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# What are teachers' reasons for using differentiated homework, and what prevents them from doing so? A qualitative interview study

Christine Feiss<sup>a,b</sup>, Gerda Hagenauer<sup>a</sup> and Sandra Moroni<sup>c</sup>

<sup>a</sup>Department of Educational Science and School of Education, Paris-Lodron University Salzburg, Salzburg, Austria; <sup>b</sup>Institute of Education and Professional Studies, University of Teacher Education, St. Gallen, Switzerland; <sup>c</sup>Institute of Educational Science, University of Bern, Bern, Switzerland

## ABSTRACT

An important quality criterion of homework is fit, i.e. the optimal relationship between task requirements and the students' abilities and interests. Fit can be achieved through differentiation. It has been found that few teachers give differentiated homework despite knowledge of its advantages. In light of this finding, the study conducted 23 semi-structured qualitative interviews with Swiss secondary school teachers to investigate whether teachers use differentiation measures for homework – and if so, which ones. The interviews explored teachers' arguments and challenges surrounding the differentiation of homework, including the conditions required for the successful differentiation of homework. The results showed that only six teachers assigned differentiated homework regularly. In addition, the authors found that the interviewed teachers mentioned a variety of arguments and associated challenges and reported conditions for success that occur both at the individual teacher level and the structural level.

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Differentiation; homework; homework quality; interviews

## Introduction

Homework is a common practice in many schools, and studies have examined various aspects of it, with many expressing concerns for its effectiveness. In this regard, researchers agree that the quality of homework is crucial for it to positively influence the behaviour of students and thus impact their achievement (Dettmers et al. 2010; Trautwein and Lüdtke 2007).

One aspect of homework quality is the homework's fit or suitability, which is the optimal relationship between the requirements of tasks and the abilities or interests of the students (Dettmers et al. 2010). For most students, an optimal fit can only be achieved via differentiated homework. Achieving this fit is particularly important because students lack access to teacher support when completing homework, and support from parents is also not available for all students. Differentiated homework can reduce the likelihood of

**CONTACT** Christine Feiss  christine.feiss@phsg.ch  Institute of Education and Professional Studies, University of Teacher Education, Seminarstrasse 27, Rorschach 9400, Switzerland

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over- or under-challenging students and ensure they can complete their assignments independently.

Studies on the topic of differentiated homework are scarce. Some research has found that teachers are aware of the need to differentiate homework but only implement it to a small extent, citing reasons such as the extra effort it requires and possible confrontations with students (Hascher and Hofmann 2011; Kohler 2008). To explore this aspect in more detail, this study examines the differentiation of homework from teachers' perspectives.

## Homework

Homework has a long tradition worldwide and is a common practice in many schools. Cooper (1989, 7) defines homework as 'tasks assigned to students by school teachers that are meant to be carried out during non-school hours'. Researchers have examined various aspects and concepts related to homework, with many seeking to assess its effectiveness. Their results have been heterogeneous, although some indicate that the quality of homework is a crucial aspect of student engagement and, thus, effectiveness (Dettmers et al. 2010; Rodríguez et al. 2019; Rosário et al. 2018). For example, students' motivation to do homework is positively related to the assignment's perceived quality: in other words, they are more engaged in homework when they view it as high quality (Rosário et al. 2018; Trautwein and Lüdtke 2007; Trautwein et al. 2006; Xu 2022; Xu et al. 2021). In addition, students' increased engagement in homework can contribute to improved school achievement (Dettmers et al. 2010; Rosário et al. 2018; Trautwein and Lüdtke 2007, 2009; Trautwein et al. 2002, 2006).

### Quality of homework

Various motives can drive teachers to assign homework – that is, homework can fulfil different functions for teachers. For example, homework can link school and family and give parents insights into their children's schooling (Cooper 1989; Trautwein et al. 2009). Likewise, teachers may aim to enhance student motivation and self-regulation through homework assignments to improve performance and achievement (Trautwein et al. 2009).

Previous research on homework has outlined different criteria to determine homework quality according to the abovementioned functions. Regarding the former, parents and guardians are only provided with a real insight into their children's school if homework is embedded in the teaching–learning process and thus relates to the content of the lessons (Hascher and Hofmann 2008). Concerning the latter, Trautwein, Köller, and Baumert (2001) showed, for example, that teachers correcting students' homework positively influences students' interest in the subject of that homework.

Crucially, as previous studies have shown that such teaching elements are positively related to achievement, most criteria for homework quality relate to its function of increasing student achievement and specify that tasks should be cognitively challenging and activating (Cooper 1989; Dettmers et al. 2010; Lipowsky et al. 2004). Teachers should also assign homework regularly but not too extensively, as various studies have

revealed that it is not the amount of homework but its regularity that is impactful on learning outcomes (Cooper 1989; Trautwein et al. 2002; Trautwein, Köller, and Baumert 2001).

Another characteristic of high-quality homework is its explicit embeddedness in the teaching–learning process (Hascher and Hofmann 2008; Trautwein and Lüdtke 2007). Rosário et al. (2018) showed in their study that, from the perspectives of students, high-quality homework is that which pursues a goal related to the lesson. Furthermore, Lipowsky et al.'s (2004) results indicated that student achievement is unaffected by whether a teacher monitors homework completion, but if didactic aspects are reviewed in addition to formal and organisational ones, then homework has an achievement-enhancing effect.

