

Quality Aspects of the Physical Learning Environment in Relation to Teaching in Swedish School-age Educare

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Abstract: The curriculum states that Swedish school-age educare (SAEC) should offer students a meaningful leisure time and stimulate their development and learning through SAEC teaching, which is defined as a combination of care, development, and learning. In recent decades SAEC has relocated from a social to an educational arena with a different governance, teacher qualifications, terminology, physical location, and integration within schools (Boström & Augustsson, 2016). Studies have highlighted problems related to the conditions of the physical learning environment (Boström & Augustsson, 2016; Lager, 2020), although the empirical research in this field is limited. The aim of this study is therefore to investigate how the physical learning environment, from a staff perspective, enables or limits teaching in four SAEC centers. This is important, in that according to Harms et al. (2014), pedagogical quality in extended educational settings arises in interaction between features that include physical, organizational, and social aspects. The study concludes that regionalization, dimensioning, layout of the premises, and organizational aspects, together with the staff's psychological ownership and/or subordination, have a clear impact on the nature and quality of teaching, the staff's opportunities to develop their teaching, and the students' possible choices and activities.

Keywords: extended education, premises, psychological ownership, structuration theory, teaching, staff perspectives

Introduction

SAEC is a part of the Swedish education system, governed by the Education Act (SFS 2010:800) and the curriculum for compulsory school, preschool class and SAEC (SNAE, 2022a). It includes approximately 480,000 children aged between 6–12 years (SNAE, 2022b). The Swedish SAEC of today is a result of various policy changes that have taken place over the past 25 years. These changes have meant a shift from a social pedagogical focus emphasizing play, leisure, and social relations, to a more pronounced learning assignment (Gustafsson Nyckel, 2024). These changes involve the introduction of the concept of teaching, which was not part of the social pedagogical assignment. Teaching in SAEC should though be interpreted broadly, where care, development, and learning, should be considered as a whole (SNAE, 2022b). SAEC work should be based on the needs, interests, and experiences of the students, to stimulate their development and learning and offer them meaningful leisure time before and after school. SAEC is thus part of the growing international research

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field of extended education, which is interested in learning in different types of institutions/activities outside the regular school system (Bae, 2020; Stecher, 2020).

Today, Swedish SAECs are predominantly integrated within primary schools in terms of activities, staff, and premises, although studies have also highlighted problems related to the conditions in the physical learning environment. The physical learning environment is defined as the result of interactions between physical resources and people in different contexts (Velissaratou, 2017) and is here, like Kirkeby (2006), primarily considered as the servant of pedagogy.

Very few studies have adopted a holistic approach to the indoor physical learning environment in SAECs, although some have identified shortcomings in relation to the physical learning environment (Grewell & Boström, 2020). These shortcomings include the unequal conditions between different SAECs, that the SAEC's physical learning environment is often under-prioritized and offers limited opportunities for activities that students perceive as meaningful (Boström & Augustsson, 2016; Boström et al., 2015). A governmental inquiry (SOU 2020:34) states that deficiencies in room dimensions and functionality negatively affect the quality of SAEC activities through limited didactic conditions, an increased control of students, a tighter structuring of activities, high noise levels and overcrowding. At the same time, the Education Act states that students should be offered a good environment, premises and equipment, suitable for the purpose, and characterized by security and tranquillity (SFS 2010:800). Overall, this means that policy documents and research emphasize the importance of a good physical learning environment. However, government reviews and research in the area have shown that the teaching conditions for SAEC are often inferior, which can lead to shortcomings in educational quality.

According to Harms et al. (2014), pedagogical quality in relation to the physical learning environment is a result of the conditions offered and how teachers and students make use of them. Some international studies indicates that the quality of the physical learning environment in extended education programs have improved with through adding different material resources and pedagogical ideas (Barretto et al., 2017; Fadool, 2009; Fields & Kafai, 2009), as well as involving pupils for improvement of the physical learning environment (Smith & Barker, 2000).

Plantenga and Remery (2017) state that examining quality can mean studying structural quality, (i. e. group size, the number of children per staff member, and staff training levels), or process quality, which refers to the environment in which children play, learn and interact.

This introduction outlines the aim of the study, which is to investigate how the physical learning environment enables and/or limits teaching and SAEC quality from a staff perspective. This is investigated using the following research questions: 1) Which conditions in the physical learning environment of the SAEC are perceived as important for the teaching? 2) How does the physical learning environment contribute to the quality of the teaching? In the following section, previous research on SAEC teaching and how the physical learning environment can be related to teaching is presented.

Teaching in SAEC

The SAEC curriculum's (SNAE, 2022a) broadened definition of teaching as a combination of care, development, and learning has opened for a variety of approaches and interpretations.

The shift in pedagogical focus, from social care and development to teaching, has resulted in teaching-related research, where both the social and educational pedagogical traditions are made visible. Development is described in terms of how SAEC teachers use documentation as a method to develop conditions for building good relationships (Lager, 2018), and in relation to systematic quality work (Lager, 2020a; Lager et al., 2016). Learning is made visible by how didactics, as a theory and research area in SAEC, has emerged over the past ten years. Boström, Orwehag, et al. (2022) highlight an awareness of didactic aspects, but also state that few empirical studies have explored the complexity of SAEC didactics.

Dahl (2021) argues that teaching in SAEC is often based on play-oriented elements, and that a child focus can be seen as a strategy for creating an exploration of different knowledge, where teachers' sense of intonation, leadership, and participation create conditions for learning. Lager (2015) highlights that teaching in SAECs is characterized by a social pedagogical discourse in which children's perspectives and interests form the starting point.

