

# Pupils Participation in a Technology-Rich Environment

## A Study of Pupil Perspective on Learners' and Teachers' Roles

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**Abstract**—It has been argued that participation as involvement as well as taking part in decision making is a fundamental part of learning. The first large arena for experiencing this for many young people is the school. This paper investigates how 16 pupils at grade eight view their own and their teacher's role when it comes to facilitating participation. The pupils are interviewed the semester after a long researcher led participation project and the interviews are analyzed using thematic analysis. The analysis identifies four different types of participation from the pupils' responses. These four types can be connected to passive and active participation as well as participation as involvement and participation as influence.

**Keywords**—Pupil participation, pupil perspective, teacher role, pupil role, digital tool

## 1 Introduction

Participation in form of involvement in learning processes as well as taking part in decision-making have been argued to be a fundamental part of learning and a lot of educational research has been conducted over the years to study this subject as seen in [1]-[7]. However, the conditions for participation in learning changes along with changes in schools and society at large. In recent decades, we have witnessed the emergence of technologies that mediate several aspects of our daily activities. Today, information and communication technologies such as computers and mobile technology are—in addition to being integrated into our leisure activities—tools that have been integrated in schools for learning and teaching purposes, which have resulted in fundamental changes in the conditions for learning and participation [8]. However, there are few studies on participation in secondary school that have taken the changed conditions into account.

Therefore, this study investigates how secondary school pupils in a technology-rich school view their own role and teacher's roles in facilitating participation. A number of studies have looked at both these perspectives and demonstrated how participation influence learner's satisfaction with schoolwork, their learning and school performance, and general well-being see [3], [6], [9]-[13]. Other studies have also shown that learners are not always satisfied with the degree of participation and that they

want support for increased participation [6], [14]-[18]. For instance, Thornberg [19] demonstrate that learners state that their voices are not taken seriously and that they have limited possibilities to influence schoolwork. Furthermore, it has been demonstrated that teachers have different interpretation and views on learners participation [6], [14], [16], [18], [20]-[22], largely due to unclear instructional documents and curriculum [16], [20], [22]-[24].

Albeit different studies discuss that using technology enhances or encourage learner participation [1], [25]-[28], few have looked at how secondary school pupils view participation, and more specifically, their own role and teachers role in facilitating participation in technology-rich school environments which has been identified as important to study [29].

This study investigates how pupils in a technology-rich school views their own role in facilitating participation, as well as the teacher's role in facilitating participation. The following research questions have been formulated. From the perspective of secondary school pupils:

1. What are teachers' roles to facilitate learner participation?
2. What are learners' roles to facilitate learner participation?

To answer these research questions, we have conducted five focus-group interviews with pupils in a secondary school in Stockholm, Sweden. The school was selected based on the fact that it is one of the leading schools in the municipality of Stockholm in terms of the use of technology for teaching and learning. We then performed a thematic analysis that illuminates pupils' views of how participation can be promoted by themselves and by teachers.

## **2 Participation as a Concept in the Educational Field**

There is a common wide view that states that knowledge is not only kept inside individual minds but that it also exists in "the discourse among individuals, the social relationships that bind them, the physical artefacts that they use and produce, and the theories, models and methods they use to produce them" [30, p. iv]. This paper is influenced by social theories of learning which view learning as participation in the social world [31]. The social theories of learning are based on sociocultural learning theory [32]-[33] and the theory of learning as social participation [7]. There are several different perspectives when viewing the construction of knowledge and understanding as a social activity [34, p. 24], but the most common ones' focuses on participation as a condition for learning [4].

The concept of participation is complex and there is no commonly agreed definition of participation. Even though the definitions are grounded in a social participation perspective they can still be different. Participation is defined (in studies such as [2], [11], [35]) as interaction with peers and teachers, which facilitates learning and enhances the quality of the tasks and results. Wenger [7, p. 55] define participation as "a process of taking part and also to the relations with others that reflect this process". Buchy and Hoverman [36] on the other hand have a two-folded definition where they view participation as an approach, ideology and specific ethos for community

building, and as a method, set of guidelines and practices for involving people in planned activities.

In general, the research about participation in school are divided between viewing participation as one of two types; participation as influence and participation as involvement [9]-[10]. Studies focusing on participation as involvement relate to questions such as: What is participation? How can it be measured? Which barriers exist? Because of this most studies have focused on pupils with disabilities and have related to concepts such as engagement and inclusion [37]-[39]. Furthermore, in formal educational settings participation is differentiated into two forms: 1) being present as a passive form of participation, and 2) a more active form of participation and involvement [9].

