# Sloyd Education for Newly Arrived Students: Challenges and Possibilites

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Swedish compulsory schools face challenges in organizing education for newly arrived students and often use practical-aesthetic subjects such as sloyd to mitigate their transition into the school system. This article presents two examples of newly arrived students in the sloyd classroom and explores the interaction, communication, and learning environment that they encounter in this context. This is done through analyzing video recorded material of sloyd lessons with newly arrived students in Years 8–9. The findings highlight that the sloyd classroom environment offers newly arrived students rich multimodal interaction and communication opportunities. Furthermore, the findings show that these students encounter complex and abstract subject-specific content and concepts in situated learning situations. The use of multimodal pedagogy enables newly arrived students to demonstrate their knowledge beyond verbal actions.

Keywords: newly arrived students, multimodality, sloyd classroom, sloyd education

## Introduction

The number of migrant families and unaccompanied minors fleeing conflicts, war, or human rights violations has significantly increased in recent years. For the first time in history, the number of refugees is estimated to reach 100 million, which is considered a "milestone" (UNHCR, 2022). Aside from its economic and political implications, this issue has also impacted the education system. Due to the high number of refugees and migrant students that Europe, and especially

Sweden, received during 2015–2016, there has been an increased research interest in newly arrived students' education (Bunar & Juvonen, 2021). Over the past few years, the education system in Sweden has undergone legislation and policy changes regarding how to organize education for newly arrived students. For example, the law of education (SFS 2010:800) now defines the concept *newly arrived student* as:

> a person who has been a resident abroad, is now a resident in Sweden, and has begun their education after the start of the autumn term in the year they turn seven years old. A student should no longer be considered newly arrived after four years of schooling in the country. (Skolverket, 2016, p. 8, author's translation)

The definition also ensures that students have rights and obligations (Andersson et al., 2015). Another policy change concerns a mandatory mapping of students' previous school experiences and subject matter knowledge produced by the National Board of Education (Skolverket, n.d.). This mapping must be conducted within two months of their arrival (Skolverket, 2016). Notably, an inclusion ideal guides the mapping material, focusing on newly arrived students' ability to be included in the mainstream class as soon as possible. Information from the mapping is used to support further teaching through identifying newly arrived students' strengths.

Despite efforts like the production of the mapping material, finding ways to include newly arrived students in an education system that tends to exclude them has been a challenge for municipalities. This challenge has led to schools trying to find ways to mitigate the exclusion of these students, for example, by using so-called practical-aesthetic subjects, such as sloyd (*slöjd*). Placing newly arrived students in practical-aesthetic subjects is meant to enable them to participate in and interact with the class they one day will be a part of. This strategy is often based on assumptions and arguments about sloyd and other practical-aesthetic subjects having less complex language requirements and fewer verbal barriers (Bunar, 2015; Lindberg, 2017), although teachers in these subjects disagree with such assumptions (Juvonen, 2015). Nonetheless, educational sloyd offers possibilities for rich multimodal communication and interaction (Andersson & Johansson, 2017). At the same time, statistics on newly arrived students' grades show that eight out of ten students receive passing grades in sloyd and visual arts education (SOU 2017:54).

Considering the above, the participation of newly arrived students in practical-aesthetic subjects, particularly sloyd, is worth exploring. However, research on the extent to which newly arrived students engage with teaching in these subjects is currently limited. Therefore, this article explores

the interaction and communication of newly arrived students in sloyd lessons; further, it examines the learning environment that these students encounter in the sloyd classroom. The article is guided by the following questions:

- How do sloyd teachers and newly arrived students interact and communicate in sloyd lessons?
- What significance does the learning environment of the sloyd classroom have for newly arrived students' interaction and participation opportunities?