Ackesjö and Haglund (2021) describe how SAEC teachers flexibly move in a field of tension between tradition and the intentions of new educational policy. Teaching is partly centred around play, child focus, and adapting to the situation. It also emphasizes the teaching and evaluation of children's learning. This indicates an expansion of the concept of teaching over time. Ackesjö and Haglund's conclusion is that the teacher's control in terms of intentionality, interactivity, and intersubjectivity is central to whether the activities that are carried out, can be defined as teaching.

Boström and Berg (2018) show that teaching in SAEC involves a combination of leadership structures, traditional SAEC activities, and a reactive checking of steering documents. They conclude that professional SAEC practice has a lower status than traditional school activities, and that staff, in their work, experience several stressful conflicting pressures that hinder the realization of the curriculum's intentions.

In summary, while teaching is an expanding concept and field within Swedish SAEC, the concept is still, according to previous research, diverse, which signals that the broadened teaching concepts of care, development, and learning have not yet found their right level in the field of tension between tradition and new educational policy intentions.

The physical learning environment and teaching in SAEC

Horton et al. (2023) have investigated the relationships between the physical and organizational environment, resources, and social relations in school settings. Their study showed that the dimensioning of the physical environment in relation to the number of students is affected by various factors at different levels, such as architectural design, the availability of materials, a lack of staff resources, scheduling, and teachers' ability to supervise, and that they all have an impact on students' social relationships. Studies (cf. de Laval et al., 2019; Falkner & Ludvigsson, 2019) also indicate that staff in SAEC deal with problems of overcrowding in combination with scattered premises, an increased structure in the form of groupings, transfers, scheduling, and a tighter control and more limited choice of students' activities. A significant part of the staff's time is spent in organizing and conducting logistics, which reduce the flexibility of teaching and limit the choice of activities (de Laval et al., 2019; Elvstrand, 2013). The pedagogical focus thus shifts from planning the content of the activity

to organizing and structuring where the students should be (Boström & Berg, 2018; de Laval et al., 2019).

Littmarck et al. (2023) have specifically studied how physical learning environments at SAECs are designed and developed by staff to create different choices of action for students. The study shows that SAEC teachers' intentions are that the physical learning environment should be designed for play, creating, learning, safety, rest, and building relationships. The active approach described by Littmarck et al. seems to be close to Dahl (2014) description of SAEC teachers' creation of spaces that promote communities of practice, such as "rooms within the room", or spaces for smaller groups, and undisturbed play. Dahl concludes that staff strive to afford free choices and meet children's wishes, but that the physical conditions of premises, space, and play materials determine the activities that are possible and can contribute to limiting children's play (Dahl, 2014). A conclusion is that it seems to be important to offer children time and access to environments that contain and offer different choices.

The conditions of the physical learning environment can contribute to the development of norms and rules for how students can use the environment and materials and can limit the number of activities offered (cf. Grewell, 2022; Kane & Petrie, 2014). For example, both Lager (2020) and Horton et al. (2023) show that the conditions for varied activities are limited in SAECs that completely or partially lack their own premises. It is also difficult to get the classroom environment to support creative expression, and the participation and influence of SAEC students can be limited due to a lack of conditions (Andersson, 2013). Littmarck et al. (2023) argue that having their own premises appears to be an important prerequisite for SAEC activities based on students' interests. In summary, the design of the physical learning environment is an important aspect of how teaching in SAEC can be conducted.

Theoretical Point of Departure

The study uses two theories to analyse the data. Giddens (1979, 1984) theory of structuration and the theory of psychological ownership [PO] (Pierce & Brown, 2020; Pierce et al., 2004).

The theory of structuration is used to describe and analyse how actions are influenced by structures in the form of rules and resources, which in the interaction between individuals, shape power relations and contribute to the production and reproduction of activities that create the social system. (Giddens, 1984). The use of PO is motivated by feelings of ownership, (or lack of ownership), identified in the data. Such feelings have been hypothesized to have an effect on staff performances such as commitment, empowerment, experienced meaningfulness, and belongingness and organizational change (Pierce et al., 2001, 2003).

The theory of structuration (Giddens, 1984) assumes that people have the ability to act, but neither can act unhindered. Based on structuration theory, people, and the actions they take, are in a dialectical, mutually dependent, relationship, with the structures in which they operate. Giddens (1984) describes structures as various forms of rules and resources that can be both obstructive and enabling. Rules are seen as unwritten norms for how individual actors should act, and as meaningful codes, visible through actors linguistically descriptions of the social practice (Giddens, 1979). The rules may differ depending on the temporal and/or spatial aspects, which Giddens (1984) describes as regionalization. Resources are described by

Giddens (1984) as potential opportunities to exercise power; in relation to other actors (authorizing resources) or in relation to the physical environment in the form of premises or material (allocative resources).

Pierce et al. (2001, 2003) describe PO as a self-developed perception of owning something, tangible or intangible. It serves four fundamental human latent needs: efficacy, self-identity, belongingness (Pierce et al., 2001, 2003), and stimulation (Pierce & Brown, 2020). These needs make an individual ready to engage in a relationship whereby certain objects become part of the extended self (Pierce et al., 2001, 2003). Three experiences have been theorized as leading to the emergence of PO: experienced control over, intimate knowing of and investment of the self, into the target (Pierce et al., 2019). These experiences tie the individual psychologically to the object/target so that it becomes a part of the extended self and manifests through feelings of ownership. Ownership can be affected by structural changes (Dawkins et al., 2015), how well space is organized for the activities (Barrett et al., 2019) and the autonomy staff have over their workplace (Pierce & Brown, 2020).