Studies focusing on participation as influence instead reflects on democracy theories, the children's rights and how they can influence decision-making processes. Such participation is based on two-way communication between pupils and teachers regarding concepts such as information, impact, influence, and consultation [5], [6], [10], [40]. The suggestions that come from the consultations are considered for implementation.

Three main areas of obstacles to full participation of young people are evident [41]-[44]. The issues are related to the nature of the schemes (slow decision-making in formal channels); the attitudes of adults (young people have a lack of competency, need to be protected and are perceived disinterested); and the characteristics of young people (inhibit willingness to participate based on lack of interest, confidence or trust).

De Winters [45, p. 159] argues that participation delivers “a way out of the “problematization” of young people”. This means that by focusing on young people as source of potential solutions rather than the source of the problem e.g., utilizing them within community participatory projects, the adult's perception of them can change. Matthews [46] states that when young people are invited to participate, it does not obvious result in equal partnership. The expectation is on the young to adopt the adults' language, custom and practice, which in return makes them to disengage. Matthews continues with emphasizing that poor participatory mechanisms and fundamental barriers to the real engagement of children and young people may result in a “culture of non-participation” [46, p. 264] and affect pupil to be “non-participant in the future” [46, p. 267].

### **3 Digital Tools and Participation**

It is commonly mentioned by the pioneers in this research area (such as [2], [26]-[28]) that digital tools facilitate learner participation in both traditional and online educational settings. Social media has been thought to promote participation and social interaction, as well as facilitate collaboration, communication and networking among students [47]. When it comes to digital generation, pupils use digital tools very often in their daily interaction and communication [48]. Several studies suggest that the application of different types of digital tools influence on different types of educational interaction, which in turn promotes different types of participation and learning [49]-[52].

As also discuss in some other studies (like [28], [53]-[54]), successful use of Information and Communication Technology (ICT) and digital tools provide rapid feedback and has potential of facilitating the construction of knowledge and providing similar possibilities for all learners to get involved and have equal learning opportunities in compare to the traditional classroom. Moreover, digital tool is recommended as a medium for facilitating educational interaction and learning in general [27], [53]-[54]. ICT can also be used, in the form of synchronous and asynchronous communication, as a supplement for pupil participation in traditional education [50], [57].

In contrast, other studies (see [54], [58]) argue that online tools may not always provide productive discussion or participation among learners. Some more recent research also point out that digital tools may not either be used effectively and appropriately in schools by the teachers [59]-[62].

When it comes to pupil perspective in formal educational settings, using digital tools are not as popular as in daily informal communication among pupils. Pupils do not perceive ICT as an important part of their participation and formal learning in schools [48]. Hence, using digital tools to facilitate student participation in school settings is still a challenge [1], [25], [48]. The challenge that has always been there as long as the use of digital tools were introduced [2]. Therefore, considering influencing factors and roles on participation is as important as the choice of the digital tools to motivate students to participate [63].

## **4 Methods**

A qualitative exploratory study design was chosen to investigate how pupils, on the one hand view teacher's role in facilitating participation, and on the other hand, view their own role in doing so. Thus, in this study, we performed semi-structured focus group interviews with pupils from a secondary school in Stockholm, Sweden. The school was selected based on that it was one of the schools in Stockholm that invested a lot in technology-supported learning and teaching, and due to the fact that it was a heterogeneous school with pupils with different cultural backgrounds.

A purposive sampling procedure was used [64]-[66]. The participants that were recruited by schoolteachers had previously taken part in the project "Research Party" which had the aim to promote active participation and critical thinking (more details can be found [48]). In total, 15 pupils (age 15-16) were selected for interviews. The gender distribution was quite equal including eight males and seven females. We conducted five semi-structured focus group interviews with two to four participants in each group. A semi-structured interview-guide with seven open-ended questions were used as the basis for encouraging group discussion. The questions in the interview guide address the following aspects:

- a) How pupils view the meaning of the term pupil participation
- b) How teachers can facilitate pupil participation
- c) How pupils can facilitate pupil participation
- d) How a principal can facilitate pupil participation
- e) How do you participate when you are at home and with your friends
- f) How can you participate in the community
- g) How can you participate globally

The focus-group interviews that were conducted at the school took in average 100 minutes. Each interview was video- and audio recorded. A full transcription of the interviews was done. An inductive thematic analysis was performed to analyse the collected data. Thematic analysis is proposed as a flexible method for identifying, analysing and reporting patterns (i.e. themes) within data [67]

We used the following six-phase procedure based on Braun and Clarke [67]:

- Familiarizing oneself with the data
- Generating initial codes
- Searching for themes
- Reviewing themes
- Defining and naming themes
- Producing the report

Thus, the collected data was initially read through several times in order to get a broader picture of the material as a whole. After this step, each interview was coded in detail in the online collaborative qualitative coding software eMargin. This step was followed by a categorization of similar codes, and finally a thematization of similar categories, called subthemes. In total, 23 codes were identified, 8 categories, 2 subthemes and 2 themes.