## Organizing Education for Newly Arrived Students

Newly arrived students entering the educational system is a complex and challenging process. These students are in Sweden for varied reasons and have different school backgrounds and prior school experiences, so they all have individual needs. Moreover, they have a double learning assignment when it comes to language learning; namely, they need to learn a new language and at the same time they need to learn subject-specific concepts (Axelsson & Magnusson, 2012; Bunar, 2010). Language acquisition has been shown to take up to five years for a second language learner, which is even more challenging for newly arrived students, especially if they arrive in the later school years (Cummins, 2000). Due and Riggs (2009) problematize language acquisition as a requirement for newly arrived students to fit in; they argue for other requirements for students' social inclusion where language is one of several other possible aspects of inclusion.

The inclusion of newly arrived students poses a challenge for schools, which face a dilemma when organizing these students' education and deciding their transition to mainstream classes (Bunar, 2010; Nilsson Folke, 2017). The organization of education differs between municipalities, but schools often use one of the following two models: The first is a direct inclusion model, which involves integrating newly arrived students into mainstream classes immediately. This model is often used when students are younger, but it can also be used for older students (cf. Tajic & Bunar, 2020). The other model involves the students attending preparatory classes, which means that they have separate teaching from the class they are later supposed to join. Previously, there were no regulations concerning how many years a student could take the preparatory class, but this is now regulated in the school law (Skollag, 2010:800), namely, a newly arrived student can only attend a

preparatory class for a period of two years. Further recommendations state that the transition from a preparatory class to a mainstream class should be made as soon as possible, as guided by an inclusive ideal (Skolverket, 2016). Decisions about moving students forward to mainstream classes are often based on limited knowledge about the students and potentially on subjective judgments made by teachers (Bunar, 2010; Nilsson Folke, 2019).

Schools that use the preparatory model often place newly arrived students in practical-aesthetic subjects, such as sloyd, to mitigate their transition and, thus, avoid exclusion. Newly arrived students' participation in these subjects is also seen as facilitating language training, implying that the teachers in these subjects can offer such training (Bunar, 2015; Juvonen, 2015; Stretmo & Melander, 2018). Juvonen (2015) found a normative discourse about practical-aesthetic subjects being seen as "integration subjects". This perception is mainly held by teachers other than practical-aesthetic subject teachers (Juvonen, 2015). Hence, these subjects are perceived to have advantages when it comes to teaching newly arrived students. One perceived advantage is that they provide these students with a space to get to know other students in a more "natural way" (Huitfeldt, 2015). Huitfeldt's (2015) study, based on qualitative interviews concerning newly arrived students' participation in physical education and health, highlights that this subject is important for the students because it offers interaction with other students. Another advantage concerns the subject-specific language being "easier" for these students to grasp (Juvonen, 2015; Stretmo & Melander, 2018). For instance, Bergendorff (2014) advocates for newly arrived students' participation in practical-aesthetic subjects, arguing that aesthetic learning processes provide students with opportunities to express themselves beyond verbal actions. In line with Bergendorff, Stein (2008) highlights teachers' use of multimodal pedagogy, where students can use different communicative resources and representations to express their experiences. Stein's study was conducted in a South African context, where the students all had different mother tongues, which often led to language confusion between them and consequently led to conflicts. When words are missing, Stein (2008) argues, the opportunity for students to use other modes becomes important.

## Communication and Interaction in Sloyd

The sloyd subject is characterized by teachers being able to individualize teaching for students since the focus is on the product they produce and the process of making the product. This individualization also entails rich interaction and communication and, at the same time, invites

students to collaborate despite their individual projects (Johansson, 2002; Skolverket, 1994, 2005, 2015).

