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# Unpacking physically active learning in education: a movement didaktikk approach in teaching?

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## ABSTRACT

This paper explores teachers' educational values and how they shape their judgements about physically active learning (PAL). Twenty one teachers from four primary schools in Norway participated in focus groups. By conceptualising PAL as a didaktikk approach, the findings indicated that teachers engaged with PAL in a way that reflected their professional identity and previous experiences with the curriculum. Teachers valued PAL as a way of getting to know pupils in educational situations that were different from those when sedentary. These insights illustrate how PAL, as a didaktikk approach to teaching, can shift teachers' perceptions of pupils' knowledge, learning, and identity formation in ways that reflect the wider purposes of education. The paper gives support to a classroom discourse that moves beyond the traditional, sedentary one-way transfer of knowledge towards a more collaborative effort for pupils' development.

## ARTICLE HISTORY

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## KEYWORDS

Physically active learning; didaktikk; educational values; teaching methods; movement integration; school-based physical activity

## Introduction

Over the last two decades, school-based education has been increasingly presented with initiatives that seek to expand opportunities for physical activity (PA) in core educational goals (Bartholomew & Jowers, 2011; Beets et al., 2016; Norris et al., 2019). These initiatives have largely been driven by the health promotion concerns of policy makers and researchers (Vazou et al., 2020), which have emphasised training teachers to develop and deliver strategies to increase PA while addressing pupils' learning (Donnelly et al., 2016; Vetter et al., 2018; Watson et al., 2017). This development has gathered momentum as evidence has emerged of the putative role of PA in cognitive processes (Hillman et al., 2019; Lubans et al., 2016; Singh et al., 2018). One approach with growing popularity is physically active learning (PAL), the aim of which is to facilitate the learning of academic content through the integration of bodily movement (Daly-Smith et al., 2020; Daly-Smith et al., 2021). For example, PAL might include counting while jumping on a number line (Elofsson et al., 2018),

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exploring geometrical figures through different intensities of PA (Hraste et al., 2018), or practising grammar by verbalizing different ways of moving (Madsen et al., 2020). Although research has generated a greater understanding of the relationship between PA and pupils' learning, including showing evidence of favourable educational outcomes (Watson et al., 2017), relatively few studies have explored the integration of PAL from the perspectives of teachers (Donnelly et al., 2016).

The aim of our paper is to contribute to the emerging body of education-oriented research that has explored teachers' perceptions and experiences of PAL. To date, research in this field suggests that teachers view PAL as giving rise to beneficial outcomes relating to pupils' academic engagement and social learning (Lerum et al., 2019; Riley et al., 2021). Teachers are potential enactors of PAL and therefore, if PAL is to be sustainable in schools, further research with teachers is required (Vazou et al., 2020). The departure point for this paper is to explore teachers' educational values with the aim of understanding how they shape their judgements about PAL. To contextualize our paper, we start by situating the emergence of PAL within broader educational trends alongside providing an overview of our conceptual framework.

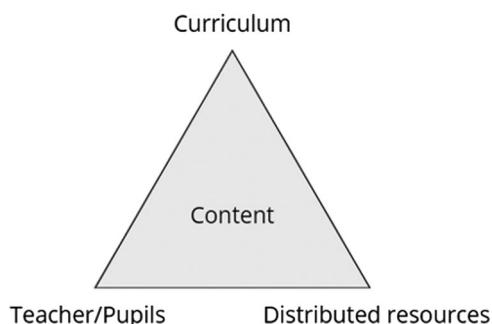
## Contextual and conceptual background

Global discourses relating to economic growth have increasingly been a driving force in Nordic countries' school-based education systems (Lundahl, 2016), as elsewhere. With few exceptions, these neoliberal discourses have directed attention towards measurable outcomes (Biesta, 2016). In Norway, the curriculum of 2006 (LK06) (The Norwegian Directorate for Education and Training, 2015) introduced objectives related to pupils' learning and expected outcomes (Elstad et al., 2015). While the latest curriculum (LK20) (The Norwegian Directorate for Education and Training, 2019) rhetorically refers to a broader purpose of education, the emphasis on cognitive learning outcomes remains (Dahl et al., 2019). Although it is too early to know if this new curriculum will lead to a shift in the priorities of teachers, evidence to date indicates that attention on measurable outcomes has led to teachers "teaching to the test", as well as pupils' reproduction of factual knowledge (Elstad, 2009; Elstad et al., 2015). An unintended consequence of prioritising cognitive learning in this way is that pupils become ever more sedentary because of the emphasis given to the one-way transfer of knowledge and, relatedly, time spent at the desk (Dale et al., 2011; Midtsundstad et al., 2010). At the same time, the other purposes of education become neglected (Biesta, 2009). This has led to a resurgence of interest in debating the nature of core educational goals in contemporary society. This paper situates the emergence of PAL in this context.