To increase the reliability, two independent researchers went through the data analysis process and analysed the data and naming the themes and subthemes [66]. Coding, categorization and thematization was continuously discussed among at least two researchers.

Participation in the study was voluntary and every pupil was asked if she or he was interested and willing to participate in the focus group before each interview. All participants were informed about the purpose of the study, the procedure of focus group interviews and the duration of the interview. Privacy of participants were respected and the participants were informed of their anonymity and asked to include their email addresses only if they would like to participate in related studies in the future. The confidentiality of the collected data from the participants was ensured and to preserve the confidentiality of the data, the recorded data and transcripts were locked in a way that they only were accessible to the researcher the interviews were conducted by. To ensure the anonymity of the participations, all the collected data were anonymized and coded by letters.

## **5 Results**

The thematic analysis resulted in two overarching themes: teacher role and pupil role; where each contains two themes: knowledge transfer and social responsibility.

### **5.1 Arch theme: Teacher role and pupil role**

The findings are based on the pupil experiences and perspectives, divided into the teachers' and pupils' roles with respect to who is the subject in the statements that can influence and facilitate the pupil participation in formal educational settings.

Theme division: the teachers’ and pupils’ roles (as the arch themes) are categorized based on knowledge transfer and social responsibility (as the main themes). In knowledge transfer, the focus is on participation for learning and teaching and in social responsibility, the focus is on social responsibility, which pupils identify as social values (such as well-being and safety).

### 5.2 Facilitating participation, connected to teacher role

The first theme, knowledge transfer, refers to the teacher’s role as leader with two subthemes, cognitive activity (label A: convey and relate) and observable activity (label B: involve pupils). The second theme, social responsibility, refers to the teacher’s role as guru<sup>1</sup>, with two sub-themes of cognitive activity (label C: Building relations and being reachable) and observable activity (label D: Fair and safety).

**Table 1.** Teachers’ roles in pupil-teacher interaction and pupil participation in school

Theme	Subtheme	Category (Label)	Overall description	Code
Knowledge transfer: Teacher as leader	Cognitive activity	A: Convey and relate	- Teachers share experiences, adapting to pupils' interest - Teachers’ status, skills, and presentation - Teachers having authoritative disposition -Teachers respect pupils: showing respect, regards, and consideration.	Life experience
				Work experience
				Authoritative disposition
				Show respect
	Observable activity	B: Engaging pupils	- Engaging pupils by Interesting topics and asking questions, letting them speak - Different teaching methods in lessons with more focus on interaction and activity - Adapting to pupils' interest and small teaching adjustment with pupils' preferences.	Pupil interest
				Varied teaching
Social responsibility: Teacher as guru <sup>1</sup>	Cognitive activity	C: Building relations and being reachable	- Open and interested in personal connection, a study-buddy. -Understanding and getting updated about youth culture.	Down-to- Earth
				Youthful mind
	Observable activity	D: Fair and safe	- Taking interest of individuals’ well-being, asking basic communication questions, e.g., how are you? - Aiming at creating fellowship (group-connectedness) and creating a sense of group security - Making study atmosphere more comfortable by adapting learning environment	Proactive
				Create safety
				Favourable atmosphere

**Label A: Convey and Relate (Knowledge transfer / Cognitive activity):** This sub-theme describes teacher’s roles with focus on knowledge transfer (see the overall description in table 1), which is based on pupils’ statements and descriptions where

the respondents refer to a teacher acting within traditional teaching situations. The pupils emphasize on the importance of the teachers' role in pupil participation and to transfer knowledge and influence on learning. The reflections in this sub-category belongs to passive participation; learning from the teacher who shares their background and experiences, and respect students, which motivates them to participate.

They bring up the importance of teacher-pupil-interaction when teachers reflecting on their (teachers') life experiences, which makes the case more interesting for pupils to get involved (participate) and learn from it. Respondents mentioned: "We can match our day-to-day life with how his life was before". "When the teacher was young, he moved to Sweden, and we all have an immigrant background, as the teacher also does".