The communicative and interactive aspects of sloyd have been studied in a national and Nordic context, both within compulsory school and within teacher training. Studies have identified the bodily aspects of learning sloyd at different levels in the education system and emphasized the use of non-verbal actions (e.g., Andersson et al., 2016; Andersson & Johansson, 2017; Ekström, 2008, 2012; Koskinen et al., 2015). For example, Illum and Johansson (2009) emphasize students' bodily experiences when working with copper material in compulsory school. The findings show how verbal actions have limits when the teacher instructs the students about the copper material, so the material needs to be experienced through resources other than words alone. In a Finnish compulsory sloyd context, Koskinen et al. (2015) highlight the complex and abstract processes in the subject. For instance, transforming a paper pattern into a piece of clothing entails several steps, so students need support and instructions from the teacher. The study shows that embodied interaction is fundamental in students' learning processes. Sloyd offers students the opportunity to observe, feel, and think about the material; use different tools; imitate the teacher or peers; and so forth. In learning situations in the context of teacher education, Ekström (2008) also emphasizes the importance of bodily aspects and argues for using the modality that best fits the purpose, that is, not trying to verbalize aspects of sloyd that are better said in other modalities. For example, learning how to crochet involves using gestures, tools, and so forth.

Lindqvist (2014) emphasizes sloyd teachers' opportunities to use rich dialogue in teaching multilingual students. However, teaching risks becoming monolingual if teachers give one-way instructions, as evinced in Hasselskog's (2010) study on sloyd teaching strategies. Hasselskog (2010) constructs four teacher ideals: the Serviceman, the Instructor, the Supervisor, and the Educator. Sloyd teachers' different strategies when encountering and supporting students influence what is possible to learn and also affect students' experiences of the subject. Thus, reflecting on which strategies to use is important for all students, but for newly arrived students, it is even more important that they are cognitively challenged (Bunar, 2010; Cummins, 2000). Furthermore, the importance of dialogue and communicative aspects in sloyd education have been identified by Andersson (2019) as either "fictive" or "concrete". When using a fictive instruction, the teacher gives an "as if" instruction; for example, the teacher shows the students a gesture on how to use a

pair of scissors. A concrete instruction is when the teacher shows the student in action, for example, how to cut the fabric. Thus, how the teacher and students interact and communicate has implications for students' learning, so reflecting on the teacher's choice of communicative instructions is important for teachers.

## The Learning Environment in Sloyd Classrooms

Educational sloyd has historically been divided by gender and material, but in the present, it is taught as one subject with a material focus: textile, wood, and metal (Berge, 1992; Skolverket, 2015). Therefore, the sloyd classroom is subject-specific and must be equipped with machines, working tables, tools, materials, and other resources based on the subject's syllabus. When making sloyd objects, students need access to these resources, which play a mediating role and support students during lessons (Johansson, 2002). Moreover, written educational materials, like books, are rarely used in sloyd as learning how to craft from a written text can be challenging. Rather, the learning environment can be seen as the teaching material and can be a resource for the subject-specific content (Gyllerfelt, 2023; Hasselskog, 2010; Skolverket, 2015). In recent decades, video recorded instructions have been used, which has made it possible for students to re-watch these instructions several times (Degerfält & Porko-Hudd, 2008).

Furthermore, historically, sloyd teachers have been able to personalize and decorate the sloyd classroom, which they often do. This implies creating a home-like classroom, especially in textile classrooms, in contrast to the more workshop-like wood and metal space with its heavy machines (Berge, 1992; Sigurdson, 2014; Skolverket, 2015). Further, sloyd classrooms often display former students' work or inspirational material, showing what the subject is and can be (Westerlund, 2015). Students tend to ascribe classroom feelings, and they explore rooms with their bodies (Björklid, 2005; Skantze, 1989). In sloyd classrooms, students can move around when they work on their projects, and they often experience the classroom with excitement. In contrast, classrooms for other subjects have a different interior and furnishing. In other subjects' classrooms, students' desks tend to be arranged in rows or smaller groups of desks that are pointed in the direction of the teacher or the whiteboard. This classroom arrangement creates a direction for the eyes of the students, referred to as *transmission pedagogy*. Transmission pedagogy creates a high teacher authority and is seen as a "school grammar" that has been stable over time, which also affects communication and interaction in classrooms (Forsberg & Lindberg, 2010; Jewitt, 2005).