Structuration theory, including the concepts of regionalization, rules, and resources, describes the possibilities for actors to act in a workplace such as SAEC. This is, in some respects, close to the theory of psychological ownership with its concepts of experienced control over, having a deep knowledge of, and investing in the goals of the workplace. Investing in the workplace can occur in several ways, “including investment of one’s time; ideas; skills; and physical, psychological, and intellectual energies. As a result, the individual may feel ownership and a strengthened self-identity (Pierce et al., 2003). In contrast, the absence or lack of ownership can lead to negative attitudes and behaviour, diminished status, role, and self-esteem.

Design of the Study

The study is cross-sectional (De Vaus, 2001) and explores the SAEC staff’s possibilities and constraints in relation to the physical learning environment. The research team consisted of a doctoral student (A) who carried out the empirical data collection, transcription, initial analysis and thematization, and a senior researcher (B) who participated in the further analysis. The selection of SAECs is strategic in that it aims to capture the staff’s perspectives of the physical learning environment as broadly and diversely as possible to answer the research questions with satisfactory breadth and depth (Patton, 2015). The geography, responsible authority, socioeconomical aspects, the staff’s educational levels, integration in school and design of the premises vary between the SAECs. The number of students in the SAEC vary from 50–79 and the ages from 6–11 years. The data collection was done as follows: One week of field studies (afternoons) in each SAEC (43 pages of fieldnotes and 83 photos). One group interview in each SAEC (a total of 5 hours of recordings), with 18 staff members (9 SAEC teachers, 3 preschool teachers and 6 other staff). For the interviews, a variant of Post Occupancy Evaluation [POE] (de Laval, 2014; Preiser, 1995) and walk and talk conversations (Christensen, 2006; Haglund, 2015b; Klerfelt & Haglund, 2014) were conducted with the SAEC staff in the indoor physical learning environment. In every room the staff first reflected individually, and then discussed the possibilities and constraints of the physical learning

environment, with the opportunity for further discussions during the succeeding group interview. All the reflections and discussions during POE/walk and talk conversations and group interviews, were recorded and transcribed.

The study's ethical considerations are based on good research practice, which includes information requirements, consent requirements, confidentiality requirements, and utilization requirements (Vetenskapsrådet [The Swedish Research Council], 2024). A consideration of ethical review was made jointly by the doctoral student and the main supervisor after contact with Mid Sweden University's research ethics expert. As the study does not involve the processing of data that is subject to ethical review, the assessment was made that ethical review was not necessary for this study. Consent was obtained from all the participants after they received information about their participation and how the principles of research ethics would be respected in the study. To ensure confidentiality, fictitious names were assigned to all the participants early in the research process. All consents are kept in a locked filing cabinet at the institution. The empirical data, consisting of field notes, photos, audio recordings and transcripts are stored on the institution's secure data storage server.

The data from the interviews with the staff were analysed using a reflexive thematic analysis (RTA) which enables identification of patterns across the data set, (Braun & Clarke, 2019). The focus of the analysis was on highlighting the possibilities and constraints of the physical learning environment. The analysis was conducted through the six-phase approach developed by Braun and Clarke (2019). This involved a familiarization with the data followed by a more detailed and systematic engagement with the data by searching for repeated patterns of meaning trying to generate codes. The next phase involved searching for potential themes and checking whether the themes were appropriate in relation to the coded extracts and the research questions. The next phases were directed to revising and defining themes and "clarify the essence and scope of each theme" (Braun & Clarke, 2019, p.855) which then could be interpreted and analysed in relation to the theoretical starting points. The last phase was directed to producing the report.

Empirical Results

The results are presented in two themes for each SAEC: The design and functionality of the physical environment and the organization and content of the teaching. These two themes were chosen because the empirical data indicated that the design and functionality of the physical environment influenced the organization and the content of the teaching.

SAEC A

The Design and Functionality of the Physical Environment

The SAEC residence is shared with the preschool class and consists of one large and one smaller room. In addition to these, two adjacent classrooms are sometimes used. In another building, a sports hall, an art classroom, a recreation room, and a technical workshop are available for use. Breakfast and snack meals are served in the canteen two floors down, but the



Figure 1. The larger room in SAEC A has a kitchen interior [not shown in the photo], a few tables, a carpet and is equipped with materials for building and creative activities.



Figure 2. The smaller room in SAEC A has a sofa, shelves, cupboards, and two tables, as well as board games and materials for play.

staff can also serve snack meals outside if they wish. The toilets are located on the ground floor. The staff have no staffroom.

During the walk-and-talk session, one of the SAEC teachers, Anna, described that the residence was functional for after-school activities but too small in relation to the number of students. She also said that the amount of educational material was limited and that many of the toys were old and worn out. Several of the staff pointed to problems with the lack of toilets close to the residence, and limited space for recovery and private play. The hallway outside the residence was narrow and easily became overcrowded, which contributed to conflicts and made it difficult for students to keep their clothes and things in order.

The Organization and Content of the Teaching

The sharing of premises with preschool class and school meant that the teaching had to be adapted to the premises that were currently available.