In order to make some conceptual sense of this complex and dynamic education environment, we draw on the work of Biesta (2010, 2016, 2020), who articulates two key arguments that are relevant to our concerns in this paper. First, Biesta (2020) uses the concept of "learnification" to refer to the rhetorical prioritising of learning and learners in education policy and practice. This, he argues, gives primacy to the cognitive purpose of education, in terms of pupils' knowledge, skills and dispositions that qualify them to navigate their way through society and are typically linked to pupils' academic (measurable) performance. This is what Biesta refers to as the qualification purpose (Biesta, 2010, 2020). Second, in giving primacy to the cognitive purpose of education the other two purposes - socialization and subjectification - are crowded out. For Biesta, socialization and subjectification refer to forming abilities and talents to utilize knowledge throughout life. In addition, the function of socialization refers to becoming part of a particular social, cultural, and political order (Biesta, 2010, 2020). Relationships mediate socialization processes, which facilitate pupils' adaptation into ways of doing and being. Subjectification, however, specifically refers to the process of becoming a person. Processes of subjectification and socialization, therefore, develop pupils who have a sense of themselves as both independent and interdependent. For Biesta, these developments have meant that teachers and teaching have become somewhat distanced from learners and learning.

There has, however, been a variety of learning approaches that have sought to challenge this one-way transfer of knowledge. For example, constructive learning approaches differ from traditional learning approaches in that they are based on the premise that knowledge is created socially and contextually. According to recent developments within the field, PAL can be viewed to some degree as a constructive learning approach (Lerum et al., 2019; Lerum et al., 2021; Riley et al., 2021; Sneek et al., 2020). However, PAL is somewhat unique in that it can potentially address the disembodiment in education by using different types of movement at any level of intensity. PAL might be one potential educational method that can address this one-way transfer of knowledge. Traditionally, movement has been related to bodily learning processes and been a domain in aesthetic and practical subjects. Yet, in the Norwegian curriculum (LK20), aesthetic teaching and learning methods are highlighted as having the potential to contribute to pupils' learning (NOU, 2014:7:2014:7; NOU, 2015:8:2015:8) critical thinking and identity (Ministry of Education and Research, 2015). Our approach to exploring teachers' perceptions of PAL is underpinned by the premise that choice of educational method is guided by judgements about its educational value and purpose (Biesta, 2020). That is to say, a value judgement does not relate to the rightness or wrongness of a method but rather, reflects the values accorded to it based on a comparison with other methods. To gain an understanding of teachers as potential enactors of PAL, we focus on creating knowledge of the teachers values according to the purposes of education. This approach is premised on the view that teachers, pupils, and content are interdependent as represented in the didaktikk model to which we now turn.

In order to understand teachers as potential enactors of PAL, we drew on a didaktikk perspective to make sense of teachers' responses. Such a perspective offers insights into teachers' professional knowledge through an interdependent focus on the pupils, the teacher, and the content (Midtsundstad et al., 2010). The model we draw on is particularly relevant to PAL as it illuminates interacting elements that mediate teaching and learning (Figure 1). To guide the unpacking of PAL, the didaktikk perspective *design for learning* (Selander, 2008, 2017) is used. This perspective highlights the material and temporal conditions for teaching. In this case, learning is understood as the "capacity to use signs and engage meaningfully in different situations" (Selander, 2008). As shown in the design-oriented didaktikk triangle (figure 1.), Selander and Kress (2010) do not distinguish between senders and receivers of knowledge. Rather, teachers and pupils are participants who orient themselves in a process of interpreting signs and patterns, known as the modalities of teaching, to create new meanings. While the work of Selander and Kress (2010) mainly focuses on modalities such as pupils' textual work and verbal communication, other researchers have used modalities such as bodies and movement (Dahl et al., 2019; Østern & Strømme, 2014). According to this model, teachers design teaching, hence they are the ones who have the power to vary resources and environments to generate experiences for pupils that develop their



**Figure 1.** The design-oriented didaktikk triangle.

understanding through meaning-creating processes (Selander & Kress, 2010). Positioned at the top (figure 1), is the curriculum that represents the ideological ideas to which all teaching relates (Selander, 2017).

