

Room for Thinking—The Spatial Dimension of Waldorf Education

Margunn Bjørnholt

Rudolf Steiner University College, Oslo / Norway

*The arrangement of our classrooms should tell us,
if we do not consciously know, what horizon
we have set for the next generation.*

Mary Rose O'Reilly (1993, p.40)

ABSTRACT. This article explores the ideas, meanings and use of space and architecture in Waldorf education. Waldorf schools represent an interesting alternative to contemporary trends in school architecture and education, among them the current hegemony of open plan school architecture, and the shift of the public school curriculum toward liberalist and individualist perspectives. Based on interviews with Waldorf teachers and architects, the article concludes that spatial reflection is an integral part of Waldorf education. Furthermore, spatial considerations are aimed at supporting the development of the child through age-specific aesthetic-spatial support, fostering the class as a reflective community and providing room for thinking.

Keywords: school architecture, theories of learning, thinking, Waldorf education

ZUSAMMENFASSUNG. Dieser Artikel untersucht Ideen, Sinngehalte und Nutzung von Raum und Architektur in der Waldorfpädagogik. Waldorfschulen verkörpern eine interessante Alternative zu heutigen Entwicklungen in Schularchitektur und Bildung, unter ihnen die gegenwärtige Vormachtstellung einer offenen Schularchitektur und der Verschiebung des Lehrplans zu liberalistischen und individualistischen Sichtweisen. Basierend auf Interviews mit Waldorflehrern und Architekten von Waldorfschulen, kommt der Artikel zu dem Schluss, dass die bewusste räumliche Ausgestaltung ein integraler Bestandteil der Waldorfpädagogik ist. Darüber hinaus zielt die räumliche Ausgestaltung darauf ab, die Entwicklung des Kindes durch altersgerechte und ansprechende Räumlichkeiten zu unterstützen und dadurch die Klasse als Klassengemeinschaft zu fördern und den Raum für Gedanken bereitzustellen.

Schlüsselwörter: Schularchitektur, Lerntheorien, Theorien des Denkens, Waldorfpädagogik

Over the last decade major changes of a spatial and organisational nature have taken place in working life as well as in schools. The trend is toward more market-like organisational structures, larger units, and looser and shifting group structures. The new organisational forms are accompanied by new spatial structures, and open plan offices and open plan/flexible school buildings have become the dominating trend in the design of new buildings, both in working life and in schools. In Norway, the trend has also reached kindergartens. These more spatially distributed forms of work and learning are accompanied by an increased focus on virtual forms of communication.

Despite its popularity among policy makers and business managers, there is a growing awareness of the negative sides of the new spatial/organisational structures in working life as well as in schools. Research on open plan offices finds that the expected effect on productivity has not occurred. Instead, disadvantages and new costs in many cases reduce productivity. Based on a large meta-study, Oommen, Knowles, & Zaou (2008) concluded that the “research evidence shows that employees face a multitude of problems such as the loss of privacy, loss of identity, low work productivity, various health issues, overstimulation and low job satisfaction when working in an open plan work environment” (p. 37). The negative findings in working life are mirrored by correspondingly negative results in studies of open plan schools (Hattie, 2009; Jerkø & Homb, 2009; Shield, Greenland, & Dockrell, 2010; Vinje, 2010) and open plan kindergartens (Seland, 2009). Still, the trend has become hegemonic among policy makers and public school administration, and “flexible” school buildings overwhelmingly dominate contemporary school building projects in Norway (Vinje, 2010).

Compared to this development, Waldorf schools, with their fixed class structure and classrooms, and their reluctance to computerise education, represent an interesting alternative to the mainstream. This article explores the ideas, meanings, and use of space and architecture in Waldorf education.

In Norway, Waldorf schools as well as other private schools offering an alternative education are recognised as equal with public schools, and they are partly state funded. They are, however, increasingly made to conform to the curriculum and measurement regimes of public schools, which have shifted toward liberalist and individualist perspectives (Briseid, 2012; Engelsen, 2008). A recent study concluded that there is a general political consensus at the level of ideas—including current socialist/social democrat/green government policies—about the New Public Management tradition, which includes the primacy of economic values, management by output control, explicit standards, a test system, and an accountability system (Solhaug, 2011).

