○	En person vil være direkte identifiserbar via navn, personnummer, eller andre personentydige kjennetegn. Les mer om hva personopplysninger er. NB! Selv om opplysningene skal anonymiseres i oppgave/rapport, må det krysses av dersom det skal innhentes/registreres personidentifiserende opplysninger i forbindelse med prosjektet. Les mer om hva behandling av personopplysninger innebærer.
Hvis ja, hvilke?	■ Navn □ 11-sifret fødselsnummer □ Adresse □ E-post □ Telefonnummer □ Annet	
Annet, spesifiser hvilke		
Skal direkte personidentifiserende opplysninger kobles til datamaterialet (koblingsnøkkel)?	Ja ● Nei ○	Merk at meldeplikten utløses selv om du ikke får tilgang til koblingsnøkkel, slik fremgangsmåten ofte er når man benytter en databehandler.
Samles det inn bakgrunnsopplysninger som kan identifisere enkeltpersoner (indirekte personidentifiserende opplysninger)?	Ja ○ Nei ●	En person vil være indirekte identifiserbar dersom det er mulig å identifisere vedkommende gjennom bakgrunnsopplysninger som for eksempel bostedskommune eller arbeidsplass/skole kombinert med opplysninger som alder, kjønn, yrke, diagnose, etc. NB! For at stemme skal regnes som personidentifiserende, må denne bli registrert i kombinasjon med andre opplysninger, slik at personer kan gjenkjennes.
Hvis ja, hvilke		
Skal det registreres personopplysninger (direkte/indirekte/via IP-/epost adresse, etc) ved hjelp av nettbaserte spørreskjema?	Ja ○ Nei ●	Les mer om nettbaserte spørreskjema.
Blir det registrert personopplysninger på digitale bilde- eller videoopptak?	Ja ● Nei ○	Bilde/videoopptak av ansikter vil regnes som personidentifiserende.
Søkes det vurdering fra REK om hvorvidt prosjektet er omfattet av helseforskningsloven?	Ja ○ Nei ●	NB! Dersom REK (Regional Komité for medisinsk og helsefaglig forskningsetikk) har vurdert prosjektet som helseforskning, er det ikke nødvendig å sende inn meldeskjema til personvernombudet (NB! Gjelder ikke prosjekter som skal benytte data fra pseudonyme helseregistre). Les mer. Dersom tilbakemelding fra REK ikke foreligger, anbefaler vi at du avventer videre utfylling til svar fra REK foreligger.
2. Prosjekttittel		
Prosjektittel	Kroppsøving- Erfaringer i kroppsøvingsfaget	Oppgi prosjektets tittel. NB! Dette kan ikke være «Masteroppgave» eller liknende, navnet må beskrive prosjektets innhold.
3. Behandlingsansvarlig institusjon		
Institusjon	Universitetet i Agder	Velg den institusjonen du er tilknyttet. Alle nivå må oppgis. Ved studentprosjekt er det studentens tilknytning som er avgjørende. Dersom institusjonen ikke finnes på listen, har den ikke avtale med NSD som personvernombud. Vennligst ta kontakt med institusjonen. Les mer om behandlingsansvarlig institusjon.
Avdeling/Fakultet	Fakultet for helse- og idrettsvitenskap	
Institutt	Institutt for folkehelse, idrett og ernæring	
4. Daglig ansvarlig (forsker, veileder, stipendiat)		