## Methodology

### Design

A qualitative approach was employed to gain an understanding of teachers' educational values and how they shaped their judgements about PAL as a way of teaching. Such an approach is based on a view of the social world as dynamic and emergent (Bryman, 2016) and, therefore, appropriate when the aim is to understand the social world from the perspectives of those experiencing it. As Weber (1978) argues, the minds of actors - in this case teachers - need to be part of understanding social processes, such as those relating to engaging with and using PAL. Focus groups were used to generate data relating to teachers' perceptions through the dynamic of discussion (Kitzinger & Barbour, 1999), encouraging depth and contributing to the richness of data. A semi-structured guide was developed, which included open-ended questions to operationalize the research aim in an exploratory way. Thus, the questions related to teachers' experience with PAL, their purposes in using PAL, and the anticipated benefits and outcomes of PAL.

### Recruitment, participants, and data gathering procedure

Teachers were purposefully selected from four primary schools recruited from the research group's PAL network.<sup>1</sup> Once a school had been identified, headteachers were contacted via email and telephone. The headteacher in each school was responsible for recruiting participants based on criteria provided by the researchers, with the aim of including variation in the sample with regard to grade and subject taught, years of experience, age, and gender. In total, 21 teachers agreed to participate in the study (Table 1). The first and last author conducted four focus groups in October 2020, all of which were carried out in school classrooms during the school day. Each focus group started with distributing written information about the project. To allow every participant the opportunity to share their experiences (Kitzinger & Barbour, 1999), the researchers facilitated discussions and ensured follow-up questions to generate in-depth and detailed discussion, provide examples, and elaborate on ideas. With active listening, patience, respect, and empathy, the researchers strived to foster a supportive environment. Some teachers were more talkative than others, however, the focus groups appeared to work well in that the discussion flowed between participants as well as between the researchers and individuals. As shown in table 1, the focus groups consisted of five to six participants and lasted between 46 and 72 min. Audio recordings were transcribed verbatim and resulted in 53 pages in Microsoft Word.

### Data analysis

Thematic analysis (TA) was used, based on the work of Braun and Clarke (2019, 2021, 2022). The first and last author conducted the analysis on all transcripts using the six-stage TA process (Braun & Clarke, 2022). TA was suited to our research aim as it offered a process that facilitated critical, constructionist, and robust engagement with the data (Braun & Clarke, 2022). To ensure transparency of the process (Meyrick, 2006), the first author kept a record of the analysis that documented the development of tentative codes and themes and their systematic refinement. Transcripts were read and reread by the first and last authors to familiarise themselves with the data. To deal with the

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<sup>1</sup>The Erasmus+ funded project Activate Your Class (ACTivate) provided the context for the current paper. ACTivate is a Strategic Partnership in Higher Education project (2019-2022), with a six-nation partnership, thereby providing the ideal opportunity to collect data from a range of teachers with experience of using PAL.

**Table 1.** Overview of participating schools and teachers.

	Location	Size	Teachers		Interview duration
			Male	Female	
School 1	Urban area	ca. 500 pupils	2	3	55 min
School 2	Urban area	ca. 500 pupils	1	4	60 min
School 3	Urban area	ca. 500 pupils	1	5	72 min
School 4	Rural area	ca. 300 pupils	2	3	46 min

complexity of the data, the coding of the transcripts was supported by the use of NVivo (QSR International 1.5.1). The coding was informed by reflexive TA, starting with the inductive development of the codes, and then moving towards deductively oriented sub-themes and themes. In practice, this meant that there was a dynamic backwards and forwards between the data and the literature in order to try to ensure that the participants' voices were captured in our themes. To ensure that the coding was systematic, codes were trialled and refined across transcripts, creating a compiled list of codes that were used for thematic mapping. Initial themes were developed to reflect the richness and diversity of the data. After themes were developed, they were defined and named to capture insights that could illuminate the research aim and give insight into teachers' perceptions and values. Two themes were built around the core concept of teachers' educational values and how they shaped their judgements about PAL. Co-authors reviewed the themes in order to fine-tune the