When classrooms are furnished for students' movement or for them to encounter other students, interaction and communication increase between them. Accordingly, the furnishing and movement in the classroom enable students' participation and can also indicate a more equal teacher–student and student–student relationship (Hipkiss, 2014; Kress & Sidiropoulou, 2008). Despite the limited focus, some studies address the sloyd learning environment. For instance, Maapalo's (2017) study in a Norwegian sloyd context identifies the importance of the sloyd environment and the access to tools and materials. When sloyd classrooms lack materials or tools, this affects students' learning possibilities and the objects the students can make. Maapalo (2017) shows how teachers' priorities, their competence, and the way they organize the sloyd classroom have consequences for the content of the subject. With regards to the impact of the learning environment in sloyd classrooms on newly arrived students, Gyllerfelt (2023) finds that newly arrived students take initiative to interact with each other or seek each other out. This can be seen as an act of mutual support and assistance for each other's projects. Overall, the learning environment in sloyd classrooms offers rich encounters and movements that for newly arrived students imply possibilities for interaction with others.

## Theoretical Framework

This article is guided by a sociocultural understanding of learning and participation as situated and by a multimodal theoretical approach. Sociocultural theory emphasizes the importance of culturally and historically developed tools. As humans, we interact and make meaning through interaction and social activity with support from cultural tools for mediation—namely, physical tools such as artifacts, and intellectual tools, such as signs (Säljö, 2000; Vygotsky, 1978). By using tools for mediation, we can act and interact in the world and share experiences. The tools are embedded with past human cultural experiences that we can take advantage of, enabling us to do things beyond our own capacity. Taking care of former experiences, the tools take us forward in development; that is, future generations can take advantage of prior experiences (Säljö, 2000; Vygotsky, 1978, 1984).

The sloyd practice is a rich and complex learning environment with available resources as a part of the subject-specific content (Illum & Johansson, 2009). These different resources are used in the sloyd practice when students learn how to craft. Thus, learning understood from a sociocultural

perspective is about mastering cultural tools, implying that individuals gradually master and learn how to use tools in specific situated practices (Lave & Wenger, 1991; Säljö, 2005). The close interplay between actions and tools is inevitably intertwined in the sloyd practice. This interplay enables students to use different mediating resources when communication and interacting (Johansson, 2002).

Newly arrived students are new to the Swedish language but also new to the sloyd practice. Being part of a community of practice enables a participant to move from the peripheral towards the center, which means gradually becoming more familiar and eventually becoming a part of the practice (Lave & Wenger, 1991). Becoming part of the situated practice also means participants giving one another access to the practice. This implies that their participation is developmental in the sense that the learning situation in a community of practice also contains aspects of learning that might not have been intended (Lave, 1996). Thus, for individuals, especially for students in an educational context, it is difficult not to learn (Säljö, 2000). In the sloyd practice, newly arrived students not only learn subject-specific content but also encounter other experiences when they are part of learning situations. Thus, in this context, learning is social and collective rather than individual, which emphasizes the significance of informal learning situations that take place in the situated practice. This practice involves participation and involvement in which participants observe and imitate others, becoming more complex over time (Lave, 1996; Lave & Wenger, 1991). Moreover, Lave and Wenger (1991) see participation as a way of learning and being absorbed in the community of practice, implying that this practice also includes social aspects of learning. In turn, this raises questions concerning how newly arrived students' participation in different school subjects is organized and how it can be organized to give them access to different practices that include them.