A final criterion for homework quality is fit (i.e. the optimal relationship between the task requirements and student abilities; Dettmers et al. 2010). If teachers assign all students the same tasks, their fit would not always be optimal, making them unable to measure success (Chen 2022). Differentiation for individualised student fit is thus an important and decisive feature that determines the quality of homework and its ultimate effectiveness and efficiency.

### *Differentiated homework*

Researchers have defined and conceptualised differentiation in various ways. Scarparolo and Subban (2023, 21–22), for example, distinguish between differentiation as an overarching philosophy and differentiated instruction as adapting instruction to the diversity of students to maximise teaching and learning time. According to Bondie et al. (2019), one definition on which many studies are based is Tomlinson's (2017, 10): 'In a differentiated classroom, the teacher proactively plans and carries out varied approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs.'

Adapting tasks to students' diverse interests and needs is particularly important for homework, as students cannot access their teachers' support at home. Relatedly, previous studies investigating parental homework involvement have found that students' perceptions of homework help are crucial (Moroni et al. 2015; Pomerantz et al. 2007). When help with homework is perceived as supportive, that assistance has a positive effect on achievement, whereas controlling behaviour (e.g. if the parents interfere without being asked or interrupt the students and ask questions) has a negative effect (Moroni et al. 2015; Núñez et al. 2015).

Wittmann (1970) and Eigler and Krumm (1972) noted that student achievement cannot be improved through identical, non-specific homework assigned to all students. Kohler (2008) also noted that such uniform homework is only suitable for some students: it is too difficult for some or too easy for many others, so, on average, it has no achievement-enhancing effect. One possible consequence of uniform homework assignments is that higher-performing students are insufficiently challenged, becoming less motivated to complete their homework – and possibly, to participate in school (Becker and Kohler 2002). Therefore, research recommends that homework be cognitively challenging but not overwhelming so that students can complete it independently (Dettmers et al. 2010; Niggli, Trautwein, and Schnyder 2010).

In the final practicum of a master's degree programme, Keane and Heinz (2019) showed that students were likelier to complete homework that had been differentiated and that differentiated assignments could improve their attitudes towards homework. More recently, Rodríguez-Martínez et al. (2022) found that students who received personalised homework based on a learning analytics-based formative assessment of domain-specific didactic knowledge about fractions achieved higher levels of understanding for certain types of knowledge.

International research on differentiated teaching has widely used Tomlinson's (2017, 7) categorisation, which suggests that teachers offer different approaches in terms of content, process or product. According to Tomlinson (2017, 124), teachers can view the differentiation of content in two ways: 'as adapting what we teach or want students to learn or [...] as adapting how we give students access to what we teach or want them to learn'. Regarding the process whereby teachers differentiate homework, students should be given the opportunity to achieve their learning goals in individualised ways, with differing levels of difficulty, expected due dates, and amounts of support from the teacher or peers (Tomlinson 2017, 133–134). Tomlinson (2017, 142–143) distinguishes between sense-making activities (i.e. demonstrating mastery of specific content or applying that content), performance tasks (how well students apply or transfer what they have learnt so far) and products (similar to performance tasks but require more time to complete and students work on a broader and deeper level). For describing different forms of homework differentiation, however, we did not rely on Tomlinson's categories, instead using a categorisation scheme prominent in German-speaking countries (e.g. Kohler 2017b; Niggli and Moroni 2009) because these distinctions are also familiar to the surveyed teachers. Accordingly, homework can be differentiated according to four criteria: quantitative differentiation, qualitative differentiation, choice differentiation, differentiation of the learning process.

*Quantitative differentiation* protects students from time overload by allowing them to complete a different number of tasks. For example, teachers expect students with lower levels of achievement to complete selected tasks but expect students with higher levels of achievement to complete all tasks, as they usually work faster. Teachers can differentiate homework quantitatively by defining compulsory and optional tasks, setting a minimum number of tasks, or specifying an amount of time to work (in which students complete an individual number of tasks; Kohler 2017b).

Teachers who perform *qualitative differentiation* offer students different tasks or levels of support corresponding to their achievement levels and methodological approaches (according to the students' learning styles or abilities; Kohler 2017b). For example, whereas students with lower levels of achievement receive tasks with a lower level of difficulty, those with higher levels of achievement receive tasks with a higher level of difficulty. Additionally, in the process of *choice differentiation*, teachers can offer students a selection of tasks with varying difficulty levels from which the students can decide which to do as homework (Niggli and Moroni 2009). Finally, teachers may assign 'open' homework assignments that students can complete in different ways over a similar amount of time, a practice called *differentiation of the learning process* (Niggli and Moroni 2009, 18). In this type of differentiation, teachers give students a task, such as writing a text. The teacher does not specify the length of the text (as would be the case with quantitative differentiation) or

quality aspects (e.g. having to include certain grammatical or content features, as would be the case with qualitative differentiation). Accordingly, the teacher receives different texts in terms of length, but also spelling and grammar, depending on the students' level of performance. These forms of differentiation can also be combined, offering more flexibility for teachers.