**Table 2.** Themes, codes and sample quotations.

Themes	Codes	Sample quotations
Foregrounding PAL in educational values	Assessment culture	"I have felt bound by the curriculum and all learning goals that are to be learned and tested (...) The results get published in the newspapers. It probably affects us". (Focus group 1)
	New Curriculum	"I think the new curriculum focus on the social pupil helps me a lot. It has somewhat been there all along, but now it is very clear. It makes me dare to open up". (Focus group 1)
	Subject Content	"I use it a lot in mathematics because I think it was very natural. It was, however, difficult to use in other subjects, because there I had to go beyond my own comfort zone". (Focus group 2)
	Juggling values	"To let go of what you have planned and not be so affected by the academic pressure on everything you are supposed to achieve in a year. I think you can get it back with movement. It builds an environment in class where everyone is safe and good to each other". (Focus group 1)
Rediscovering designing teaching	Designing and conducting teaching	"Pupils showcase mastery in PAL because they can use their bodies in learning processes. I think that PAL can broaden the range of pupils that can excel in life. That there will not be so many so-called school losers". (Focus group 1)
	Academic encounters	"PAL includes everyone because one can facilitate the academic content to pupils' mastery and challenge. This affects the environment by enhancing pupils' sense of belonging, making them feel as part of the class". (Focus group 2)
	Social encounters	"I thought I knew my class, but it turns out that I do not know them as well as I thought. It is exciting to discover that there are other sides to some pupils than the ones I have seen in a traditional classroom situation". (Focus group 3)
	Knowledge encounters	"It becomes an environment where they [pupils] will solve something together. But if you are a weak pupil, it is possible that they drop out anyway. Although they are included, it is not certain they will learn anything whether they are physically active or not". (Focus group 4)

analysis as part of an ongoing iterative process. Writing and rewriting the findings section was additionally an important part of refining the final themes and creating the overall narrative to the findings. Quotations were used as data extracts to exemplify the conceptualisation of the theme (Table 2).

### **Ethical approval**

The study was registered with the Norwegian Centre for Research Data (NSD). Written consent for participation was obtained from all participants prior to data collection. Participants were informed that participation was voluntary, that they were free to withdraw from the study at any time, and that their names and the schools' name would be anonymised. All data were treated confidentially.

### **Findings**

This research used focus groups to explore teachers' educational values and how these shape their judgements about PAL. The teachers had a broad range of teaching experience, ranging from one to 20 years. Eight teachers had specific PAL education (15 ECTS – Continuing Professional Development), while the remaining 13 teachers did not have any formal PAL education. Two core themes (table 2) were developed: foregrounding PAL in educational values and rediscovering designing teaching.

#### **Foregrounding PAL in educational values**

The first theme was developed to capture how teachers' educational values were related to their previous experiences of teaching *and* learning in the education policy context of Norway and how this shaped their judgements about PAL. Central to this was the prior Norwegian curriculum LK06 as well as the current LK20, both of which were perceived by teachers to limit their teaching methods because of the emphasis on following the curriculum closely in order to reach all the learning objectives. For example, when talking about academic performance one teacher referred specifically to external constraints and said:

I have felt bound by the curriculum and all learning goals that are to be learned and tested (...) The results get published in the newspapers. It probably affects us. (Focus group 1)

Education policy and the curriculum LK06 were perceived as emphasising learning objectives and the pragmatic assessment of pupils' factual knowledge. This meant that demonstrating that learning had taken place was of the utmost importance for teachers and, correspondingly, when discussing PAL, the concern was that pupils' learning might be less effective than via traditional teaching methods: "I think we are afraid that the learning outcomes will not be that great" (Focus group 2). Thus, the teachers were reluctant to engage PAL in teaching, at least in part, because they feared it would not contribute sufficiently to pupils' learning and therefore would jeopardise their performance in tests. To some degree, this was reinforced by the perception that they, and their schools, would be judged poorly by external stakeholders if pupils' results were poor or worsening.