The teaching is organized in such a way that during the first hours of the afternoon the students can go outside or choose between some (1–3) activities in different premises (field note 2020–04–02). Available premises vary, according to the staff, from day to day and can be changed at short notice. (Håkan).

The structure and content of the teaching was determined by the conditions of the premises. SAEC teacher Håkan described that he felt that the school had “a right of possession over the premises” and could only be used by the SAEC “during residual time”. “Then you have to adapt the teaching activities to logistics or scheduling, more than pedagogy, I think.” (Håkan).

Håkan described the school activities as superior and taking precedence over the SAEC activities. This organization was time consuming and resulted in counting, monitoring, and grouping the students. The staff described that it also limited the students’ choices and entailed teaching that was characterized by short and limited activities instead of longer projects.

On this day, the students are served snack meal outdoors. After that, the younger students (aged 6–7) go to a nearby playground, while the older students can choose between staying outdoors, playing indoor football in the sports hall or drawing in the art room. At 4 pm, when most of the students have gone home, the remaining students gather in the SAEC residence. The activities that take place there are drawing, playing board games, talking to each other and the staff, and building with construction materials (field note 2020–04–02).

The SAEC teachers Anna and Håkan both described that there was no place that “was” SAEC, since the need for the school premises took precedence over the SAEC. This was further reinforced by the fact that much of the staff’s time and work was directed to work in the school, and that SAEC lacked its own budget and had to ask for materials from the school management, preschool, or school.

What I find difficult is that we don’t have any premises that can be used exclusively for SAEC. SAEC is a time, it is no longer a physical place. It’s like “Where should we be? There or there? Where can we sit?” The fact that it’s not one physical place makes me think... that you lose a little soul... (Håkan).

It’s noticeable concerning the children as well. I have a student; she doesn’t know the difference. So, she asks me every day “Has SAEC started now?” She doesn’t notice when after-school starts. Because it’s just a time. And she can’t keep track of time, yet. (Anna).

Håkan and Anna said that the lack of a residence of their own affected both the staff and students on an emotional level, which Håkan referred to as “lacking a SAEC soul”. Nisse described how this affected the teaching and activities in the residence.

And then there’s also the fact that once they’re playing here, all the stuff must be removed at the end of the day, because the next day the preschool class is here. They can never continue building their big castle or whatever. (Nisse)

The staff described that they experienced a greater freedom and flexibility in relation to the premises during the school holidays. Nisse said that the sports hall could be open and that materials were easily accessible, which made the environment feel like their own. Anna said that it made her feel free and more relaxed in her teaching role. Håkan pointed out that it gave opportunities for spontaneity and work on long-term projects. The orientation of the rooms in relation to each other also affected the teaching.

I would like to work like this; here we have a music group, a creative group, a technology group or a sports group or something ... yes, like that. But then we would need many small rooms, but close to each other so that we can have an overview of all the children. But now we’re in two different buildings. (Anna).

Anna described that even though there were available premises, it was difficult to make full use of them due to supervising and staffing all the rooms. It also made it harder for the staff to collaborate, supervise, and be flexible in their teaching.

SAEC B

The Design and Functionality of the Physical Environment

The SAEC residence is shared with two preschool classes and consists of twelve rooms in different sizes, including a cloakroom and kitchen. The staff have a staffroom with personalized workplaces for all staff members.

Breakfast for all and a snack meal for grade 3–6 are served in the kitchen, while a snack meal for preschool class and grade 1–3 is served in the nearby canteen. The nearby sports hall is used frequently. Other school premises, including classrooms, a room with computers and a room for wood and metal crafts, could be used when needed (field note 2020–01–22).



Figure 3. The kitchen is located in the centre of SAEC B.

The staff described that they had created spaces based on different themes, i. e. building, play, creative work, etc. They emphasized the importance of plurality, diversity, and easy access to materials, so that the students could be inspired and initiate activities independently. The smaller rooms were particularly popular amongst the students, but the staff said that they had adapted the doors to make it easier to monitor the activities.

The Organization and Content of the Teaching

The teaching was organized in a way that allowed the students to choose what they wanted to do among the free, and organized activities, indoors or outdoors. A weekly creative activity was offered, as well as teacher- and student-led activities in the sports hall. Various themed activities were also regularly organized. Norms and rules were mostly related to enabling students to act independently and with responsibility in relation to the physical environment.

The staff position themselves in the environments, indoors and outdoors and are involved in the students' activities. They describe that they aim to inspire, support, lead and challenge the students with their division of labour, approach,



Figure 4. A room in SAEC B for eating breakfast, playing boardgames etc.



Figure 5. A small room for creative work in SAEC B.

and learning environments. Some of the students participate in preparing and serving breakfast and snack meals (field note 2020-01-24).

Cecilia described that they had good opportunities to be flexible and accommodate the students' wishes.

I think that's really important. We have to look at the environment based on the children we have. What do they want? What do they need? (Cecilia)

We are lucky to have the premises we have. That's an advantage, because it means that we have opportunities to make changes in the physical environment. Some SAECs only have classrooms and can't arrange, rearrange, and have control over the premises. (Eva).

But, also, we're all SAEC teachers and preschool teachers, which is great. We're all pedagogically educated and trained, so in that way we have an equal foundation to depart from. (Barbro).