Although much is known on a theoretical level about how to differentiate homework in a learner-appropriate and high-quality manner, this knowledge is not yet reflected in teachers' behaviour. In a study of around 300 pre-service and in-service teachers from Austria and Switzerland, only 15% were found to use differentiation criteria when assigning homework (Hascher and Hofmann 2008). Additionally, Hagenauer and Oberwimmer (2019) showed that 75.5% of surveyed teachers in Austria assigned all students the same reading homework in 2011; the proportion was 64.5% in 2016.

This raises the question of why, since various authors have emphasised its necessity and advantages, so few teachers assign differentiated homework. According to Cooper (1989), Kohler (2008, 2017b) and Hascher and Hofmann (2008), teachers are aware of the need for differentiation but are concerned about the additional effort involved in formulating and checking homework. Moreover, they are apprehensive about potential arguments with students due to differing homework assignments (Kohler 2008, 2017b).

To be able to assign differentiated homework, teachers must have high levels of diagnostic competence as well as content and pedagogical content knowledge (Hascher and Hofmann 2008). Differentiated homework requires that teachers assess the level of demand and required time investment for homework tasks, recognise students' existing prerequisites, including their capabilities and needs, and use that information to select and assign suitable, high-quality tasks (Hascher and Hofmann 2011). Oser (2001) revealed deficits in this regard, finding that 70% of surveyed pre-service teachers stated that they had no knowledge about giving qualitatively informed homework.

However, in addition to the different facets of teachers' professional knowledge-related competence, teachers' attitudes and beliefs are of utmost importance for implementing homework differentiation more broadly (see, e.g. Trenholm and Chinnappan 2018). It is thus necessary to investigate in-depth the factors that motivate or hinder teachers from giving differentiated homework. To this end, this study focuses on teachers' views of differentiated homework by exploring the following research questions:

- Do teachers use differentiation measures for homework? If so, which ones? (RQ1)
- What arguments and challenges do teachers express in relation to the differentiation of homework? (RQ2)
- What conditions for success do teachers express with regard to the differentiation of homework? (RQ3)

The present study contributes to the large body of research concerned with the effectiveness and quality of homework. It extends previous research on the topic by focusing on a specific aspect of quality – differentiation – that has rarely been considered to date, particularly regarding teachers' perspectives. As teachers have a key role in homework quality and its differentiation, further exploration of their perspectives is crucial.

## Method

### Participants

The study involved 23 secondary school teachers from the canton of Bern in Switzerland. To participate, teachers had to teach German (the language of instruction and main subject in the area) and must have been in the teaching profession for at least three years. We contacted all secondary schools in the canton to recruit teachers willing to participate in the interviews. As there are five different school models in the canton of Bern, and they differ in permeability, specific schools and teachers were contacted after 20 interviews to ensure we would interview the appropriate number of teachers from each model (i.e. if 19% of teachers teach at School Model 3b, then 19% of our sample should teach at School Model 3b). In *Model 1*, students of the high-track secondary level (Sekundarschule) and the low-track secondary level (Realschule) are taught separately in different school buildings. By contrast, in *Model 2*, the two tracks are taught in separate classes but in the same school building. In *Model 3a*, students are taught in ability-level groups in main subjects (mathematics, German, French), while in the remaining subjects, they are taught separately (in low- and high-track levels). *Model 3b* doesn't differ from Model 3a in the main subjects, but the core classes in Model 3b are mixed and thus consist of students from the low- and high-track levels.

Table 1 shows the composition of the interview sample in terms of gender, age, and work experience. Notably, the gender distribution of the sample corresponds to the cantonal distribution, unlike the age distribution (FSO 2023).

### Interviews and procedure

Since teachers' perspectives on homework differentiation are relatively unexplored, we selected a qualitative-explorative approach to answer the research questions. Based on an interview guide, we conducted semi-structured interviews in person or via Zoom (due to the COVID-19 pandemic), with each lasting between 28 and 69 minutes. An informal, conversational style was chosen to encourage respondents to openly discuss their attitudes and views on homework practices. We obtained consent from all participating teachers to use the data we collected. The interviewees could withdraw their participation from the study at any time, and their personal information was kept confidential.

The interviewed teachers were first asked whether they consider the different prerequisites of students as part of their homework practice. Depending on their answers, they were asked to elaborate or explain why they do (or do not do) so.

**Table 1.** Composition of the interviewees.

Distribution: Age		Distribution: Experience		Distribution: School models		
Age	N	Years	N	Model	N	Percentage
<30	1	<5 years	2	1	2	8%/7.6%
30–40	11	5–10 years	5	2	3	5.6%/7.6%
41–50	8	11–15 years	7	3a	12	56.5%/60.8%
>50	3	16–20 years	6	3b	4	24.9%/19.6%
		>20 years	3	4	2	5%/4.4%

The percentages before the slash represent the distribution of the given school model in the canton of Bern. The percentages after the slash represent the distribution of the given school model in the present sample.

Subsequently, teachers were asked to give information about their views on the differentiation of homework, including points for or against it. They were asked what they considered to be relevant obstacles and barriers. Finally, they were asked to state their views about what would be necessary for homework differentiation to succeed.

The work in this paper was carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for research involving human participants and per the APA's ethical standards. All participants in our study provided their written, informed consent in accordance with the Declaration of Helsinki and approved the processing of their data in advance. They could terminate the interviews at any time without justification. After the end of their interview, the participants each answered a short questionnaire about their demographics; these data were stored separately from the interview data.