Further, this article also draws on a multimodal perspective. This perspective focuses on communication, interaction and representation between humans (Kress, 2010). Instead of a language-centered focus, this perspective offers a broadened view in an educational context where language is one of several modes of making meaning in communication (Kress et al., 2001). This does not diminish the role of language but rather suggests that the use of different modes offers different affordances (Kress, 2010). Affordance refers to what an artifact can offer, and it can be perceived differently between individuals. This means that something can sometimes be foregrounded and at other times placed in the background depending on the situation, the context,

and the relationship between different resources (Jewitt, 2017; Kress et al., 2001). In interactions, several modes are often used to communicate and make meaning. Each mode offers different communicative functions, which are also influenced by the social context. When used in communication and interaction, modes are interwoven and contextualized. Exploring newly arrived students' participation in sloyd requires seeing communication and interaction from a multimodal perspective rather than limiting them to written and spoken language. Verbal language is one resource among many for making meaning (Jewitt, 2017; Kress, 2010). When students and teachers are not limited to using only spoken or written language, the sloyd practice enables them to utilize a variety of available resources.

## Method

The empirical material in this article was collected through video recordings taken from a larger video material, of circa 20 hours of film. The recordings were made in early 2019 during one semester in Years 8–9 at two schools, focusing on sloyd lessons with newly arrived students. The first school had two sloyd teachers and 20–24 students, all of whom were newly arrived students. The number of students varied during the semester because some students changed schools or new students joined in the middle of the semester. The second school had one sloyd teacher and 14 students, four of whom were newly arrived students. Video recordings of sloyd lessons were used because the camera can capture individual situations and enable the documentation of actual events during a continuous period, making it possible to follow situations in detail. Video recorded material allows the researcher to see the material repeatedly and supports memory during later analysis (Cohen et al., 2011; Johansson, 2011; Rønholt, 2003). The video recordings, documentation, and analysis were inspired by an ethnographic approach (Streeck et al., 2011). The empirical material used in this article (Table 1 and 2) is new and has not been previously used.

To answer the research questions, two types of material were used, presented in Table 1 and 2. Aspects of communication and interaction were explored through analyzing a specific learning situation, presented in Table 1, as a sequence of still photos and their description. Meanwhile, the learning environment was illustrated by still photos of the resources available in sloyd classrooms, and the way they are used by students, presented in Table 2. The analysis was carried out in different phases (see Johansson, 2022). Initially, the video recorded material, the raw data, was studied in its

entirety several times. Thereafter, notes and categorizations were made using Cohen et al.'s (2011) concept *critical events*, which entailed a more detailed micro-analysis. Finally, the still photos used in the article were transcribed in detail to ensure nothing was overlooked in each situation. Further, a hermeneutic approach made it possible to think with the material and move from parts to wholes and vice versa (Alvesson & Sköldberg, 2017). With a detailed transcription, I made sure the recorded material was in line with what was said and done, specifically Table 1 (Heath et al., 2010; Johansson, 2022; Knoblach & Scnettler, 2012). A description, analysis, and further discussion of the findings are presented in the result section (Table 1 and 2).

Throughout the collection of the empirical material, ethical research principles were taken into careful consideration (Vetenskapsrådet, 2017). In particular, the Swedish Research Council's requirements for information, consent, confidentiality, and usage were applied throughout the research process. The participating teachers and students were informed about the purpose of the study, in both oral and written form, and they were informed and reminded throughout the research process about the voluntariness of their participation. The students are in Years 8–9, and throughout the video recordings, I was attentive to whether any student wished to cancel their participation. The students' consent was acquired as written consent in the students' different mother tongues at both schools. Likewise, the student's caregivers and teachers also provided written consent. To ensure anonymity, neither the names of the schools nor of the participants were used in the article; instead, the participating students and teachers have been pseudonymized. Further, the still photos selected in the article have been blurred to ensure their anonymity. Since image and voice recordings are seen as personal data, the research material has been stored securely according to the University of Gothenburg's rules for data protection. This also adheres to the Swedish Data Protection Act (2018:218). The collected material and information about the students have been anonymized and stored separately. The research material does not contain sensitive personal data about individual students. Instead, the notes and other collected material consistently refer to the students as sloyd students or as students in a group, so the material cannot be linked to an individual physical person. Importantly, the individual ethnicity of the students has not been the focus; rather, the students have been treated collectively as the general group "newly arrived students in sloyd education".