Fornavn	Dag Ove	Før opp navnet på den som har det daglige ansvaret for prosjektet. Veileder er vanligvis daglig ansvarlig ved studentprosjekt. Les mer om daglig ansvarlig. Daglig ansvarlig og student må i utgangspunktet være tilknyttet samme institusjon. Dersom studenten har ekstern veileder, kan biveileder eller fagansvarlig ved studiestedet stå som daglig ansvarlig. Arbeidssted må være tilknyttet behandlingsansvarlig institusjon, f.eks. underavdeling, institutt etc. NB! Det er viktig at du oppgir en e-postadresse som brukes aktivt. Vennligst gi oss beskjed dersom den endres.
Etternavn	Hovdal	
Stilling	Stipendiat	
Telefon	46646379	
Mobil		
E-post	dagoh13@uia.no	
Alternativ e-post	gisetstad_89@hotmail.com	
Arbeidssted	Kristiansand	
Adresse (arb.)	Gimlemoen 25	
Postnr./sted (arb.sted)	4630 Kristiansand S	
5. Student (master, bachelor)		
Studentprosjekt	Ja ○ Nei ●	Dersom det er flere studenter som samarbeider om et prosjekt, skal det velges en kontaktperson som føres opp her. Øvrige studenter kan føres opp under pkt 10.
6. Formålet med prosjektet		
Formål	Formålet er å undersøke elevenes erfaringer i kroppsøvingsfaget. Forskningsspørsmålene er; -Hvordan konstruerer læreren virkeligheten til elevene i kroppsøvingsfaget? -Hvordan beskriver og konstruerer elevene deres egne erfaringer i kroppsøvingsfaget? Prosjektet skal bidra til økt forståelse av elevenes hverdag i kroppsøvingsfaget, som kan bidra til å utvikle lærerutdanningen og lærere til det bedre for elevene.	Redegjør kort for prosjektets formål, problemstilling, forskningsspørsmål e.l.
7. Hvilke personer skal det innhentes personopplysninger om (utvalg)?		
Kryss av for utvalg	□ Barnehagebarn ■ Skoleelever □ Pasienter □ Brukere/klienter/kunder □ Ansatte □ Barnevernsbarn □ Lærere □ Helsepersonell □ Asylsøkere □ Andre	Les mer om forskjellige forskningstematikker og utvalg.
Beskriv utvalg/deltakere	Førstegangskontakt: 2 hele skoleklasser på 9. trinn. Følges ut 10. trinn.	Med utvalg menes dem som deltar i undersøkelsen eller dem det innhentes opplysninger om.
Rekruttering/trekking	Det vil være et bekvemmelighetsutvalg, der skoler rundt Kristiansand området blir kontaktet.	Beskriv hvordan utvalget trekkes eller rekrutteres og oppgi hvem som foretar den. Et utvalg kan rekrutteres gjennom f.eks. en bedrift, skole, idrettsmiljø eller eget nettverk, eller trekkes fra registre som f.eks. Folkeregisteret, SSB-registre, pasientregistre.
Førstegangskontakt	Hovedansvarlig for prosjektet kontakter skolene gjennom telefon til rektor. Hovedansvarlig kontakter også lærerne med hjelp fra rektor.	Beskriv hvordan førsstegangskontakten opprettes og oppgi hvem som foretar den. Les mer om førstegagskontakt og forskjellige utvalg på våre temasider.
Alder på utvalget	■ Barn (0-15 år) ■ Ungdom (16-17 år) □ Voksne (over 18 år)	Les om forskning som involverer barn på våre nettsider.
Omtrentlig antall personer som inngår i utvalget	50	
Samles det inn sensitive personopplysninger?	Ja ○ Nei ●	Les mer om sensitive opplysninger.