### **Data analysis**

The interviews were recorded via Dictaphone or Zoom and then transcribed verbatim by the first author and trained student assistants. We adhered to binding and pre-determined transcription rules (Fuß and Karbach 2019; Kuckartz 2010). The personal details of the participants were anonymised in the transcripts.

The interviews were analysed according to the structure of qualitative content analysis defined by Mayring (2017) and using MAXQDA software. The interview material was coded using deductively developed categories in the first step, and further categories were formed inductively during the coding process. In the final coding scheme, each category was described and given a representative anchor example.

Table 2 shows the number and names of categories and subcategories for each research question and provides a description of them.

A second independent researcher working in the relevant research field coded two randomly selected interviews using the final coding scheme to ensure intercoder reliability. The coding was then reviewed and discussed. Once consensus was reached, the second researcher coded four more randomly selected interviews; these four double-coded interviews were used to calculate intercoder reliability using the corrected Cohen's Kappa coefficient, as Brennan and Prediger (1981) proposed. Intercoder reliability was good ( $\kappa = .82$ ; Landis and Koch 1977).

## **Results**

### **Forms of differentiation used in secondary school**

In response to our first research question – whether teachers use differentiation when giving homework – we found that six of the 23 teachers regularly used differentiation strategies when assigning homework. We then investigated which forms of differentiation these six teachers utilised.

Most frequently, the interviewed teachers mentioned providing *voluntary homework*. Those who only reported voluntary homework and no other forms of differentiation were not considered teachers who assigned differentiated homework.

**Table 2.** Categories, category description and number of codes.

	Categories	Subcategories	Description of the subcategories	Codes			
RQ1	2	7	<i>The teachers reported that ...</i>	56			
			<i>differentiated homework practice</i>	6			
		<i>yes</i>	... they do take into account the different requirements of the students when assigning homework.				
		<i>no</i>	... they do not take into account the different requirements of the students when assigning homework.	17			
		<i>forms of practised differentiation</i>	<i>quantitative differentiation</i>	... they differentiate homework quantitatively.	7		
			<i>qualitative differentiation</i>	... they differentiate homework qualitatively.	7		
			<i>differentiation of the learning process</i>	... they use differentiation of the learning process.	0		
		<i>choice differentiation</i>	... they differentiate the homework by choice.	4			
		<i>voluntary homework</i>	... they provide voluntary homework.	14			
RQ2	4	31	<i>One difficulty for teachers when it comes to differentiating homework was ...</i>	171			
			<i>hurdles, stumbling blocks</i>	2			
				<i>habit</i>	... an already developed habit of giving undifferentiated homework.		
				<i>time limit</i>	... the time limit set by the curriculum.	2	
				<i>control/integration into lessons</i>	... how to control the homework or how to include it effectively in the lessons.	4	
				<i>knowledge</i>	... a perceived lack of professional knowledge.	4	
				<i>suitable tasks/ideas</i>	... finding suitable tasks or ideas.	4	
				<i>involved do not want</i>	... that students do not want to do so.	1	
				<i>overview/organisation</i>	... keeping an overview and organising the tasks effectively.	5	
				<i>suitable material</i>	... finding suitable material.	6	
				<i>additional effort/lack of time</i>	... the additional effort differentiation requires or the lack of time.	15	
				<i>level/skills of the students</i>	... knowing the achievement level or skills of the students.	7	
				<i>reasons for non-differentiated homework practice</i>	<i>Teachers report that they do not differentiate homework ...</i>		
					<i>too high demands</i>	... as this is a too high demand.	1
					<i>less homework/importance of homework</i>	... because they only give a small amount of homework or attach low importance to it.	3
					<i>never thought about it</i>	... because they have never thought about it before.	3
					<i>plan work</i>	... because they work with (weekly) plans (some of which are already differentiated).	5
					<i>fairness</i>	... as they believe that differentiation might be experienced as unfair by the students.	1
					<i>self-responsibility of the students</i>	... because they want to hand over the responsibility of the learning process to the students.	3
					<i>lack of necessity</i>	... because they do not perceive differentiation to be necessary.	3
	<i>control/integration into lessons</i>	... because it is more difficult to control or to integrate it into the lessons.	1				
	<i>effort/resources</i>	... because it requires more effort or because they lack the necessary resources.	7				
		<i>habit</i>	... as they have not done so before (habit).	1			

(Continued)

Table 2. (Continued).