## Results

The results are presented in two sections. Table 1 presents the material in tabular form with still photos and text describing what happened, who did what, what was said, and other relevant details. This is followed by a summary analysis. Further, Table 2 presents examples of the learning environment of sloyd classroom that newly arrived students encounter, presented as still photos from the empirical material, and followed by a summary analysis.

*Table 1: "Rip the fabric"—multimodal interaction and communication with newly arrived students*

The context of the analyzed situation is as follows: The student is about to sew a pillow, and his next step is to cut the pillow's two fabric pieces from a larger piece of fabric. The teacher and the student are standing in front of the cutting table, and the teacher is about to give the student instructions on how to cut and rip the fabric. Ripping the fabric will result in straight edges, which in turn will make it easier for the student to sew the fabric pieces together. This is a process that is new to him, and he is supported by the teacher throughout the different steps, but other students also gather around the cutting table. The verbal interaction between teacher and student in Table 1 has been translated from Swedish into English.

**Table 1.**

*The table shows a compilation of interaction and communication in a learning situation.*

| Still photos 05.30–06.42 (1.12 min.) | Says | Does | Other |
|---|---|---|---|
| 1.1  | T: Now, I want to show you something. | She holds up her finger to point out that the student should listen to what she is about to say. The student looks at the teacher. | Students are talking in the background. |

| 1.2 | T: You are going to rip the fabric.<br><br>T: Have you tried [this before]?<br><br><br><br>S: No | The teacher makes a gesture in the air with both hands as if she is ripping a piece of fabric into two pieces.<br><br><br><br>The student shakes his head. |
| --- | --- | --- |
| 1.3  | T: Get a pair of scissors. | The teacher points towards the textile scissors that hang on the wall.<br><br>The student gets a pair of scissors from the wall and gives it to the teacher. |
| 1.4  | T: Cut, a little bit.<br><br>T: Ok, carefully. | The teacher makes a gesture as if she is holding a pair of scissors in her hand and "cuts". Then she points to the fabric where the student is supposed to cut a small notch with the scissors and she says, "Ok, carefully."<br><br>The student looks at the teacher and down at the fabric. Then he cuts a small notch at the edge of the fabric, where the teacher has marked where he is supposed to cut. |

| 1.5 | T: Rip. | The teacher says "rip" and makes the same gesture as before, but this time, she makes a wider gesture. | Other students are standing beside the table and listening to the teacher's instructions. |
|---|---|---|---|
|  | | | |
| 1.6 | T: Rip [in English] | The teacher says "rip" again, but this time in English. She looks at the student. | Students are still standing in the background and talking to each other. |
|  | | The student makes the same ripping gesture as the teacher, but his gesture is smaller. | |
| 1.7 | S: Do this? | The student holds the fabric but looks unsure of how to rip it. He looks questioningly at the teacher. | Students are talking in the background and start looking when the student is about to rip the fabric. They cheer him on. |
|  | T: Yes! | She smiles at the student. | |
| | S: Difficult. | He smiles back at the teacher, still a bit unsure. | |
| | T: Scary? You can do it! | | |

| 1.8 | | The student grabs the fabric and holds it on both sides of the small notch that he made with the scissors; then he rips the fabric. At first, he is a bit skeptical, but then he rips the fabric all the way. The teacher stands beside him. | Another student on the other side of the table makes the same ripping gesture as the teacher did and says "fast." |
|---|---|---|---|
| 1.9 | T: Look at the edges. Are they straight? | The teacher makes a gesture as if she is holding the fabric. She positions her hands to indicate its size and shows the student the straight edges with a gesture. He holds the fabric in front of the teacher, and the edges of the fabric are straight. | |