Hvis ja, hvilke?	⊔ Rasemessig eller etnisk bakgrunn, eller politisk, filosofisk eller religiøs oppfatning ⊔ At en person har vært mistenkt, siktet, tiltalt eller dømt for en straffbar handling ⊔ Helseforhold ⊔ Seksuelle forhold ⊔ Medlemskap i fagforeninger	
Inkluderes det myndige personer med redusert eller manglende samtykkekompetanse?	Ja ○ Nei ●	Les mer om pasienter, brukere og personer med redusert eller manglende samtykkekompetanse.
Samles det inn personopplysninger om personer som selv ikke deltar (tredjepersoner)?	Ja ○ Nei ●	Med opplysninger om tredjeperson menes opplysninger som kan identifisere personer (direkte eller indirekte) som ikke inngår i utvalget. Eksempler på tredjeperson er kollega, elev, klient, familiemedlem, som identifiseres i datamaterialet. Les mer.
8. Metode for innsamling av personopplysninger		
Kryss av for hvilke datainnsamlingsmetoder og datakilder som vil benyttes	⊔ Papirbasert spørreskjema ■ Elektronisk spørreskjema ■ Personlig intervju ⊔ Gruppeintervju ■ Observasjon ⊔ Deltakende observasjon ⊔ Blogg/sosiale medier/internett ⊔ Psykologiske/pedagogiske tester ⊔ Medisinske undersøkelser/tester ⊔ Journaldata (medisinske journaler)	Personopplysninger kan innhentes direkte fra den registrerte f.eks. gjennom spørreskjema,intervju, tester, og/eller ulike journaler (f.eks. elevmapper, NAV, PPT, sykehus) og/eller registre (f.eks.Statistisk sentralbyrå, sentrale helseregistre). NB! Dersom personopplysninger innhentes fra forskjellige personer (utvalg) og med forskjellige metoder, må dette spesifiseres i kommentar-boksen. Husk også å legge ved relevante vedlegg til alle utvalgs-gruppene og metodene som skal benyttes. Les mer om registerstudier. Dersom du skal anvende registerdata, må variabelliste lastes opp under pkt. 15 Les mer om forskningsmetoder.
	⊔ Registerdata	
	⊔ Annen innsamlingsmetode	
Tilleggsopplysninger	Elektroniske spørreskjema vil foregå på skolens datamaskiner og besvares på pc med avslått Internett. Hver PC vil ha en minnepenn med kun 1 word dokument med et nummer som er kodet til hver elev. Ny elev, ny minnepenn. Samme prosedyre på loggskriving.	
9. Informasjon og samtykke		
Oppgi hvordan utvalget/deltakerne informeres	■ Skriftlig ■ Muntlig ⊔ Informeres ikke	Dersom utvalget ikke skal informeres om behandlingen av personopplysninger må det begrunnes. Les mer.Vennligst send inn mal for skriftlig eller muntlig informasjon til deltakerne sammen med meldeskjema. Last ned en veiledende mal her. Les om krav til informasjon og samtykke. NB! Vedlegg lastes opp til sist i meldeskjemaet, se punkt 15 Vedlegg.
Samtykker utvalget til deltakelse?	● Ja ○ Nei ○ Flere utvalg, ikke samtykke fra alle	For at et samtykke til deltakelse i forskning skal være gyldig, må det være frivillig, uttrykkelig og informert. Samtykke kan gis skriftlig, muntlig eller gjennom en aktiv handling. For eksempel vil et besvart spørreskjema være å regne som et aktivt samtykke. Dersom det ikke skal innhentes samtykke, må det begrunnes. Les mer.
Innhentes det samtykke fra foreldre for barn under 15 år?	Ja ● Nei ○	Les mer om forskning som involverer barn og samtykke fra unge.
Hvis nei, begrunn		
Innhentes det samtykke fra foreldre for ungdom mellom 16 og 17 år?	Ja ● Nei ○	Les mer om forskning som involverer barn og samtykke fra unge.
Hvis nei, begrunn		
10. Informasjonssikkerhet		
Hvordan oppbevares navnelisten/ koblingsnøkkelen og hvem har tilgang til den?	Koblingsnøkkelen oppbevares på hovedansvarlig PC som er passordbeskyttet. Kun hovedansvarlige har tilgang på denne PC-en.	