Categories	Subcategories	Description of the subcategories	Codes
<i>arguments in favour of differentiation</i>		<i>One argument in favour of differentiating homework from the teacher's point of view is that ...</i>	
	<i>the same amount of homework for all students</i>	... the students have the same amount of homework.	4
	<i>suitable amount</i>	... the appropriate amount of homework can be given.	5
	<i>motivation</i>	... differentiated homework enhances the motivation of the students.	8
	<i>no counterarguments fit/individualised support</i>	... there are no arguments against differentiation. ... the tasks fit the students' abilities.	9 29
<i>arguments against differentiation</i>		<i>One argument against differentiating homework from the teacher's point of view is ...</i>	
	<i>give up control</i>	... that teachers have to give up control to a certain extent.	2
	<i>keep the overview</i>	... that teachers have to keep an overview.	3
	<i>achieve standards</i>	... that students do not reach the same standards.	6
	<i>unfair/desire not to be different</i>	... that the students do not want to be treated differently.	7
	<i>control/integration into lessons</i>	... checking or integrating it into lessons.	8
	<i>effort</i>	... the effort.	12
	RQ3 1 <i>conditions for success</i>	12 <i>Teachers are of the opinion that ...</i>	52
	<i>quality of the teacher – student relationship</i>	... a good relationship between teacher and students helps to differentiate homework.	4
	<i>flexibility</i>	... flexibility is needed for differentiating homework.	3
	<i>confident in relation to the learning content</i>	... differentiating homework requires confidence in relation to the learning content.	2
	<i>foresight or early planning</i>	... differentiating homework requires foresight and early planning.	1
<i>interest/motivation</i>	... differentiating homework requires teachers' interest or motivation.	3	
<i>sensitisation/ professional knowledge</i>	... sensitisation and professional knowledge support differentiation in homework.	2	
<i>examples of good practice/suitable teaching aids</i>	... examples of good practice or suitable teaching aids support differentiation in homework.	9	
<i>digital tools</i>	... digital tools help with differentiation in homework.	5	
<i>agreement or cooperation</i>	... agreements or cooperation with other teachers help to differentiate homework.	5	
<i>resources</i>	... resources help to differentiate homework.	10	
<i>reduced number of lessons per week</i>	... a reduced number of lessons helps to differentiate homework.	5	
<i>opportunity to do their homework at school</i>	... the opportunity to do homework at school helps to differentiate homework.	3	

Aside from offering voluntary homework, some teachers stated that they differentiated homework *quantitatively*; they pursued different strategies to do so. For example, they assigned different amounts of homework based on grade (in multi-age classes) or performance level (in mixed-level classes). They also differentiated homework based on students' individual abilities. Another way to protect students from time overload was to set individual or grade-specific time limits for homework.

One teacher reported a special arrangement with a student – a form of individual homework:

Well, I just have an agreement with a student (...) <sup>1</sup> he just writes somehow, big and small and adventurous writing and somehow (laughs), and tons of mistakes in it and so, and we just agreed that if it is really not good (...) he just types it again at home and redoes it. (16, pos. 16)

Some teachers also *qualitatively differentiated* homework to prevent their students from being over- or under-challenged. Some teachers reported creating plans or dossiers for their students with integrated exercises and assignments corresponding to their abilities for completion as homework.

[When doing the] evaluation at the end, I make a note in the support plan of what is not yet possible. (...) And I really do write it down afterwards on the basis of the learning goals: It really hasn't been achieved yet. (...) And then they – well, I also add exercises to which I write: 'That would be possible online. There, there, there you can practise'. (14, pos. 14)

Another possibility is the *differentiation of choices*. Most of the choices the teachers offered were related to teaching literature. For example, they stated that students could choose one book from a selection of books or choose a book independently. Another method was to offer students the option to listen to an audiobook instead of reading a printed book:

We have clarified people with dyslexia, and there, we usually look for readings that – that [there] is an audiobook for it. And they are allowed to listen to it from time to time and read along or just listen to a chapter. Yes, (...) so at the beginning, I only suggest it to those (...) those who have been diagnosed with dyslexia and towards the end (...) I also tell the others that they can also take the audiobooks to help them. (11, pos. 20)

One teacher reported that she also provided different worksheets for subjects other than literature and offered the students a choice of which to do.

The teachers did not report using any *differentiation of the learning process*.

### **Arguments and challenges in relation to differentiated homework**

We found that six teachers regularly used differentiation in their homework assignments, while 17 of the 23 teachers interviewed did not. Our second research question concerns teachers' arguments for and against differentiating homework, including its associated challenges.

#### **Arguments for differentiating homework**

The teachers expressed various arguments in favour of differentiating homework. The main supporting argument mentioned by almost all teachers was the *fit of the tasks* and the accompanying individual-level support for students. By differentiating assignments, teachers could avoid over- or under-challenging students with homework. One teacher mentioned that fit is also critical in ensuring that students could do the homework independently, leading to fewer conflicts at home.

Yes, there are simply situations – The parents are (.) maybe single parents and (...) work 100% of the time and later in the evening they have to motivate the child to do the homework (...)

In order to avoid this- this- (.) point of conflict a bit. (.) I have the feeling that it is certainly also important, and on the other hand also for – for the performance. (15, pos. 18)

Another argument in favour of differentiation was that *students' motivation* could be improved by differentiated homework. Teachers also supported it by stating that motivation is promoted by giving an appropriate *amount of homework*. Some of the teachers argued that all students should spend the *same amount of time* doing homework:

It seems very important to me that the motivation for school can be kept (..) and what I said before, simply students who have more trouble or need longer-longer time (.) it can then be a huge relief or a huge frustration too, or can actually destroy the (..) pleasure of going to school when there is a huge mountain of homework to do at home. (12, pos. 18)

### *Challenges of and arguments against differentiated homework*

Some teachers stated that there are no counterarguments for differentiating homework. However, several others argued against it, citing its challenges and other reasons for not differentiating assignments.