The learning situation illustrates how interaction and communication can occur in sloyd practice and how the teacher uses multimodal resources for meaning-making in the situation. The teacher also repeats subject-specific content and concepts in the situation, such as "rip". First, she says "rip" in Swedish and makes a gesture; then she says "rip" in English. The teacher also emphasizes the word "scissors"; for example, she makes a hand gesture as if holding a pair of scissors and says "cut." How the teacher uses a hand gesture to visualize a pair of scissors also exemplifies fictive communicative resources in sloyd to highlight the subject-specific content and concepts. The teacher wants the student to discover what happens when he rips the fabric (i.e., he will get straight edges), and she ensures that he does this independently by providing the student with an embodied experience of the "ripping" action instead of performing the action itself. At first, the student is a bit skeptical about ripping the fabric and appears hesitant, which is evident through his gaze, body posture, and his remark, "difficult," as he looks toward the teacher. Meanwhile, other students

stand around the table and encourage him, as does the teacher when she says, "You can do it," which can be seen as an example of the social aspects of learning situations in a sloyd lesson.
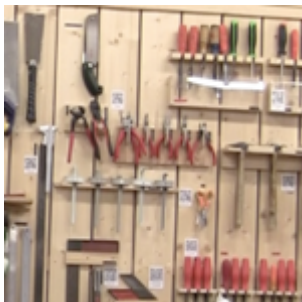
In sloyd, newly arrived students are given subject-specific concepts and content in a concretely situated context. As shown in Table 1, subject-specific concepts and content are often abstract and complex in school subjects. When the teacher and the student do not share the same verbal language, they use other multimodal resources to reach a common understanding in their interaction and communication, such as gestures for "cut," "scissors," or "rip". This makes it possible for, in this case, the teacher to use a wide range of resources that are interwoven in the interaction between the teacher and the newly arrived student. Moreover, the student is encouraged both by the teacher and other students in the classroom to rip the fabric. Although this step is new to him and he seems a bit skeptical at first, he challenges himself and finally does rip the fabric.

*Table 2: The Learning Environment in Sloyd Classrooms*

Table 2 illustrates examples of the learning environment and its significance for newly arrived students' interaction and participation in the sloyd classroom. As shown in the table, the analyzed material consists of seven still photos and a brief description of each photo.

**Table 2.**

*Table 2 gives examples of the learning environment in sloyd classrooms.*

| Still photo | Context |
| --- | --- |
| 2.1  | The tools in the sloyd classroom are labelled and displayed on a wall to ensure visibility for the students and the teacher. |

2.2



Two students and a teacher are standing by the drilling machine. The teacher shows the students how to use the drill.

2.3



Two students are standing by the "wall of tools" in the sloyd classroom and are about to choose a tool to use for their project.
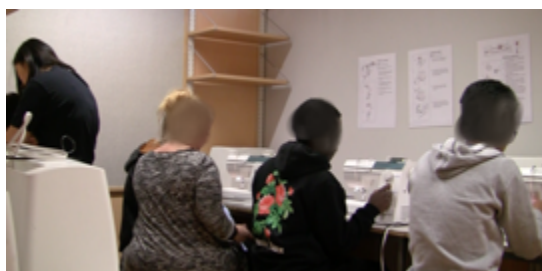
2.4



Two students are standing or crouching in front of one of the material cupboards, and they are looking for a zipper to use in a pair of trousers.

2.5



Students and a teacher are gathered around one of the workbenches, where the students are working on their various projects.

2.6



Students (and a teacher) are working with sewing machines.

2.7



Students are standing by the workbenches in the sloyd classroom, and they are currently working on making a wooden box and its lid.