Other reflections are regarding the teacher's work experiences. The perceived status of a teacher is of importance in order to facilitate pupil participation during their lessons, "He has been the head of logistics", which is referring to the teacher's broad work experience. The respondents also reflect on that even though a teacher does not have any other work experience s/he can still have a lot of "real world knowledge": "when it comes to the experience from society, the teacher still knows a lot", it may have an impact on pupil participation. The respondents bring up the importance of the teacher role having an authoritative disposition: "teacher has to have authoritative", "when the teacher enters the classroom, everyone knows that the lesson has started". As another participant mentions, to get more pupil participation, "a teacher maybe must have an authoritative disposition".

The last recurring subject in this sub-theme is the importance of teachers showing respect in order to motivate pupils to participate in the classroom: "when the teacher shows respect regardless of who you are, and what you do and so on". "you don't say you have respect towards a person, it's just something that exists", which is seen as positive when it comes to teachers facilitating pupil participation.

**Label B: Involve pupils (Knowledge transfer / Observable activity):** There are many reflections by respondents regarding the teacher's responsibility to maintain the pupils' interest. The teacher should give the pupils opportunity to speak their mind or get them involved into the discussions to keep their interest. In teacher-pupil interaction, it is important that everyone gets the opportunity to be involved and speak. The reflections in this sub-category belongs to active participation and as a teachers' role, engaging pupils in oral communication facilitates their continued active participation.

"When a teacher sees that a pupil starts losing interest, the teacher should ask the pupil a question". Questions like "What do you think?" could keep pupils active during the lesson. Teachers have the task of keeping pupils engaged in oral communication: "teachers should bring all pupils along as much as possible."

Moreover, there are ideas beyond merely focusing on oral communication; a teacher should have a varied teaching, in order to positively influence pupils participation: "vary the lessons so that pupils do not have to always do the same thing, something like taking a field trip, look around, watch a movie, have group work, or presentations." Another respondent gives an example of varied teaching with positive effects on participation: "Sometimes we sit in a circle and just go through stuff; I think that is also fun". As different options for varied lessons, two respondents also describe:

“Maybe we shouldn’t always be sitting at our benches stand up or walk around It makes another learning atmosphere” which leads to more involved pupils, more active pupils, and enjoyable lessons.

Another perspective regarding the importance of the teacher’s role in pupil participation is regarding the teaching adaptation. Materials and teaching content could be adjusted in order to facilitate pupil participation. This is what the respondents mention as showing respect and taking their ideas or comments into consideration when lesson planning. “this may be a bit hard to achieve, but teachers can try to adapt the work to what pupils prefer, maybe not completely”. The other respondents also mentioned: “teachers still need to complete their curriculum, but small adjustments would be good concerning what they could do so that it is not too boring for the majority of pupils.” “teachers may decide about what pupils should do; but still they need to listen to the pupils”, as another way to influence pupil participation. Or, as was also talked about, relatable interesting subtopics could increase the participation of pupils in the discussions: “topics regarding everyday life, like social media, would be interesting, which is what people talk about a lot”.

**Label C: Building relations and being reachable (Social responsibility / Cognitive activity):** The second theme in the teacher role focuses on the social responsibility. It is referring to the respondents’ descriptions of the teacher acting within situations connected to the pupils’ perception of well-being and safety within the frame of school activities (see table 1). The description being conveyed by respondents is teacher as a mentor or master, who possess wisdom, thereby naming the theme to include “guru”, here focusing on the spiritual aspects not the religious.

A recurring subject was that teachers are seen as someone who is not “one of us” (pupils) but with some kind of connection and maybe a buddy, thereby calling/naming the theme “Building relations and being reachable”. The pupil-teacher interaction gets developed when the teacher is “down-to-earth”, as one mentioned the English expression: “I would say that our form teacher is good, he is down-to-earth with us pupils” and this is why they think interactions between pupils and teachers are easier.

The others mentioned having a youthful mind is an important factor in pupil-teacher interaction and consequently pupil participation, “So that the teacher can show they keep track and understand the youth culture”. Pupils also mentioned the importance of teacher-pupil interaction with teachers who still having their youthful mind or act youthful. “an adult that acts like a youth person” or “a teacher who is not only the teacher, but also a “buddy” (air quotes), would influence pupils’ motivation for participation.

**Label D: Fair and safety (Social responsibility / Observable activity):** In the teacher role it is expected that out of the perspective with focus on social responsibility, the teacher is proactive, and act as they care about pupils and their participation: “Ask about how pupils are, e.g., how are you? or how’s it going?”. Moreover, in connection to this questioning and communication, some respondents also mentioned the importance of creating safety for all kinds of pupils: “teachers should try to bring all pupils along, both group, those who normally talk and who don’t”. It is important to motivate pupil participation by creating a safe feeling for all pupil groups “regardless



of pupils grouping, very common, teachers must engage all groups of pupils to get as a whole”.