Oppbevares direkte personidentifiserbare opplysninger på andre måter?	Ja ○ Nei ●	
Spesifiser		NB! Som hovedregel bør ikke direkte personidentifiserende opplysninger registreres sammen med det øvrige datamaterialet. Vi anbefaler koblingsnøkkel.
Hvordan registreres og oppbevares personopplysningene?	❑ På server i virksomhetens nettverk ❑ Fysisk isolert PC tilhørende virksomheten (dvs. ingen tilknytning til andre datamaskiner eller nettverk, interne eller eksterne) ■ Datamaskin i nettverkssystem tilknyttet Internett tilhørende virksomheten ■ Privat datamaskin ■ Videoopptak/fotografi ■ Lydopptak ■ Notater/papir ❑ Mobile lagringsenheter (bærbar datamaskin, minnepenn, minnekort, cd, ekstern harddisk, mobiltelefon) ❑ Annen registreringsmetode	Merk av for hvilke hjelpemidler som benyttes for registrering og analyse av opplysninger. Sett flere kryss dersom opplysningene registreres på flere måter. Med «virksomhet» menes her behandlingsansvarlig institusjon. NB! Som hovedregel bør data som inneholder personopplysninger lagres på behandlingsansvarlig sin forskningsserver. Lagring på andre medier - som privat pc, mobiltelefon, minnepinne, server på annet arbeidssted - er mindre sikkert, og må derfor begrunnes. Slik lagring må avklares med behandlingsansvarlig institusjon, og personopplysningene bør krypteres.
Annen registreringsmetode beskriv		
Hvordan er datamaterialet beskyttet mot at uvedkommende får innsyn?	Datamaskin i nettverkssystem er beskyttet med brukernavn og passord. Privat PC er beskyttet med brukernavn og passord. Videoopptak og lydopptak blir lagt inn på PC og ekstern harddisk som er passordbeskyttet. Notater blir lagt inn på PC og makulert.	Er f.eks. datamaskintilgangen beskyttet med brukernavn og passord, står datamaskinen i et låsbart rom, og hvordan sikres bærbare enheter, utskrifter og opptak?
Samles opplysningene inn/behandles av en databehandler (ekstern aktør)?	Ja ○ Nei ●	Dersom det benyttes eksterne til helt eller delvis å behandle personopplysninger, f.eks. Questback, transkriberingsassistent eller tolk, er dette å betrakte som en databehandler. Slike oppdrag må kontraktsreguleres.
Hvis ja, hvilken		
Overføres personopplysninger ved hjelp av e-post/Internett?	Ja ○ Nei ●	F.eks. ved overføring av data til samarbeidspartner, databehandler mm. Dersom personopplysninger skal sendes via internett, bør de krypteres tilstrekkelig. Vi anbefaler ikke lagring av personopplysninger på nettskytjenester. Bruk av nettskytjenester må avklares med behandlingsansvarlig institusjon. Dersom nettskytjeneste benyttes, skal det inngås skriftlig databehandleravtale med leverandøren av tjenesten. Les mer.
Hvis ja, beskriv?		
Skal andre personer enn daglig ansvarlig/student ha tilgang til datamaterialet med personopplysninger?	Ja ● Nei ○	
Hvis ja, hvem (oppgi navn og arbeidssted)?	Veiledere på PHD prosjektet mitt: Bjørn Tore Johansen, UiA Inger Beate Larsen, UiA Tommy Haugen, UiA	
Utleveres/deles personopplysninger med andre institusjoner eller land?	● Nei ○ Andre institusjoner ○ Institusjoner i andre land	F.eks. ved nasjonale samarbeidsprosjekter der personopplysninger utveksles eller ved internasjonale samarbeidsprosjekter der personopplysninger utveksles.
11. Vurdering/godkjenning fra andre instanser		
Søkes det om dispensasjon fra taushetsplikten for å få tilgang til data?	Ja ○ Nei ●	For å få tilgang til taushetsbelagte opplysninger fra f.eks. NAV, PPT, sykehus, må det søkes om dispensasjon fra taushetsplikten. Dispensasjon søkes vanligvis fra aktuelt departement.
Hvis ja, hvilke		
Søkes det godkjenning fra andre instanser?	Ja ● Nei ○	I noen forskningsprosjekter kan det være nødvendig å søke flere tillatelser. Søkes det f.eks. om tilgang til data fra en registereier? Søkes det om tillatelse til forskning i en virksomhet eller en skole? Les mer om andre godkjenninger.
Hvis ja, hvilken	Fra skolene det skal innhentes informasjon fra.	
12. Periode for behandling av personopplysninger		

Prosjektstart Planlagt dato for prosjektslutt	01.04.2018 01.09.2021	Prosjektstart Vennligst oppgi tidspunktet for når kontakt med utvalget skal gjøres/datainnsamlingen starter. Prosjektslutt: Vennligst oppgi tidspunktet for når datamaterialet enten skalanonymiseres/slettes, eller arkiveres i påvente av oppfølgingsstudier eller annet.
Skal personopplysninger publiseres (direkte eller indirekte)?	☐ Ja, direkte (navn e.l.) ☐ Ja, indirekte (identifiserende bakgrunnsopplysninger) ■ Nei, publiseres anonymt	Les mer om direkte og indirekte personidentifiserende opplysninger. NB! Dersom personopplysninger skal publiseres, må det vanligvis innhentes eksplisitt samtykke til dette fra den enkelte, og deltakere bør gis anledning til å lese gjennom og godkjenne sitater.
Hva skal skje med datamaterialet ved prosjektslutt?	■ Datamaterialet anonymiseres ☐ Datamaterialet oppbevares med personidentifikasjon	NB! Her menes datamaterialet, ikke publikasjon. Selv om data publiseres med personidentifikasjon skal som regel øvrig data anonymiseres.Med anonymisering menes at datamaterialet bearbeides slik at det ikke lenger er mulig å føre opplysningene tilbake til enkeltpersoner. Les mer om anonymisering av data.
13. Finansiering		
Hvordan finansieres prosjektet?	Ingen.	Fylles ut ved eventuell ekstern finansiering (oppdragsforskning, annet).
14. Tilleggsopplysninger		
Tilleggsopplysninger		Dersom prosjektet er del av et prosjekt (eller skal ha data fra et prosjekt) som allerede har tilrådning fra personvernombudet og/eller konsesjon fra Datatilsynet, beskriv dette her og oppgi navn på prosjektleder, prosjekttittel og/eller prosjektnummer.
15. Vedlegg		
Vedlegg	Antall vedlegg: 4. • observasjons__og_intervjuguide.docx • samtykke_og_informasjonskriv.doc • spoerreskjema__logg.docx • spoerreskjema__refleksjonsnotat.docx	