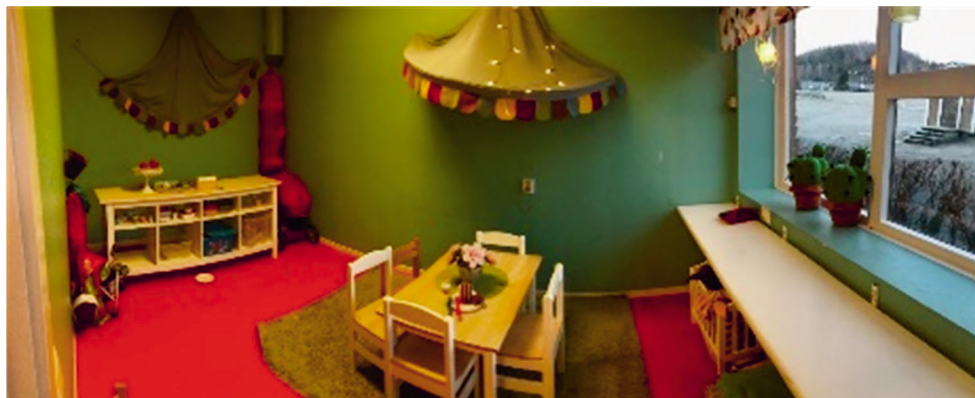


Figure 6. A small room for play in SAEC B.



Figure 7. One of the preschool classrooms in SAEC B, with tables, a small stage for performances, a reading corner, and an artists' corner.

Yes, we are reflecting over the environment. If there are untrained staff, the environment might be considered as “it is what it is”, without reflecting why. (Anders).

The staff described that they reflected continuously and developed the physical learning environment based on the interests and needs of the students. They emphasized the good diverse physical environment, the ability to arrange and furnish the premises as they saw fit and that everyone in the team had a teacher education. They also highlighted that their team had worked together for a long time.

SAEC B had its own budget for purchasing materials, but also used compensation received for training teacher candidates. Daisy said that they prioritized buying a lot of material,

even if it was expensive, because that inspired, stimulated, and activated the students. However, the use of some material was limited due to difficulties of obtaining enough creative material. They were dependent on material donations by staff and parents and were trying to teach students to handle the play materials carefully and clean up after themselves.

SAEC C

The Design and Functionality of the Physical Environment

The SAEC consists of two large and one medium-sized rooms. The staff have access to a staff room with some tables and chairs.

The SAEC residence consists of a large cloakroom, two toilets, three large rooms, and a staff room. The rooms are in a row with doors between them and to the cloakroom. In addition, the nearby sports hall is used, and if needed classrooms, including a music room are available. Breakfast and snack meals are served in the school canteen close to the SAEC (field note 2020-01-27).



Figure 8. The largest room in SAEC C combines several functions: a creative area with a sink, a kitchen, and a resting/reading corner (the latter not visible in the photo).

The staff said that they were satisfied with the physical learning environment, although the fact that the rooms were in a row and had several doors between them inspired the students to run between the rooms, which made it difficult to monitor the students' activities. They were happy to have their own work and staff room and said that it strengthened their team spirit. Gun, a qualified preschool teacher, said that the SAEC's physical learning environment was given lower priority than the school's physical environment.

The school has had projectors in every classroom for many years now, which we also want because you can use them for dance and movement programmes. But we always get last priority, that's how it is. (Gun).

The staff appreciated the creative room, the spacious cloakroom and that the rooms offered a variety of activities. Gun emphasized the importance of materials being readily available so that the students could act independently. She also said that the sofas had multiple purposes, such as chatting, resting, and playing. Several of the staff members addressed a challenge in



Figure 9. One room in SAEC C is set up for building Lego and playing board games and has a desktop computer (the latter not visible in the photo).



Figure 10. A third room in SAEC C is set up for play with rugs, a sofa, and some toys.

motivating students to take care of and keep the materials in order. Gun explained that they therefore had fewer materials on display and instead, at regular intervals, replaced materials, which in her opinion made the students more focused on the material that was available.

The Organization and Content of the Teaching

The SAEC afternoon activities start with some compulsory outdoor time, after which the students are free to choose what they want to do, indoors or outdoors. They do role play, watch films, draw, paint, create and build with Lego, play on a computer and with board games, or just talk to each other and the staff. The staff often position themselves in the kitchen area where they have a view of several of the rooms. They talk to the students, help them with materials and open and take out equipment in the sports hall (field note 2020–01–27).

Gun said that previously they had teacher- and student-led activities, but that they currently did not have such structure in the teaching. This was due to an absence of staff and that

substitute staff often lacked pedagogical training. The lack of teacher-led activities was also reinforced because their work during school hours made them exhausted.

But now, for a long time, SAEC staff have had to work in class during school hours and go straight from there to the SAEC ... without a break. That's how it's been for most of us, for several weeks. Which leaves you completely exhausted. (Gun).

Gun said that it would be good to have a better balance in the collaboration between school and SAEC, so that the competencies of each professional category could be utilized in a better way. Currently it was only the SAEC staff who supported the school and not the other way around.

Challenges the staff mentioned were to plan activities based on the interests and ages of the students. Their work had been supported by quality indicators developed by the municipality, which they used as a benchmark for what to focus on: language, student influence, reducing conflicts, etc. They had designed rules aimed at creating order, well-being, fairness, and monitoring the students, i. e. asking the staff to use certain materials, cleaning up after themselves, staying within the SAEC premises, and not playing in the cloakroom. Student participation and influence were described as consisting of having the opportunity to choose and request activities, participate in the planning, and lead activities for younger students and families in the SAEC.

SAEC D

The Design and Functionality of the Physical Environment

The SAEC residence consists of a cloakroom, two large rooms, two smaller rooms, two student toilets, one staff toilet and a very small staff study room.