Generally, for the teacher role in the mission of social responsibility, a teacher is described as responsible for creating a safe atmosphere for pupils in school. Some respondents reflected on participation, based on safety, which is more in line with creating and achieving a favourable atmosphere: “from pupil perspective, I believe when pupils sit in a circle, they can see all other pupils which make them feel more comfortable. Otherwise, pupils only see the back of the other pupils”. Other ways of creating this atmosphere it to treat the pupils equally: "Nowadays, there are many pupils who are being discriminated against in a positive or negative way. The teacher points out to a pupil misbehaving in class, saying that the pupil's grades will be lowered". The favourable atmosphere for pupils may have positive influence on their motivation for desired behaviour and participation.

### 5.3 Facilitating pupil participation, connected to pupil role

The second arch theme is pupil role in facilitating their participation in formal educational settings. In this arch theme, the first theme is knowledge transfer, refers to the pupil role as a follower. This theme has two subthemes, cognitive activity (label E: Respectful recipient) and observable activity (label F: Responsive). The second theme in this arch theme is social responsibility, refers to the teachers’ roles as guru. This theme has also two sub-themes of cognitive activity (label G: Part of community with strong leaders) and observable activity (Label H: Ideal pupil interaction).

**Table 2.** Pupils roles in pupil-teacher interaction and to promote pupil participation

Theme	Subtheme	Label	Overall description	Code
Knowledge transfer The pupil as a follower	Cognitive activity	E: Respectful recipient	- Passive participation - concentration - Being interested - Not disturbing others	Concentration
				Be interested
				Don't disturb
	Observable activity	F: Responsive	- Networking - Participating - Positive role model - Helping each other	Role model Be active Help others
Social Responsibility The pupil as part of a flock	Cognitive activity	G: Part of community with strong leaders	- Leader or follower - High status or low status pupils - Through networking.	Popularity
				Status
				Networking
	Observable activity	H: Ideal pupil interaction	- Helping others - Persuasion	Outreaching Mediator

**Label E: Respectful recipient (Knowledge transfer / Cognitive activity):** This is part of the theme knowledge transfer concerning the pupil as a follower, where the focus is on pupil (peer-to-peer) interaction, based on pupil perceptions of their roles to support or follow one another in formal educational settings. The theme is delimited

by statements and descriptions where the respondents refer to a pupils acting within formal situations. Descriptions include descriptions such as the pupil being focused, taking others' issues into consideration, or being a role model. Focus on this sub-theme is also on pupils sitting concentrated, they are focused and interested, and do their work and not be disturbed by peers: *"pupils need to sit calm and stay concentrated to the material of the lessons"*. Or another respondent noted: *"It's really just to enter the classroom, sit down, be quiet, and be interested. Even if it's hard sometimes pupils must do"* or as another mentioned: *"respecting is maybe by not disturbing not disturbing teachers or peers, when pupils are listening to the teachers in the lessons"*.

**Label F: Responsive (Knowledge transfer / Observable activity):** The descriptions for this label are related to responses regarding interaction between pupils (peer-to-peer interaction) and how being active has an influence on participation and involvement. *"for instance by raising hand to answer questions or to the tasks, the pupils show they are active"*, or *"by raising hands, pupils show that they are in the lessons (both physically and mentally). Then the teacher can easily find out if someone is following the lesson or not"*. Consequently, when it comes to role model, when a pupil with status (popular among the others) raise hand, it increases the likelihood of their followers to do the same: *"regarding status, like raising hand, when other (pupils) see this certain person (with status) raised hand, then the others also do (follow the role model)"*. Moreover, as the other aspects mentioned in this sub-theme, helping others refer to peer-to-peer interaction to support one another or making the situation appropriate for others to get involved or be learning from the lessons. *"pupils can help one-another too, by getting classmates (peers) to work on school work, rather than making each other to do things that they should not really be doing"*. Moreover, a wise role model, who concentrates on the study, can also be part of helping others, *"pupils may transmit the participation to their peers, I mean through helping peers, they can influence on one another and make them participate to the lessons too."* This may also be the case for peers to help each other: *"helping does not need to be only for group homework; pupils can work together and help each other anyway"*. The not disturbing code is also a part of helping others by letting peers or helping them to concentrate or focus: *"pupils can simply help their peers to be more focused"*, which is more peer interaction and may influence on enhancing passive or even active participation.

During one reasoning regarding the advantages of pupil participation, one pointed out that pupil participation is important in grading and may have influence on pupils' future, *"participation is of course important, if participation is going to affect your grade, and your grade matters my grade this term matters for the upper secondary school that I choose"*.