Although the curriculum was perceived by the teachers as a constraint on their freedom to teach because it emphasised reaching its objectives, the teachers' previous experiences with the curriculum also meant that they saw new opportunities with PAL. In this way, their judgements about PAL did not only come across as reluctance. Rather, they perceived PAL as offering opportunities for finding different trajectories of action that could help them meet the educational goals they valued but which were difficult to accomplish in the current performative context. It was evident that teachers also sought possible ways to navigate their way around the curriculum, as they looked for

ways of teaching - such as with PAL - that facilitated a focus on their educational values. For example, one such value was the social development of pupils, which could easily be overlooked when the only focus was meeting learning goals:

I think the new curriculum's focus on the social pupil helps me a lot. It has somewhat been there all along, but now it is very clear. It makes me dare to open up. (Focus group 1)

While the teachers perceived that the social aspect of the renewed Norwegian curriculum (LK20) provided greater opportunities for PAL, additionally the quotation gives recognition to how and why the teachers perceived the curriculum to play such an important role in their educational values. It also illustrates how some teachers did not simply follow the curriculum. Rather, they perceived their role in terms of bringing the curriculum into practice in a way that supported their wider educational values. In this way, it was possible for teachers to overcome, or at least creatively navigate, what they perceived as the inequitable emphasis on cognitive learning outcomes in the curriculum and move beyond its perceived limits. In so doing, they could actively engage in making judgements about alternative trajectories of actions. Although the teachers agreed that the new curriculum (LK20) provided scope for creating alternative trajectories as outlined above, PAL provided the curricular space within which teachers could expand their teaching in ways that better reflected their values. Furthermore, engaging PAL in teaching was additionally dependent on the curriculum content as well as teachers' relationships with their pupils. The teachers' judgements about PAL and its connection to the content was particularly visible in mathematics:

I use it a lot in mathematics because I think it was very natural. It was, however, difficult to use it in other subjects because I had to go beyond my own comfort zone. (Focus group 2)

As this quotation illustrates, the teachers perceived that mathematics was the most "natural" subject to engage PAL in since it provided an opportunity to make abstract knowledge concrete. One teacher gave such an example: "they [pupils] can visualize it better. With geometry, to see the size or the perimeter" (Focus group 3). In other subjects, however, the teachers questioned to a greater degree how to engage PAL. The focus on monitoring pupils' learning meant that mathematics was in a stronger position compared to other subjects because, according to the teachers, it was easier to define and demonstrate pupils' learning. PAL did not offer the same concrete and visible outcomes of learning in other subjects, which meant that the teachers tended to feel that they had not done justice to the learning outcomes. Thus, to "go beyond my own comfort zone" exemplified how the teachers' own values sometimes conflicted with their perceived competence to design and conduct teaching where PAL was engaged, and to assess pupils' learning in subjects beyond mathematics. This meant that at times the emphasis on meeting learning outcomes was at odds with a desire to include different kinds of educational experiences for pupils. Nonetheless, although more difficult for the teachers to frame and concretize, PAL still could be used to offer such an educational situation, for example in relation to creating a climate for pupils that was safe and supportive:

To let go of what you have planned and not be so affected by the academic pressure on everything you are supposed to achieve in a year. I think you can get it back with movement. It builds an environment in class where everyone is safe and good to each other. (Focus group 1)

In response to the emerging demands, dilemmas, and ambiguities in teaching, the teachers' judgements about PAL were related to their views of how they could be responsive to both the curriculum and the pupils. In other words, a strong emphasis on one educational value might weaken or diminish an emphasis on another. In this way, the teachers' perceived that the curriculum objectives could be side-lined by what might be seen as arbitrary and unnecessary intrusions into their practice. However, if they directed too much effort into what they perceived as important for the pupils (for example, focusing on social interaction and movement), it could be at the expense of the curriculum's learning objectives. The teachers viewed this as contradictory; whilst learning was perceived as outcome- and result-oriented, there were particular aspects of these situations that

could not be demonstrated by performance outcomes. Some educational situations were instead related to designing a safe and good educational environment.