One pivotal aspect for the interviewed teachers, influencing their views on homework differentiation, was *workload*. Differentiation is associated with additional work that teachers are not always willing to do or feel that they can do. As one teacher said,

So, I don't have the time, or I don't take the time. (.) I just have a lot to do (.) and I try to work as efficiently as possible and that falls – that falls out. (01, pos. 14)

Other factors involved in teachers' listed challenges were their reported practices of *correcting homework*, *giving feedback*, or *integrating homework into the classroom*. Multiple teachers were concerned about how they could correct differentiated homework and use it for further work in class:

(..) if you really do it, there is also the question: how do you integrate it into the lesson afterwards? (03, pos. 28)

Closely related to this concern was the challenge of *staying organised*. When students receive individually differing assignments, it is much more difficult for teachers to stay organised and keep track of them.

Some teachers also made arguments from students' points of view. They said that students perceive differentiated homework as *unfair* and *do not want to stand out* or be different from others, so they prefer to receive the same homework as their classmates.

Plus, (..) they often don't want it at all. (.) That they often don't like to expose themselves and stand out ... (05, pos. 26)

Another argument against differentiated homework was that it entails *handing over responsibility* to students – such as when students assess themselves and complete their own corresponding assignments – with teachers expressing the concern that students may underestimate or overestimate what homework would be appropriate. Some used this as a reason to engage in non-differentiated homework practice.

Yes, everyone then decides for themselves: 'What do I have to do?' Exactly (.) and I don't actively differentiate by saying: 'You only have to do this' (.) and that – I don't even presume to do that (.) and at this level, you have to slowly hand over the job to them ... (10, pos. 18)

In the interviews, teachers also indicated that they were in the *habit* of assigning undifferentiated homework or had *never thought about giving differentiated homework*. Moreover, teachers claimed that they lacked *professional knowledge* of differentiated homework practice and did not know how to implement it appropriately, representing another challenge. However, in addition to the lack of knowledge, a possible *lack of suitable material and assignments* was a noted challenge for a few teachers:

Yes, certainly finding homework that can be differentiated well. Right now, with the reading diary, that works well. But with other things, it is sometimes more difficult. (. . .). Or with writing, it works quite well. Yes, the stories can be different lengths afterwards. (12, pos. 26)

Teachers must know students' achievement levels to appropriately assign differentiated homework, which represents another challenge. Meanwhile, teachers who differentiate homework must ensure that all students *achieve standards* set by the curriculum, so the interviewed teachers perceived the existence of achievement standards as an argument against differentiation.

Another challenge for several teachers was the *time limit* resulting from a curriculum reform implemented in the canton of Bern in 2018. According to the new curriculum, students should not do more than 90 minutes of homework per week, so the interviewed teachers claimed that they give less homework generally and thus do not differentiate it.

Finally, teachers indicated that the *demands* on them are high. Thus, some other reasons given by the teachers for non-differentiated homework practice indicate that they *do not perceive it as necessary*. Some teachers developed homework based on weekly plans created and differentiated by them, which meant that differentiation would already have been in place. Some other teachers expressed that they teach a homogeneous group of students and thus saw no need to differentiate.

### **Conditions for success in differentiation in homework**

The last research question dealt with teachers' conditions for success. The interviewed teachers mentioned different conditions for success in differentiating homework, some of which can be attributed to the teacher level and others to the structural level.

At the teacher level, some respondents mentioned the *quality of the teacher–student relationship* as a condition for success.

Yes (sighs) (. . .) As with everything else, simply (.) the relationship with the students, that you know them (.) a little (.) and (.) they must, of course, be motivated to do something, yes, then (.) it goes automatically, so actually, yes, maybe they then differentiate (.) like themselves. (07, pos. 30)

In addition, a certain degree of *flexibility* is necessary for homework differentiation to succeed. A couple of teachers reported that it is sometimes necessary to deviate from the lesson plan if they notice that some students do not understand something or are not progressing as quickly as others. For flexibility and differentiation to be possible, teachers must also feel *confident in relation to the learning content*.

Of course, what is also necessary is that you know the material well yourself. So you know what you can do with the material. (18, pos. 20)

In addition, one teacher reported that some *forethought or early planning* is helpful:

Yes, I think it would make sense if you think further ahead than maybe only two days ahead, (...) that you (...) when planning, think about what I would like to do by then. (20, pos. 28)

From the teachers' point of view, the decisive factors for applying differentiated homework and the core elements of professional competence are the teachers' *interest, motivation, sensitisation* and *professional knowledge*. The teacher must not only be sensitised to the topic and have the requisite knowledge to assign differentiated homework but also have the desire and inclination to put this knowledge into practice.

Regarding the structural-level conditions, most teachers mentioned the *resources* (e.g. time, staff, material) necessary for differentiation to succeed. For material, they considered it important to have *examples of good practice* or *suitable teaching aids* that they can use as guides. In addition, teachers who aim to give differentiated homework found *digital tools* to be a great help:

There is a digital platform, Lernareal.ch, where you can learn certain things in three levels. (...) I say, for example, that those who want to go to a grammar school [allows admission to the university] or a secondary school [allows admission to a higher education institution], they do it really hard. (...) And those who just want to be sec level [high-track secondary level], that will also be the basic material for the test, they just do medium. (04, pos. 28)

Another condition mentioned by some teachers was *agreement or cooperation* with other teachers. Especially under time constraints, it is important for teaching staff to work together so that homework can be distributed fairly among the subjects. From the teachers' point of view, *reducing the number of lessons per week* would be helpful as it would give students more time to work on individual assignments while giving teachers more time to plan and prepare high-quality homework.