**Label G: Part of community with strong leaders (Social responsibility / Cognitive activity):** This is part of the second theme, in the second arch them, social responsibility. The description for this theme relates to the respondents' descriptions of a pupils acting in relation to other pupil participation with underlying purpose being social. This reflects on the pupil's perceived well-being and safety within the school activity frames. The focus on this sub-theme is on communication and grouping, which refers to pupil as part of a flock.

In this label, the focus is on being a part of a community with strong peer leaders, with high status and good network. In this part, concepts such as popularity, status, and networking were discussed as essential concepts when it comes to peer interaction and its influence on pupil participation: “it is easier to have high status to influence on the peers”. based on pupil perspective, a pupil can influence on peers, when they are popular, which makes them also need to be strong, since they are role models even in lessons, as discussed in previous subtheme. “A pupil who are very popular among the other pupils have to be strong players”. The respondents later continued by outlining the responsibility that the leader (popular pupil) has and relates it to the concept of ‘status’; as an answer to the follow up question what is strong? “It’s easier that a person with a high status, be strong and raises hand for something for a certain thing. Then that makes everyone else with less status follow the certain person with high status (the leader) and they also raise hand or work with something, as their leader does”. Another pupil continues this with the following answer to the follow up question: when a pupil get a high status?: “It is something that is built over years”, reflection also on what the person does and networking: “pupils who get high status have to have good connections with most peers (good network) to get that status”, “to be the important pupils”, “there are many situations/opportunities, where pupils may build status from the beginning e.g., switching to upper secondary school makes new opportunities for a fresh start. Then just learning from the previous mistakes”.

**Label H: Ideal pupil interaction (Social responsibility / Observable activity):**

When it comes to how pupils describe desirable behaviour within the pupil role in order to facilitate pupil participation, the description is close to what is viewed as ideal pupil interaction. The pupils refer for example outreaching: “*participation, you participate in something, you can help and support*” or as another pupil comment: “*pupils sign up, they should be committed*”. There is also a view on that helping is kind of a duty, stating: “*but pupils can see how many peers started working on a task if some peers don’t understand what to do, then other pupils have to help their peers.*”

As in the subtheme “Responsive”, thoughts about being a role model surface. This when they/pupils raise the subject about having a mediate role and how they can help to increase pupil participation by convincing their fellow pupils of possibilities. For instance, pupils try to convince their peers that they can have a voice, maybe this time if not earlier to make them motivated to participate: “Persuade, it is different this time, among your classmates and friends. That it is not the same as it always is.”

#### 5.4 Different types of pupil participation

During the data collection it became apparent that the meaning of the term "pupil participation" needed to be investigated. Going back to the original coding related to participation in formal educational settings, thematic analysis showed distinguishing between four different types of pupil participation that were described in the theory section. Coding could be done into division of “attending, less involved participation”, “response towards teacher”, “interaction between pupils”, and “influence”. In table 3, we connect the defined codes above to these four categories to reflect on how pupils’ responses are connected to the different types of participation.

**Table 3.** Different types of participation

Theme	Overall description
Attending, less involved participation	<ul style="list-style-type: none"> <li>-Be calm and listen</li> <li>-Being seldom engage</li> <li>-Be concentrated</li> <li>-Attend</li> <li>-Don't disturb</li> </ul>
Response toward teacher	<ul style="list-style-type: none"> <li>-Be in classroom</li> <li>-Sit down (and listen)</li> <li>-Be quiet (and listen)</li> <li>-Do the tasks</li> <li>-Ask questions (respect or participation)</li> <li>-Discussion (pupil-teacher)</li> <li>-Raising hand</li> </ul>
Interaction between pupils (peer interaction)	<ul style="list-style-type: none"> <li>-Peer discussion</li> <li>-Help other pupils (individual tasks or for other purposes)</li> <li>-Do things together (group tasks or voluntary involvements)</li> <li>-Seeing teachers and peers to get involved into the discussions</li> </ul>
Influence	<ul style="list-style-type: none"> <li>-Decision making,</li> <li>-Planning</li> <li>-Be able to choose,</li> <li>-Being listened to.</li> </ul>

Based on the study finding, four types of participation (as shown in table 3) were developed, connected to the codes used in placing responses into the themes/sub-themes. Here are short descriptions regarding each type of participation, connected to the selected quotes from the respondents.