The above table shows the learning environment that newly arrived students encounter and experience when participating in the sloyd classroom. This workshop-like environment is rich when it comes to tools, fabric, machines, working benches, and so on because students need access to these resources to support them during the process of making their objects. The still photos illustrate how the sloyd classroom can be furnished and how subject-specific content offers students easy access to the materials, tools, and various machines when working on their objects. In addition, the photos highlight the social aspects of the sloyd classroom. For example, the students can meet by the wall of tools (2.3), the machines (2.2 and 2.6), or the workbenches (2.5 and 2.7), which also allows them to be part of each other's projects (2.2, 2.3, and 2.7). Workbenches and other furniture can also be placed to facilitate easy interaction for students, which for newly arrived students can increase participation and inclusion in a social environment (2.5, 2.6, and 2.7).

## Discussion and conclusion

Finding ways to organize education for newly arrived students and to transition them into the education system has been a challenge for municipalities in Sweden (Bunar, 2015; Nilsson Folke, 2017). Nonetheless, schools seem to have found ways to mitigate the exclusion of these students by using practical-aesthetic subjects, such as sloyd, to include newly arrived students and ease their

transition into mainstream classes. Previous research shows that sloyd and other practical-aesthetic subjects have something to offer newly arrived students. In particular, these subjects are thought to have fewer verbal barriers, implying that it is easier for newly arrived students to participate in them (Juvonen, 2015; Stretmo & Melander, 2018). However, the goal of integrating newly arrived students into mainstream classes as soon as possible implies leaving their social interaction and participation up to the teachers in these subjects, who may have little or no previous experience in teaching newly arrived students.

This article aimed to explore the interaction and communication of newly arrived students in sloyd and the learning environment these students encounter in the sloyd classroom. The results shows that multimodal communication and interaction make it possible for teachers and newly arrived students to broaden their communicative and interactive possibilities without diminishing the importance of language acquisition. For example, teachers can use the students' sloyd projects to highlight subject-specific content and concepts, as shown in the learning situation presented in Table 1. The learning situation illustrates how abstract concepts in school subjects can be set in a concrete context. When teachers and students do not share the same verbal language, multimodal communication and interaction become essential. Therefore, it is important to be aware of multimodal communication and interaction in sloyd and to consider how the subject's multimodal possibilities can affect newly arrived students' learning. Different multimodal resources can support teaching and highlight instructions for students who have not yet fully mastered the Swedish language. Therefore, teachers must take into consideration how, for example subject-specific concepts can be shown in learning situations.

Furthermore, the article has highlighted the importance of the sloyd classroom's learning environment for the inclusion of newly arrived students. According to previous research, the sloyd classroom can through its furnishing increase interaction and communication between students (Hipkiss, 2014; Jewitt, 2005; Kress & Sidiropoulou, 2008), which should be considered when aiming to support newly arrived students' learning and participation in sloyd education. While arranging the classroom to accommodate a transmission pedagogy may be suitable for certain subjects, subjects like sloyd require other settings for meaning making (Maapalo, 2017). How the sloyd classroom is furnished and arranged influences the students' ability to interact and collaborate with other students, as shown in Table 2. Moreover, as evident in the learning situation shown in Table 1, the classroom environment also enables the teacher to offer a high degree of individual

interaction, which can be useful when learning a new language or subject-specific content and concepts. Accordingly, sloyd teachers' planning of lessons and reflection upon how newly arrived students can encounter and cooperate with others beyond verbal barriers is both crucial and challenging. Ensuring that newly arrived students gradually become more included in the situated practice through participation and social activity also implies a responsibility on teachers to provide access to, and plan teaching where newly arrived students can be part of the practice.

The material presented in this article is part of a larger material that focuses on newly arrived students in sloyd education. However, the results can also be applied to students regardless of their mother tongue. Considering that newly arrived students are often placed in sloyd classes early on, it is relevant for their education to highlight their encounters with sloyd practice and the importance of engaging them with different knowledge traditions in their schooling. The teacher's communication and interaction in the sloyd practice can focus on subject-specific concepts and content in order to challenge newly arrived students' language acquisition and learning. Additionally, teachers can reflect on the classroom's furnishings and how the arrangement enables student interaction and communication.

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