Finally, offering students the *opportunity to do their homework at school* is helpful.

I was just thinking (...) that homework lessons would be introduced. At the moment, there are these (...) in the 8th and 9th grades in which they work individually, which is not bad in some cases. But the problem there is (...) they sometimes disturb each other, that's just completely normal. The absolute calm is missing. (21, pos. 30)

## Discussion

The primary aim of this study was to investigate teachers' subjective views of differentiated homework. In doing so, this study contributes to the literature on the quality of homework. Although there is a strong theoretical argument for adaptive and individualised teaching practice (Deed, Lesko, and Lovejoy 2014; Smale-Jacobse et al. 2019), studies have repeatedly shown that teachers rarely individualise homework (Hagenauer and Oberwimmer 2019; Hascher and Hofmann 2008). How can we explain this? To answer this question, we must better understand teachers' views of differentiated homework. Our study seeks to provide some initial insights into this perennial question.

For RQ1, the results showed that (only) six of the 23 teachers regularly give differentiated homework using various forms of differentiation. Consequently, the results align

with those of previous studies (e.g. Hagenauer and Oberwimmer 2019; Hascher and Hofmann 2008), which show that few teachers use differentiation when giving homework. As these results contrast efforts to be inclusive in the school system that have led to a more heterogeneous student body – creating the expectation that differentiated homework practice would be widely implemented – such findings are surprising. Likewise, teacher education and training strongly emphasise adaptive competence, ostensibly making such resistance to differentiation unlikely (Franz 2019).

Regarding the differentiation of homework in general, previous research has suggested that the additional effort and potential confrontations it may provoke with students prevent teachers from implementing it widely, despite their awareness that it is necessary (Cooper 1989; Hascher and Hofmann 2008; Kohler 2008, 2017a). Thus, since it is not associated with excessive additional work, it is unsurprising that voluntary homework is the form of differentiation teachers offer most frequently. For example, teachers stated that they provide additional practice material (with solutions) that students are not obliged to complete, thus handing that responsibility to the students.

In contrast, none of the interviewed teachers mentioned using any differentiation of the learning process. Although we can only hypothesise why the teachers did not use this form of differentiation, it could be because differentiating the learning process involves more time spent developing, checking, and integrating differentiated content into the lesson. It could also be because teachers must develop specific forms of competence to assign open homework that allows students to follow different paths.

Previous research has identified obstacles that make implementing differentiated homework into daily teaching practice challenging; our study confirmed their relevance, expanding the list of obstacles to include additional factors (RQ2). Although the interviewed teachers frequently acknowledged that differentiated homework is a crucial way to ensure an appropriate fit between the task and the individual student (see also Dettmers et al. 2010), most also strongly argued against differentiation or mentioned perceived challenges. In addition to the additional effort that differentiated homework requires from teachers, the interview accounts were predominated by the presumption that students would perceive differentiated homework as unfair.

Teachers mentioning extra effort aligns with previous research, as many authors have reported this as a finding from research on differentiation in the classroom (Taylor 2017). Interestingly, however, the interviewed teachers also believe that due to perceptions of 'fairness', the practice of differentiated homework would be considered problematic by students. In more concrete terms, the teachers mentioned that students do not want differentiated homework because it could be unfair if not all students have the same homework. Although this is understandable, the opposite could also be argued persuasively. Indeed, according to Jager et al. (2022), differentiation ensures that the different learning characteristics of students – their interests, abilities, and cultural backgrounds, as some examples – are taken into account, which is essential in promoting equal opportunities for all.

Other challenges with or arguments against homework differentiation that the teachers mentioned were the resources, materials, and lack of knowledge about practical differentiation strategies; these results are largely consistent with the findings of Roiha (2014), whose research explored differentiation in the context of Content and Language Integrated Learning (CLIL) in Finland. Some teachers also seemed to lack the skills

necessary to assign differentiated homework. They expressed the need for examples of useful practices and tools to support them in assigning differentiated homework and including it in lessons. Examining previous research in this area reveals that this perceived lack of competence seemingly concerns both homework differentiation and differentiation measures in general. For example, Pozas, Letzel, and Schneider (2020) found that teachers do not feel prepared to differentiate instruction and address student diversity. A more recent study by Pozas, Letzel-Alt, and Schwab (2023) revealed that differentiated instruction is positively related to teacher stress. According to such findings, if there is general uncertainty regarding differentiation and dealing with student diversity, which comes with heightened stress, this will likely transfer to homework practice as a subset of instruction.

One unexpected result of this study was that some teachers stated that they had never thought about giving differentiated homework. One reason for this finding that relates to the study's Swiss context could be that the importance of homework has decreased since the imposition of the new curriculum, which stipulates that teachers should give students a maximum of 90 minutes of homework weekly (across all school subjects). This may have made teachers less willing to invest time and effort into homework, as they can only assign a few homework assignments each week. However, as the desired effect of differentiation is to maximise learning, it is crucial that assignments match students' abilities and motivation, especially when homework time is limited (Tomlinson et al. 2003).