The first subtheme **Attending, less involved participation** describes pupils physically attending the lessons or any other activities in the formal educational settings, where presence is in focus, i.e., pupils listen to the teachers or concentrate in the lessons, but seldom are engaged or influencing, as they say: *“for my part, sit calm and stay concentrated”* or *“pupils don't have to add anything, they are there at the right place maybe at the right time”*. Another respondent points out the lack of influence on the teaching planning, since the teachers have a plan and just follow what they have to without concerning what the pupils want: *“the teacher has already a plan: I will show you the things, then you do an exercise, and afterwards I (the teacher) will go through the exercise! So it's already decided what pupils should do and the pupils' brains are set to it”*, no influence can hence be taking place. One more comment which is reflecting on the passive participation is: *“It's really just to enter the classroom, sit down, be quiet and be interested. Even if it's hard sometimes pupils have to do it.”* “pupils do what they should, without disturbing themselves or their peers”

The second subtheme is **Response toward teacher**, which reflects on both verbal responses or response by showing respect. On the one hand, the pupils may participate, since they have to or showing their respect to the teachers: by being in classroom and being sited, to be quiet and respect the teaching session, doing the tasks as they should and in some cases asking questions and raising hands to show the respect to the teacher: *“For many it can be like the teacher writes something and pupils just*

*copy if someone asks like 'I don't understand', then the teacher says 'ah, just copy'.* Another respondent noted: *"pupils are just there and answering teachers' questions. It is like we have to since we are a part of it anyway."* Also interesting: *"we are participating, but it's because we are not allowed to decide, or what we want to participate in."*

However, on the other hand, pupils interact with teachers to influence on the learning process. They answer to the teachers' questions, raising hand, or get involved into the discussions for participation and learning. For instance, when they sit in a circle, they can see teachers and peers, which makes it more fun for them and makes pupils more comfortable to get involved into the discussion and have better interaction, both in teacher-pupil and peer-to-peer interaction. As mentioned by the respondents, *"when the teacher asks an interesting question, everyone is active and wants to answer"*. Another one mentioned: *"pupils have to show their interest, it depends on if they really want to participate or not, they show what they want by responding."* or to some concepts or activities, *"pupils always raise hand to participate"*. One points out that the teachers could find out who is engaged in the lesson: *"by raising hands or answering questions, teachers can get it right away if someone is in the lesson (following the teacher and the topic) or not."*

The third subtheme is **Interaction between pupils** (peer or peer-to-peer interaction), which is a reflection on peer discussion, pupils helping their peers for not only group tasks, but also individual tasks or understanding the course and the lessons: *"pupils can help other pupils to get the classmates to work on tasks, instead of doing what they shouldn't"*. It also includes pupils working together on for instance group tasks or voluntary task involvements with their peers. *"pupils get participated in something, then they try to help others (peers), or try to get others to participate too."* When pupils see their peers and teachers in lessons (sitting in a circle), they get more peer interaction. *"from pupil perspective, I believe when pupils sit in a circle, they can see all other pupils which make them feel more comfortable. Otherwise pupils only see the back of the other pupils"*. As mentioned: *"I personally think that peer participation is being part of a group, but they have to also do it (what the others do), be engaged, join, and at least try to do something together with others."* pupils can influence on one another (their peers): *"pupil participation can be a contagious, helping friends (peers). In that case, it doesn't have to be group tasks, but just working together, and so you can help out each other, help a friend so that they become more focused."*

The last subtheme is **Influence**, as an important part, when it comes to pupil participation. This reflects on how pupils can influence by their participation. In the previous subtheme, we discussed about participation to influence on peers' participation. It is also important to reflect pupil perspective regarding what they think they can influence by their participations, when it comes to decision making and planning in formal settings. pupils want to be able to choose or at least being heard (having voice to speak their minds). Respondents reflect on: *"the teachers should decide what pupils do (in the end), but still the teachers should be listening some to pupils"* or *"to get to decide, pupils feel they are more part of the class, and hence will be more relaxed"*. Some respondents see participation as part of influence anyway: *"Everyone shall get*

*to decide things”, or “pupil participation and pupil influence, if a pupil is participating (more active participation) then they have a sort of influence, so it’s like it’s the same thing.” “pupils are not forced to do a certain thing, so it feels like choosing to do it”.*

“The teachers can decide, but still listen to the pupils. Based on my own experiences in certain cases and teachers, if pupils get to decide completely what they want to do – for instance if they want to work on their own group or whatever – it can happen that sometimes a certain pupil gets hard time choosing groupmates and it may end up with that the pupil does not want to do anything” then better that teachers decide, but pupils’ voice still has to be heard”.