### ***Rediscovering designing teaching***

The second theme was developed to shed light on how teachers' perceptions of PAL were shaped by what they understood to be educationally desirable. This theme builds on the previous theme, in that it explores teachers' prior experiences and the importance of their values and identities in negotiating their engagement with alternative methods such as PAL. In this way, the theme seeks to reveal how teachers' professional identities shaped their views of PAL and how they engaged with it: "It was us who thought it [PAL] was embarrassing, not the pupils. PAL is about what we feel about ourselves. You have to make it your own" (Focus group 2). Although a perceived lack of competence could partly explain a reluctance to engage PAL in teaching, teachers' values were also important in shaping engagement in PAL:

I think that it helps to get up from the chair. That is, the pupils are doing something else than sitting in front of the teacher answering questions, but rather walking around and discussing with each other. (Focus group 2)

Rather than talking about what the teachers perceived PAL to be, they discussed what PAL was compared to so-called traditional teaching. Although the teachers' educational values were anchored in traditional teaching, their desires were understood as wanting to do something. That is to say, their desires were constructed to help them meet their existing values. The quotation above illustrates how the teachers recognised that "getting up from the chair" or doing "something other than sitting" extended or added new desires to their teaching. However, while deviating from teaching that largely had been designed and taught in a sedentary manner, teachers were mindful of how to engage PAL. One teacher said, for example: "The physical activity does not have to be vigorous all the time, sometimes they [pupils] simply need some movement. (...) different activities and movements serve different purposes" (Focus group 4). Another teacher said "they [pupils] need some movement. It can be read and then it can be dramatized afterwards" (Focus group 3). The teachers did not seem concerned with the amount of physical activity or movement, rather its purpose:

Pupils showcase mastery in PAL because they can use their bodies in learning processes. I think that PAL can broaden the range of pupils that can excel in life. That there will not be so many so-called school losers. (Focus group 1).

When adding new desires into their teaching, teachers had to become familiar with designing teaching in a new way. In rethinking how to design teaching, teachers perceived that health and learning was secondary to their desire to create an environment which allowed pupils to express themselves in different ways and collaborate in teaching situations. To provide further insights into this theme, the way the teachers' talked about designing teaching was important in that it revealed their underpinning values as well as explaining why they engaged PAL in teaching. These values were shaped and supported by their attentiveness to both pupils and academic content. Three interdependent encounters were developed as a way of revealing teachers' desires and how these shaped their engagement with PAL: academic, social, and knowledge encounters. It was perceived by the teachers that PAL changed the way that they thought about these encounters in designing teaching:

PAL includes everyone because one can facilitate the academic content to pupils' mastery and challenge. This affects the environment by enhancing pupils' sense of belonging, making them feel as part of the class. (Focus group 2)

Evidently, the teachers valued PAL because it had the potential to engage and be inclusive of a broader range of pupils and their academic needs compared to traditional ways of teaching: "facilitation to a greater extent, than if you plan to teach by lecturing or standing in front of the class"

(focus group 3). In this sense, the concept of academic encounters illustrates how the teachers designed teaching for pupils to meet the subject content. When engaging PAL in teaching, teachers stepped out of their role as independent actors and became interdependent participants in teaching situations, interacting with pupils, asking questions to a far greater extent and in different ways than without PAL. That is, the teachers perceived that PAL offered the opportunity to interact differently with pupils:

I thought I knew my class, but it turns out that I do not know them as well as I thought. It is exciting to discover that there are other sides to some pupils than the ones I have seen in a traditional classroom situation. (Focus group 3)

When getting to know the pupils in a different way through PAL, the teachers' underscored the value of collaborative and interactive opportunities for the pupils. That is, the teachers' perceived that PAL made pupils' social encounters with other pupils and the subject content more visible to them. However, at the same time the teachers also argued that: "... if you are an academically weak pupil, you may still be left alone" (Focus group 4). Although it could seem that the teachers saw PAL as a driver of pupils' learning, this perspective is a reminder that it is the teacher who designs teaching. By changing some of the premises of what educational situations look like, teachers were more aware of the potential space that could be created when engaging with PAL for getting to know the pupils in different ways. Instead of planning what pupils were expected to learn with regard to specific academic content, teachers rather designed teaching that embraced pupils' prior experiences and understandings of knowledge. Rather than reciting and memorising factual knowledge, the teachers perceived PAL as having given them the possibilities for designing opportunities for pupils to "encounter" knowledge, not only to obtain it but also to develop their abilities to use such knowledge:

It creates a learning environment that makes them dare to try to fail. It opens up possibilities for pupils not to be afraid of what they can or can't do, but to learn from each other. Put words to it themselves. It provides completely different learning than just receiving. (Focus group 3)

To some degree, the teachers viewed learning and broader educational environments as in conflict. They found that PAL had the potential to resolve some of this conflict by creating an interdependent relationship between pupils' social and academic encounters. PAL created a shared desire to design teaching that was concerned not only with what the pupils knew but also how they participated in knowing it:

Knowledge becomes less threatening when we go outside the classroom. Then you see shy pupils suddenly dare to answer questions in groups. They dare to ask. And they dare to raise their hand and make suggestions. (Focus group 1)

In this way, the teachers' perceived that PAL had initiated a process of changing their perceptions of what knowledge was, and how pupils could showcase their knowledge. Instead of only knowing the pupils through writing and verbal communication, teachers viewed PAL as contributing to their capacity to design environments that were more responsive: "... use what the pupils are concerned with, and then put in the learning goals" (Focus group 1).

## Discussion

Overall, the findings reveal that the teachers' enactment of PAL is driven by their values. In this way, the enactment of PAL cannot only be understood in isolation as a specific strategy to be integrated into practice or treated as a competence that can be developed through training. In contrast to earlier literature on PAL (Elofsson et al., 2018; Vetter et al., 2018), our findings suggest that teachers' relationship to PAL is better understood if we take into account teachers' wider values and judgements relating to the fundamental ideologies that underpin contemporary teaching practices and their educational goals. Rather than "use" PAL as a strategy that is predefined and added on to

teaching, the findings from this paper suggest that the teachers “engage” PAL in their teaching. Although much of the debate relating to PAL has been in terms of whether teachers feel competent to use it, the findings from our study suggest that this overlooks how teachers’ choices are guided by their educational values. In understanding the enactment of PAL in this way, a more complex and layered understanding of teachers’ perceptions of PAL is presented whereby the teachers’ educational values shape their judgements about PAL. Furthermore, these values are rooted, to some extent, in their identity as a teacher and from their experiences of practice, which in turn have been shaped by the wider educational policy context of Norway.

While previous research on PAL has explained pupils’ learning in physiological, behavioural, or cognitive terms (Norris et al., 2019; Watson et al., 2017), a didaktikk perspective has been somewhat taken for granted. Instead of focusing on the specific physical activities that teachers have been trained to deliver, our findings highlight that teachers’ knowledge about their pupils, the environment, and curriculum content could be important mediators of other specific educational purposes. This resonates with Sneek et al. (2019), who proposed that attention from teachers or a change in routine might themselves contribute to learning. Our paper supports the view that the quality of PAL is dependent on the teachers and their judgements on how and why they engage PAL in teaching and with what purposes in mind. This shifts the focus to teachers and teaching and away from PAL as a specific tool that is wholly beneficial if “used”.

The findings from our paper suggest that the teachers’ confidence was related to their attentiveness to both the curriculum and their pupils. Consistent with previous research, teachers’ confidence played a central role in the enactment of PAL (Daly-Smith et al., 2021; Quarmby et al., 2019). For the teachers in this paper, the focus on pupils and their learning in educational policy influenced their perceived space to design teaching. In turn, such an emphasis seemed to have given rise to the view that designing teaching had to be concerned with controlling the outcomes of teaching. The perceived importance of learning can be understood in terms of what Biesta (2020) describes as learnification. That is to say, the teachers were concerned with the prescribed curriculum objectives that pupils were to achieve. Emphasising the qualification function of education in this way, might give rise to the subjectification and socialisation functions of education being marginalised. However, teachers’ engagement with PAL disrupts this logic in that their focus on pupils supports their confidence to trust their own values. In alignment with previous research, teachers engaged in PAL because they sensed their pupils’ were positive about it (Quarmby et al., 2019; Routen et al., 2018). The open environment was key to understanding the dynamic that PAL creates because teachers perceived that it generated opportunities to enhance their understanding of pupils’ needs for development. This understanding, subsequently, supported teachers in designing teaching that went beyond learnification and towards the reprioritising of socialization and subjectification.