Regarding the conditions for the successful implementation of differentiated homework (RQ3), the teachers emphasised – as revealed in the results for RQ2 – that increased awareness of the topic and professional knowledge are indispensable. In addition, they considered interest and motivation, which are closely related, to also be impactful. Previous studies on differentiated instruction have shown that teachers are more likely to differentiate lessons if previously introduced to the topic during the teacher education process (De Neve and Devos 2016; Goodnough 2010). Ensuring differentiation is addressed in education enables pre-service teachers to acquire theoretical knowledge regarding differentiated homework, which can support the development of a positive attitude towards differentiation (De Neve and Devos 2016; Goodnough 2010). If teachers possess professional knowledge of differentiated homework and agree on its benefits, they are likelier to be interested and motivated to implement it.

The teachers interviewed also mentioned high-quality teacher–student relationships as a condition for success. According to Horstkemper (2017), the teacher–student relationship is an essential prerequisite for successful professional activity in general, affecting indicators of quality in homework practice (e.g. differentiation). According to Self-Determination Theory (Ryan and Deci 2000), a positive teacher–student relationship also addresses one of the three psychological needs (i.e. the need for relatedness), making it crucial for student motivation.

On the structural level, teachers also mentioned the provision of resources and reduction of lessons as important factors that help them implement differentiated homework in the classroom. A lack of resources leads to stress for the teacher and constitutes an obstacle to differentiation (Glock, Kleen, and Morgenroth 2019; Pozas, Letzel-Alt, and Schwab 2023). Stress can be triggered by the number of lessons, large class sizes, or classes with students whose levels of achievement vary widely (Glock, Kleen, and Morgenroth 2019; Pozas, Letzel-Alt, and Schwab 2023); the latter stressor is particularly significant because it is precisely the

condition that demands differentiation. Finally, the teachers requested examples of effective practice, which can be related to the finding that teachers feel unprepared and unfamiliar with appropriate ways to implement differentiation (Glock, Kleen, and Morgenroth 2019).

## Limitations and implications

When interpreting this study's results, the following limitations must be considered. Firstly, as the present study only explored the perceptions of secondary school teachers in a highly specific context – the canton of Bern in Switzerland – the findings may not be widely generalisable and warrant further examination. Due to the cantons' differing curriculum specifications regarding homework (e.g. in terms of time), different results could be found in other cantons, countries, or school contexts (e.g. primary schools). Likewise, these findings may differ based on the school subject (e.g. German versus mathematics).

Secondly, the data were collected based on self-reporting by the teachers. Even though this study implemented active measures to avoid bias (i.e. the respondents' opinions were valued, and there were no right or wrong answers), social desirability may have influenced the teachers' responses. As another bias may have resulted from the voluntary participation of all teachers in the study, care should be taken in future studies to ensure that a broad spectrum of teachers is surveyed. Broader sampling would ensure that not only committed teachers participate in the research.

The results offer possible directions for future research. Since this study used a qualitative approach, quantitative designs relying on representative samples should be employed in future research to explore, for example, whether improving teachers' skills related to homework differentiation (e.g. assigning homework, providing feedback, and integrating it into the lesson) could motivate them to utilise it more frequently. One design could be an intervention study in which teachers are trained to give differentiated homework and then integrate it into lessons; this study could also investigate whether improving teachers' skills can impact students' motivation, engagement, and achievement. Moreover, as the interviews made clear, the teachers suspected that students would perceive differentiated homework as unfair, but students' views on this issue represent a gap in the research. Future studies could thus investigate, for example, whether students indeed find differentiated homework unfair or the kinds of homework that they consider fair and meaningful. These results could then help encourage teachers to develop and assign differentiated homework that their students would perceive as fair.

In addition to their implications for future research, these results indicate approaches to improve teacher education and training. First and foremost, teachers should be made even more aware of *why* it is crucial to use differentiation in homework and the benefits of this teaching practice for students; it may also be necessary to explicitly address their possible misconceptions that students will perceive differentiated homework as 'unfair'. Such interventions targeting teachers' beliefs and motivations would also improve their professional knowledge in this area. Second, based on the teachers' statements that they lack knowledge in these areas, teachers should be explicitly trained on several aspects of homework differentiation practice: *how* to differentiate homework, *how* to provide adequate feedback on it, and *how* to integrate it into the classroom. In recent years, some studies have already offered insights for continuing education programmes that train teachers to differentiate assignments in the classroom (e.g. Valiandes and Neophytou 2018). Finally, the teachers interviewed in this

study mentioned high-quality material and supportive teaching aids as conditions for successful implementation. As supporting material helps teachers differentiate homework and ensures that their workload does not become excessive, we must continue to develop teaching materials to support teachers in differentiating lessons and homework.

## Note

1. Three dots indicate an omission in the quotation. One point indicates a pause in the interviewee's flow of speech. Text in brackets indicates the addition of unstated words.

## Disclosure statement

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

## Notes on contributors

**Christine Feiss** is a lecturer at the University of Teacher Education St. Gallen. Her research interests include emotions in school, homework and the differentiation of homework.

**Gerda Hagenauer** is a Professor of Educational Science in the School of Education and the Department of Educational Science at the University of Salzburg. Her research interests are in emotional, motivational and social factors in school, teacher education and higher education. She is also interested in mixed-methods research.

**Sandra Moroni** is a postdoctoral researcher at the University of Bern. Her research focuses on parental involvement, homework, and the development of writing and research skills in teacher education.

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