## 6 Discussion

The research aims at showing how the pupil role and the teacher role can facilitate pupil participation from the pupil perspective. To summarize, two different motives to participate (Knowledge transfer/ Social responsibility) and four types of pupil participation has been identified. The four types of participation can be connected to the works by [9]-[1], [68] in the following way:

Attending, less involved participation, Response towards teacher and Interaction between pupils are all connected to Participation as involvement and Influence is connected to Participation as influence.

The view on participation in an educational setting seems to a large extent be connected to knowledge transfer, something Rönnlund [17] support in that the pupils themselves view pupils that are involved as good and ambitious, are not seen as a part of the decision-making process. The pupils do not seem to view themselves as being co-creators in the learning process, and their own experiences outside formal setting are not identified (by the pupils) as relatable or useful in school settings. The pupils do not consider that the teacher role will/have to provide them with the possibility to influence, nor do they identify influence as an important part of pupil participation. Similar to Tholander [15], where results show that pupils want pupil participation but lack experience and they do not capture the invitations given in the school setting. Brumark [16] on the other hand means that the teachers should increase their clarity in which areas of the school that pupils should be allowed to participate and influence as well as noting that all pupils’ opinions and suggestions are important. Their view is also that the pupil role is responsible for achieving pupil participation in more of the participation types than the teacher role and that their own experiences are not worthwhile e.g. their use of digital tools.

The pupils’ view of the teacher role’s ability to facilitate pupil participation is that the teacher should lead and teach. Focus is on what the teacher has to offer, more than what they can create together. The pupils expect the teacher role to be responsible for learning, have good didactic skills while being engaged and educational. These expectations are based on teachers being knowledgeable authorities with life experience, that they understand the importance of building personal relations with the pupils, and their ability to adapt the content and engage the pupils during the lessons. Rönnlund

[69] shows instead that the participating pupils are gaining experience in the democratic processes, and the pupils experience the participation as a learning environment in the cases where the teachers assume a supporting role instead of a leading one. The implications of not taking advantage of the pupils' competence in combination with the mechanisms of "non-participation" can lead to the pupils getting an incorrect perception of what they are able to influence in school and society.

When reviewing the transcripts from all the interviews from the view of the thematic analysis focusing on pupil participation in school it is clear that there are very few references to digital tools. Placing this in relation to performing the thematic analysis with the focus on digital tools and their usage [48] several participation activities were identified. Is the result an example of seamless learning, where their digital tools are viewed as self-evident as a pencil, and therefore not mentioned, or is it an implication of a non-transformative pedagogy, with reproduction of roles and behaviour/responsibilities?

When it comes to pupil participation in the formal learning process, digital tools may facilitate interaction and learning opportunities for pupils (as discussed by [28], [49]-[50], [57]). Results from Palak and Walls [70] and Sang et al. [71] shows that the teachers' attitude towards ICT use is the strongest predictor of future use. This in combination with teachers' beliefs influence ICT use in the classroom, and not always resonate in their practice e.g if integrating technology collides with school culture [72] and teachers working at technology-rich schools and frequently intergrate technology not changing their practice towards a student-centred paradigm [70]). On this base, another approach can be of value, that of taking students opinion and experience in consideration. Tezci [73] argues for the teacher to not only to use technology to increase productivity and enhance traditional teaching but also embrace a student-centred perspective on how to promote student learning by integrating ICT into classroom activities, summarized by Castro Sánchez and Alemán [74] in that teachers need to keep an open mind about ICT integration. Whelan [75] findings of barriers from the student perspective of using ICT in the classroom, one of them being reduced interaction with peers and instructors, also needs to be taken into inconsideration. The teacher in its teacher role needs to consider how the pupils view participation and build on the view that is based on pupil experience and understanding. This can strengthen the pupils view of being seen and identified, and can have a positive effect on learning. Apart from utilizing the pupils view the teacher also needs to identify if any other perspectives on participation needs to be considered and introduced. The teachers also need to reflect around their own approach to pupil participation and through that their need for reflection and competence increase. The pupils view does in some way reflect the liberties they have at school. In designing learning environments, you need to touch on didactic questions in the form of how well relevant didactic tools are chosen. The teacher role needs to take a decision on how to design learning environments when it comes to facilitate e.g. emancipatory aspect.

The results here show that the usage of digital tools for participating is much more prevalent in private than at school. This means that there is a need for enhancing pupil participation and facilitating involvements as influence, by providing opportunities for pupils to have a voice. Since participation is an important part of learning [1]-[7] and digital tools can facilitate participation [2], [26]-[27], this leads to a need for recon-

sideration in the following areas; teaching, learning and designing of learning environments with questions like: Which digital tools can support the pupils own view on pupil participation? Is it of value to tap into the pupils' perspective of pupil participation or is that contra productive?

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