Approval by the Norwegian Centre for Research Data

Dag Ove Hovdal
Serviceboks 422
4604 KRISTIANSAND S

Vår dato: 13.02.2018 Vår ref: 58504 / 3 / HIT Deres dato: Deres ref:

Tilrådning fra NSD Personvernombudet for forskning § 7-27

Personvernombudet for forskning viser til meldeskjema mottatt 18.01.2018 for prosjektet:

58504	*Kroppsøving- erfaringer i kroppsøvingsfaget*
Behandlingsansvarlig	*Universitetet i Agder, ved institusjonens øverste leder*
Daglig ansvarlig	*Dag Ove Hovdal*

Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er unntatt konsesjonsplikt og at personopplysningene som blir samlet inn i dette prosjektet er regulert av § 7-27 i personopplysningsforskriften. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i Meldingsarkivet.

Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Ved prosjektslutt 01.09.2021 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

Vennlig hilsen

Marianne Høgetveit Myhren

Hildur Thorarensen

Kontaktperson: Hildur Thorarensen tlf: 55 58 26 54 / hildur.thorarensen@nsd.no
Vedlegg: Prosjektvurdering

Personvernombudet for forskning

Prosjektvurdering - Kommentar

Prosjektnr: 58504

FORMÅL
Formålet er å undersøke elevenes erfaringer i kroppsøvingsfaget. Forskningsspørsmålene er:

-Hvordan konstruerer læreren virkeligheten til elevene i kroppsøvingsfaget?
-Hvordan beskriver og konstruerer elevene deres egne erfaringer i kroppsøvingsfaget?

Prosjektet skal bidra til økt forståelse av elevenes hverdag i kroppsøvingsfaget, som kan bidra til å utvikle lærerutdanningen og lærere til det bedre for elevene.

INFORMASJON OG SAMTYKKE
Du har opplyst i meldeskjema at utvalget vil motta skriftlig og muntlig informasjon om prosjektet, og samtykke skriftlig til å delta. Vår vurdering er at informasjonsskrivet til utvalget er godt utformet.

Selv om barnets foresatte samtykker til barnets deltakelse i prosjektet, må også barnet gi sin aksept til å delta. Vi anbefaler at barnet mottar tilpasset informasjon om hva deltakelse i prosjektet innebærer. Du må sørge for at barnet forstår at deltakelse er frivillig, og at det kan trekke seg om det ønsker det.

SENSITIVE OPPLYSNINGER
Personvernombudet tar høyde for at det vil kunne behandles sensitive opplysninger om helseforhold.

INFORMASJONSSIKKERHET
Personvernombudet forutsetter at du/dere behandler alle data i tråd med Universitetet i Agder sine retningslinjer for datahåndtering og informasjonssikkerhet. Vi legger til grunn at bruk av privat pc er i samsvar med institusjonens retningslinjer.

VARIGHET
Prosjektslutt er oppgitt til 01.09.2021. Det fremgår av meldeskjema/informasjonsskriv at du vil anonymisere datamaterialet ved prosjektslutt. Anonymisering innebærer vanligvis å:
- slette direkte identifiserbare opplysninger som navn, fødselsnummer, koblingsnøkkel
- slette eller omskrive/gruppere indirekte identifiserbare opplysninger som bosted/arbeidssted, alder, kjønn
- slette lydopptak
- slette eller sladde bilde- og videoopptak

For en utdypende beskrivelse av anonymisering av personopplysninger, se Datatilsynets veileder:
https://www.datatilsynet.no/globalassets/global/regelverk-skjema/veiledere/anonymisering-veileder-041115.pdf

Information letter to teachers and students in secondary schools

Forespørsel om deltakelse i forskningsprosjektet

«Erfaringer i kroppsøvingsfaget»

Bakgrunn og formål

Formålet med studien er å undersøke elevers og læreres erfaringer i kroppsøvingsfaget. Dette gjennom hvordan kroppsøvingsfaget blir gjennomført og hvordan dere opplever dette.