Breakfast and snack meals are served in the school canteen in another building. In addition to the residence, the SAEC, in collaboration with school and other SAEC departments, uses three sports halls, an opening and closing department, and a canteen with a stage (field note 2020–02–13).

The staff said that it was good to have a residence of their own that allowed them to arrange the learning environment as they pleased, i. e. create thematic zones of different activities, place materials so that they were easily accessible, furnish the rooms to avoid clutter. They considered that it was good that the main rooms were spacious and allowed students to be inspired by each other's activities. This also made it easier for the staff to monitor several groups of students at the same time. However, the residence was too small in relation to the number of students, had only one sink and no kitchen and few and unpleasant lavatories. According to Hedda and Henry, the cramped cloakroom made it difficult to keep clothes and personal belongings in order and caused overcrowding, conflicts, and loud noise levels. Hedda also said that several smaller rooms were needed, where the students could find peace and silence and play undisturbed. But such rooms were also challenging for the staff because it was difficult to keep an eye on what was happening behind closed doors.

According to the staff the budget for purchasing material was insufficient, and there was a lack of foresight for major investments, which they dealt with by repairing and rectifying furniture removed from the school. The availability of material was reasonable for the time being, but the number of students had increased over time. The amount of material and the



Figure 11. One of the rooms in SAEC D is furnished in zones for different types of activities, playing board games, drawing, and sewing. There are also some laptops, and a small sink. The students have a drawer for personal storage.



Figure 12. In another room in SAEC D, there is a table for creative activities, mats for building blocks, a corner for building Lego, a sofa, and a projector for showing films. The environment is decorated with the students' and staff's own work.

organizational variation of the three SAEC departments meant that students regularly experienced a lack of material. “Let’s say that next year, when there will be more students, then there won’t be enough, I don’t think so [general agreement]”. (Henry).

The Organization and Content of the Teaching

The afternoon starts with a snack meal in the canteen. The noise is loud, and the staff apply “five minutes of silence” to reduce the noise level. This means that a number of 5-minute hourglasses are passed between the tables and when the hourglass arrives at the table the students have to be quiet for five minutes. The hourglass is passed to the next table and the students can talk again (field note 2020–02–10).

This method involved staff interrupting students’ natural conversations based on the necessity to limit the noise levels.

After the snack meal the students can choose between activities, such as playing outdoors, being in the sports hall, or engaging in creative activities in the residence. The student mark on a board where they go to make it easier for staff and parents to find them. These activities go on for 1–1.5 hours when the number of students is at its peak. At four o’clock everyone gathers in the residence and at five o’clock the remaining students go to another SAEC department that functions as an opening and closing department in another building. In the residence and in the opening and closing department the students are able to freely choose what they want to do based on what the learning environments offer (field note 2020–02–12).

Planning activities, staffing, and grouping students posed several challenges and took time. Activities scattered in different buildings made it difficult to monitor the students and collaborate with each other. Helens said that it also contributed to a feeling of “not belonging anywhere”. Students moving between buildings was sometimes perceived as unsafe by younger students and was cumbersome when someone has forgotten things in other buildings. They also described that the school’s need for premises was prioritized over those of the SAEC.

We need to take the children out of the residence due to the overcrowding. So the students are told that “we’re going to have this activity in the sports hall”. But when we arrive there with 50 children, the school has, with short notice, started an activity there. So then we have to either cancel the activity or wait until the school is finished. (Henry).

The phrase “need to take the children out” indicated that it was the avoidance of overcrowding and high noise levels that primarily guided the organization, rather than an educational planning based on the interests and needs of the students in line with the curriculum.

The SAEC staff worked in school classes and with break activities during the school day and in the SAEC in the mornings and afternoons. However, in this academic year the staff did not work with the same students during the school day as during SAEC hours, which they described as negative.

I can think that my most important, main mission, it is to create relationships and security. But . . . , some days for me are like this, I’m one hour with the sixth graders, then I’m one hour with the four graders, then I’m outdoors, then I join the snack meal with the preschool class and then I’m in the SAEC residence on my own. It is very, very strange and is incredibly time consuming. As it is now, I feel so inadequate, because engaging in several completely different activities makes it very difficult to know where to focus. (Hedda).

The staff also said that they lacked an overview of how the students’ school day had elapsed and that they lost coordination gains, such as being able to create extracurricular activities that built on what had been done in school or being able to bring all the SAEC students together during the school day. They argued that they had tried to influence the situation, but without success. This was perceived as the school management’s lack of understanding of the aims and purposes of the SAEC.

Analysis based on the theoretical frameworks

In this section the results of the study are presented and concluded with an in-depth discussion in which the results are problematized. The reasoning of the results is initially directed towards describing SAECs A and D and then SAECs B and C. The reason for this division is that the former SAECs' regionalized rules, in the form of physical or social boundaries, are more prominent than for SAECs B and C, which have their own, sufficiently dimensioned, nearby premises. Subsequently, the prerequisites for good quality teaching in the SAECs studied are compared and discussed.

SAECs A and D: Subordination, Limitations, and Lack of Ownership.

SAEC A does not have a residence of its own and the shared residence is too small, whereas SAEC D has a residence of their own, but undersized in relation to the number of students. This means that other school premises need to be used in addition to the residence. Some of the other premises are in buildings other than the SAEC residence and the teaching is organized in time slots, like a school schedule. The flow of students is governed by a combination of the available rooms and staff resources, authoritative and allocative resources, and students' interests. For example, there are outdoor activities due to the lack of premises. Breakfasts, snack meals and optional activity sessions are held in other premises, and, in SAEC D, there is a separate residence for opening and closing hours together with the other SAEC departments.