On this basis, the findings highlight a distinction between teaching *and* learning. Enactment of PAL, for the teachers in this paper, gives rise to a rediscovery of designing teaching that is concerned with the wider purposes of education. Rather than a single or primary focus on cognitive learning, teachers found pupils’ collaboration and communication during PAL to shift the premises of a teaching situation. In this way, teachers got to know the pupils’ differently, as academic and social encounters were interwoven to create dynamic teaching and learning environments. Consistent with previous research, the teachers perceived PAL to have contributed to enhanced engagement among the pupils with the content (Daly-Smith et al., 2021; Riley et al., 2017). Teachers drew on conversations and collaboration with pupils during PAL as insights when designing teaching. In line with the design-oriented didaktikk perspective, teachers viewed their own and the pupils’ participation in PAL as helpful to orient themselves to create meaning in the teaching situation (Østern & Strømme, 2014; Selander, 2017).

Educational purposes beyond learning were also related to pupils’ direct relationship between their social and knowledge encounters. Drawing on Biesta’s (2020) concepts of socialisation and subjectification, it seems that PAL has the potential to shape the conditions for contemporary

teaching because it allows teachers' to design teaching that goes beyond the sedentary one-way transfer of factual knowledge, into enactive ways of engaging pupils meaningfully in teaching (Selander, 2017). These encounters were closely related to the pupils' broader social and emotional development. In a didaktikk sense, this finding situates PAL as an approach that contributes to the development of pupils' capabilities to understand and use knowledge. Rather than reproducing knowledge (Biesta, 2010), the teachers valued PAL because it had the potential to develop pupils' learning in innovative ways. That is to say, instead of a sole focus on the qualification function, the findings from this paper suggest that teachers' engagement in PAL has the potential to contribute to subjectification (Biesta, 2020). That is, to make space, and give pupils time to meet teaching as themselves.

It is worth noting that the initial steps in the analysis of the empirical data led us back to the literature, which was then used to conceptualise PAL as didaktikk, while Biesta's (2020) functions of education helped us capture the teachers' voices. However, we do not have the data to analyse the impact PAL might have on the balance between Biesta's three functions. In addition, it is worth noting that Norway and the Nordic countries have a traditional educational and political emphasis on welfare and social equality (Lundahl, 2016), which might condition the relevance of these findings for other socio-cultural contexts. Furthermore, this was a relatively small-scale study of 21 teachers from four primary schools in Norway. The purposive selection of schools alongside relying on the headteacher to recruit teachers for the focus groups may have resulted in the study including those who had a greater interest in and commitment to PAL and had a more positive experience of it. However, within this group of participants, less favourable aspects of PAL were highlighted as well as the challenges teachers experienced in handling multiple demands in relation to their educational values. The teachers were not limited in their freedom to express their own views. It is likely, therefore, that the patterns in the data have some validity in terms of reflecting the social reality of the teachers in this study.

## Conclusion

In the process of unpacking PAL, we have found that conceptualising it as a didaktikk method sheds light on the potential value of PAL and its purpose in education. On the basis of our findings, we suggest that PAL is better understood not only as an externally defined strategy towards the realisation of predefined learning- and health related goals, but also as one potential method that can serve different purposes of education such as qualification, socialization, and subjectification (Biesta, 2020). For the teachers in this paper, PAL, alongside the curriculum LK20 could present an opportunity to reprioritise socialization and subjectification to meet the broader needs of pupils, such as their social and emotional development. In this way, PAL is likely to be enacted when it aligns with teachers' educational values and therefore one potential way of investing in their pupils' overall development. We conclude that contemporary discourses on Nordic countries' school-based education systems are likely to influence teaching approaches because teachers' fear not meeting externally set objectives and assessment of factual knowledge. If these challenges are to be met, the Norwegian education system would benefit from revising the curriculum for the education of teachers as well as informing the teachers of their role within the new curriculum. Teachers who are inclined to reflect upon their own values and interpretations in their teaching and its interplay with educational policy are more likely to engage with a new method such as PAL. This paper could be a departure point for future research that explores the co-development of PAL as one potential didaktikk approach that can better reflect the wider purposes of education with the required curricular knowledge. Such contributions could benefit from exploring subject-specific and content-related didaktikk.

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