Dere er utvalgt fordi jeg vil finne ut hvordan dere har erfart og opplevd kroppsøvingsfaget fra 8.ende trinn, samt jeg har muligheten til å følge dere på 9.ende trinn. Dere er også utvalgt fordi dere passer inn i mitt prosjekts interesseområde, ved at dere har samme lærer i kroppsøvingsfaget i 8.ende og 9.ende trinn og at deres kroppsøvingslærer også er deres kontaktlærer. Rektoren ved deres skole har også godkjent dette studiet.

Hva innebærer deltakelse i studien?

Elev: ved å delta i denne studien blir du med på å svare på et refleksjonsnotat, bli observert i kroppsøvingstimene, skrive en logg etter hver kroppsøvingstime, og også muligheten for å bli intervjuet to ganger (ca. 6 elever hver gang). Dette for å finne ut hvilke situasjoner du liker og ikke liker i kroppsøvingsfaget og hvordan kroppsøvingstimene foregår. Refleksjonsnotatene vil bestå av at du skal skrive om ulike situasjoner du har opplevd i kroppsøvingsfaget som har vært positive og negative. Disse spørsmålene skal du besvare på en skole PC. Deretter blir noen av dere valgt ut for et nærmere intervju om dette. Når det gjelder observasjonen i kroppsøvingstimene så blir disse filmet, det vil også bli skrevet notater fra disse timene/filmene. Loggen vil bestå av spørsmål om positive og negative opplevelser i kroppsøvingsfaget. Loggen vil bli skrevet etter hver kroppsøvingstime, og som omhandler akkurat den timen. Intervjuene vil bestå av videre spørsmål fra refleksjonsnotatene eller selve kroppsøvingstimene.

Lærer: du vil også bli filmet i kroppsøvingstimen, samt skal benytte deg av en mikrofon der lyden blir tatt opp på bånd. Du vil også bli intervjuet. Spørsmålene til deg vil omhandle ting rundt kroppsøvingsfaget og hva som foregår i kroppsøvingsfaget.

Foresatte: Hvis dere har lyst til å se spørsmålene som kommer på refleksjonsnotat, logg etc. så kan dette sendes til dere på forespørsel.

Hva skjer med informasjonen om deg?
Alle personopplysninger vil bli behandlet konfidensielt. Det er kun meg (Dag Ove Hovdal) og mine veiledere (Bjørn Tore Johansen, Inger Beate Larsen og Tommy Haugen) som har tilgang på opplysningene av dere. Elevene vil få tildelt et nummer på refleksjonsnotatet, dette fordi jeg skal kunne gjenkjenne elevene på observasjonen av kroppsøvingstimene og stille flere spørsmål om dette på et eventuelt intervju. Nummeret som hver enkelt elev får tildelt vil holdes separat fra observasjonen og intervjuet. Lærere og elever vil anonymiseres og inngå i publikasjonene. Det kan bli brukt bilder fra filmene i undervisningen, men disse blir skissert som tegninger og er

derfor ikke gjenkjennbare. På anmodning kan dere få se eksempel på en slik tegning. De anonyme opplysningene skal brukes i artikler i forbindelse med PHD prosjektet mitt ved Universitetet i Agder. Det er ingen andre samarbeidspartnere.

Prosjektet skal etter planen avsluttes 1. September 2021. Da vil filmene og koblingsnøkkelen slettes, og resten av datamaterialet anonymiseres.

Frivillig deltakelse
Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert. Om du trekker deg vil det ikke påvirke din karakter etc. i kroppsøvingsfaget.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med Dag Ove Hovdal tlf. 46646379.
Studien er meldt til Personvernombudet for forskning, NSD - Norsk senter for forskningsdata AS.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

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(Signert av elev/lærer, dato)

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og godkjenner deltagelse av eleven

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(Signert av foresatt, dato)