In both SAEC A and D, educational planning is framed by constraints related to the premises. These constraints are often based on the needs of the school, rather than the needs of the SAEC. For example, school staff/school management with greater authoritative and allocative resources than the SAEC staff are able to determine which premises can be used, and which norms should be applied there (cf. Giddens, 1984). Added to this, SAEC staff perceive themselves to have limited authoritative resources in relation to the work (school or SAEC teaching) that should be emphasized. The result is that the SAEC staff do classroom work at the expense of SAEC work, which Boström and Berg (2018) describe as SAEC staff being exposed to several stressful cross-pressures that make it difficult for them to realize the intentions of the curriculum.

The codes of meaning (Giddens, 1984) that the staff use to describe their work include rules that constrain both themselves and the students: compulsory outdoor time (when the available space is insufficient), maximizing the number of participants in activities (when the space is too small), and methods/prohibitions aimed at regulating order and/or reducing noise levels. The rules deal with spatial aspects, such as which rooms are available and where they are located, and temporal aspects such as when and for how long they can be used, the time needed for organizing, transfers, and restoring materials and rooms. The codes of meaning that are articulated show that the staff's possibilities for cooperation, flexibility, and positioning in relation to the students are affected. With the support of norms and regionalized rules for supervision, attendance, transfers, movement, and toilet visits, the staff control and limit the students' agency by limiting the variety of activities and the possibility for students to flexibly switch between different activities during their SAEC time. This situation is reminiscent of several other studies describing an increased structuring of SAEC activities (de Laval et al.,

2019; Elvstrand, 2013). The prioritization of students' interests and needs is limited due to the structures developed from the existing norms and regionalized rules. This is in line with the findings of de Laval et al. (2019) and Falkner and Ludvigsson (2019).

The pedagogical activities at SAECs A and D are shaped by the ways in which the staff organize the teaching based on a narrow range of premises, materials, and personnel. The organization aims to offer a variety of teaching, which requires a lot of staff resources and is inefficient, as considerable time is spent on logistics and flexibility. Opportunities for collaboration are also limited due to staff being in different premises. Planning, staffing, and organizing are thus a daily complex and time-consuming task that the staff must solve before being able to offer, lead, and implement educational activities (cf. Boström and Berg (2018).

The staff in both SAEC A and D describe the SAEC as inferior to the school in terms of premises, interiors, organization, and staff resources. They express a lack of control and belongingness related to the premises, a lack of control due either to limited or lack of budget for interiors, an unpredictable staff situation, and an organization in which most of the staff's time, energy and commitment is spent during the school day. Only a few of the staff-members in SAEC A, with minimal resources in terms of time and place, are engaged in planning the SAEC activities, while the rest just "do time" in the SAEC. For these reasons, the staff do not seem to perceive a psychological ownership in terms of belongingness, or that their SAECs are "theirs" (Pierce & Brown, 2020). It is also uncertain whether the staff could invest themselves in the target (Pierce et al., 2019) due to their subordination and lack of control. However, during the school holidays the staff in SAEC A describe that they can claim the physical environment as their own, which gives them a sense of belonging, freedom, flexibility, and security, which, by extension, inspires and enables process-oriented, fun and engaging teaching in accordance with the students' interests and needs.

In conclusion, when the physical learning environment is conditional, either through accessibility or the premises being spread out in different buildings, it is this, rather than the intentions of the curriculum, the staff's pedagogical ideas, or the students' needs and interests, that determines the organization and content.

SAECs B and C: Partly Subordinated, Flexibility, and Ownership.

SAECs B and C have premises of their own, nearby, and reasonably sized in relation to the number of students. These premises function as a base for SAEC teaching. In these SAECs, there are few regionalized rules in the form of physical or social boundaries related to temporal and spatial aspects. Instead, there are more routinized rules in the form of norms and meaningful codes emphasizing choice, fairness, peace and quiet, order and tidiness, which Lager (2018) describes as goals of security, peace, and good relationships, and Holmberg (2018) as a connection of relationship, support and control, with the aim of helping and guiding the individual.

SAEC B and C offer a varied and flexible education where the staff had plenty of opportunity to supervise, collaborate, and act adaptively in relation to the interests and needs of the students. The pedagogical activities in SAEC B and C are predominantly shaped by what the physical learning environment offers and how the students are inspired. In SAEC B, weekly organized teacher-, student-led, and thematic activities occur, although at the time of the study this was not offered in SAEC C due to staffing issues. The planning of teaching,

organization, and staffing differ between the SAECs. In SAEC B it takes place on a more long-term basis, while in SAEC C it is more “ad hoc”. According to the staff at SAEC C, this is mainly because staffing is often difficult to predict. They seem to have limited authoritative resources in relation to which aspects of the work to emphasize; the consequence being that SAEC staff do classroom work at the expense of SAEC work.

The norms and regionalized rules identified in both SAEC B and C are mainly formulated by the staff, which also means that they have authoritative resources to decide on the teaching and allocative resources to decide on the premises (cf. Giddens, 1984). Sometimes the rules are determined together with the students, which contributes to students’ agency by giving them the potential to act independently and take responsibility for the SAEC environment (cf. Dahl & Ackesjö, 2022). The staff also express meaningful codes that impose restrictions on students, i. e. compulsory staying out after school, cleaning up after themselves, no running indoors, and reducing noise levels. However, norms, regionalized rules, and meaningful codes differ between SAECs B and C, with the extent of restrictions and prohibitions being greater in SAEC C. It should be noted that the empirical data in this study is not sufficient to allow for an in-depth analysis of the cause, although one aspect could be the level of education of the staff. In SAEC B, all the staff had an academic SAEC-, or preschool teacher education, while the corresponding level of education in SAEC C is only held by one part-time staff member (who also is responsible for the preschool class), with no post-secondary education amongst the remaining staff.

The staff at SAEC B express no distinctive subordination in relation to school, whereas the staff at SAEC C describe that they experience subordination in relation to the school in terms of an unpredictable and unequal staff situation in which most of the staff’s time, energy and commitment, is spent during the school day, often at short notice. The staff at SAEC C also describe subordination in relation to the physical environment and a more limited budget for interiors and pedagogical material. However, they are glad to have their own premises for primary use, which enables them to plan, assess, and develop the learning environments, even though it is difficult to take full advantage of this due to the unpredictable and unequal organization of the staff. Some of the premises at SAEC B are shared with the school, which in some way hinders change in the SAEC, even though the staff describe themselves as equivalent partners in relation to school. It seems as though the staff at SAEC B and C have power, control, and influence (Pierce et al., 2004) with regard to their workplace, while SAEC C is more subordinated. This means that the staff’s conditions for experiencing self-identity and belonging (cf. Pierce & Brown, 2020) at SAEC B are good yet weaker at SAEC C.

Conclusion

In SAECs B and C, possibilities for staff collaboration, flexibility, and the utilization of staff resources are more effective than at SAECs A and D. Flexibility is greater because the staff can more easily monitor the SAEC environments. Collaboration within the staff group is relatively easy because they have a closer proximity to each other that assists communication. The utilization of the staff resource is more efficient because they can position themselves close to the students to help or activate them, or alternatively carry out other work and

maintain a close and supervisory role (cf. Haglund, 2015a). The staff's positioning in relation to the students is therefore flexible, which means that students can easily be supported to start up an activity and that staff are free to do other pedagogical work for or with other students. This enables the connectedness of relationship, support, and control with the aim of helping and guiding the individual that Holmberg (2018) describes and which, to use Giddens (1984) vocabulary, can be described as a sensitive interplay between the students' agency and the staff's positioning.

We interpret this way of working as a didactic approach and a central part of the staff's professional identity. In these SAECs there is also (as in SAECs A and D) sometimes understaffing, but as the premises allow for monitoring and supervision of several rooms in parallel, students' choices and activities are less affected. The above factors should therefore be considered important from a quality perspective, where children's perspectives and interests can be accommodated (cf. Lager, 2015), and where teacher-child interactions are facilitated (Plantenga & Remery, 2017). In this way, the physical learning environment at SAECs B and C exhibits a higher pedagogical quality and offers better conditions for the teaching (cf. Harms et al., 2014).

The regionalized rules are characterized by social boundaries that interact with the authoritative and allocative resources (cf. Giddens, 1984) in all the SAECs. These rules are contextual and differ between them, which affects the relationships and interactions between people, materials, and functions. In this study, the existing rules make the conditions of the physical learning environment at SAECs B and C more favourable than at SAECs A and D. The rules and the resources, or lack of resources, also contribute to how psychological ownership is experienced (Pierce et al., 2001, 2003). They manifest what is in focus: care, supervision, control, activity, agency, logistics, staffing, planning, etc. Various meaningful codes that impose restrictions on students are expressed: compulsory staying out after school, cleaning up after themselves, and reducing noise levels. The restrictions at SAECs B and C are mainly justified for pedagogical reasons, while restrictions related to the physical learning environment dominate at SAECs A and D. Due to the design and planning of the physical environment, the interactions offer different opportunities between people, materials, and functions, which by extension provide different conditions for agency, participation, and ownership.

When the SAECs physical learning environment is conditional, in terms of limited allocative resources and when school management have greater authoritative and allocative resources the staff describes structures that constrain both themselves and the students (cf. Giddens, 1984). The structures, in the form of rules and regulations limit control, freedom, flexibility, cooperation and feelings of belonging, which summarizes up into a lack of ownership (Pierce, et al, 2020).

In summary, it can be concluded that the regionalization, dimensioning, layout of the premises, organizational aspects and the staff's feelings of psychological ownership and/or subordination have a clear impact on the nature and quality of the teaching. Conditions in the physical environment influence the physical learning environment, which in turn affect the pedagogical aspects, such as flexibility, ownership, cooperation, and agency. These aspects impact the staff's professional roles and their possibilities and motivation to develop their teaching in the physical learning environment and limit and/or enable the students' choices and activities. This means that all these aspects need to be taken into account when designing a

physical learning environment that serves what Kirkeby (2006) refers to as a servant of pedagogy.

This study has limitations but offers important knowledge. The variation of the physical, organizational, social, and staff-educational conditions in the four SAECs makes it difficult to draw general conclusions but works well to identify factors in the physical learning environment that relates to teaching. The study can therefore form a base for development of analytical tools that combine qualitative and quantitative data, different methods of analysis as well as explore these concepts longitudinally which would provide more generalizable results. The knowledge can contribute to the practice in the current context but can also be transferable to other similar contexts, nationally and internationally.

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