The neoliberal and individualist turn diverges from the ideal of schools as sites of *Bildung* and from communitarian ideals, which until recently underpinned the Norwegian school curriculum. In this situation there is a particular need to study alternatives. The spatial dimension is a point of particular interest, as Waldorf schools represent a visible manifestation of a contrast to contemporary fads and fashions in school architecture as well as education.

In her Masters Thesis, Kirkebø (2010) compared several Norwegian school buildings and how they corresponded to the predominant educational ideas at the time they were built. She concluded that, in her sample, the Waldorf school building (the Waldorf School in Stavanger) most clearly communicated its pedagogical content, its educational ideas, and its methods of instruction. The Waldorf School in Stavanger is a prize-winning and highly characteristic building designed for this purpose (Junge, 2011).

My focus is not on how educational ideas are expressed in architecture, but on how ideas of architecture and space inform, are part of, and interact with educational practices. As the cases for my study I have chosen one Waldorf school and one Waldorf kindergarten. This article draws only on the school case study.

The study was guided by the following research questions:

- What is the spatial dimension of Waldorf education in theory and practice?
- How are the ideas of space, the use of rooms and the architecture expressed in Waldorf pedagogical thinking and school curriculum?
- How do teachers in Waldorf schools reflect on the spatial dimension of their educational practice?

The paper is organised as follows: first, I present the design and methods of the study. I then present Rudolf Steiner’s architectural ideas and discuss Waldorf education. Finally, I present and analyse the school case study.

Design and Methods

The study is based on a review of literature and group interviews with a small number of experienced Waldorf teachers (4) and architects (2). I obtained additional information via e-mail from some of the

teachers who participated in the group interview, as well as from other teachers and other school staff. I also visited one Waldorf school together with the architects who had been involved in recent redecoration projects. In addition to formal data gathering, I draw on twenty years' experience as a parent of four children in a Waldorf school.

Rudolf Steiner contributed to a wide range of fields, among them education and architecture. Despite the common origin of Waldorf education and architecture in Steiner's work, however, the spatial aspect has not yet received much attention in research on Waldorf education.

Steiner as an Architect

As an architect Steiner designed two major works: the first Goetheanum (built in wood, and destroyed by arson in 1922) and the second Goetheanum (built in concrete and finished in 1928, after Steiner's death), both of which are counted among the masterpieces of expressionist architecture of the early twentieth century (Moravánszky, 2012). In addition, he designed a dozen smaller buildings. His architecture combines function with the organic forms of nature, and shows considerable family resemblance with the works of other architects and artists from the art nouveau/expressionist tradition, such as Antoni Gaudi. In his writing on architecture, Steiner linked architecture to the struggle and spiritual development of humanity. Like Steiner's work in many other fields, his writing on architecture is spread out over many different lectures and articles produced over a long period of time, and his thinking about art and architecture does not present one, single whole. Tharaldsen (2010) gives the first comprehensive presentation of Steiner's architectural and aesthetic ideas in relation to similar currents in twentieth-century architecture and art, such as is seen in the work of the Bauhaus school, Louis Sullivan, and Joseph Beuys.

Although Steiner developed the principles of Waldorf education and took an active part in establishing the first Waldorf schools, he did not design school buildings. Over time, however, the Waldorf school movement, which today counts 1000 schools worldwide (36 in Norway), has given rise to a large number of buildings. Today, school buildings are probably Steiner's main stylistic legacy as an architect. Named after Steiner's major works and reflecting the significant inspiration he received from Goethe, this architectural style is called goetheanian style.

Seeing architecture as the highest and as a total art form, combining elements of the other art forms, Steiner also worked as a sculptor and painter. His blackboard drawings, which have been reproduced, are counted among his important artistic contributions (Tharaldsen, 2010).

Waldorf Education

Waldorf education is based on Steiner's ideas about education. As with the rest of his work, there is considerable controversy on how to place his contribution in relation to other philosophers and theorists of learning. Along with an expansion of Waldorf education worldwide—even in public schools (Pappano, 2011)—there is a renewed scholarly interest in Steiner as a philosopher of learning (Welburn, 2004), and in the philosophical grounding of Waldorf education and how this grounding infuses the curriculum, methods, and practices of Waldorf education (Dahlin & Majorek, 2009; Oberski, 2011). This interest increasingly acknowledges Steiner as an original thinker who nonetheless shared ideas in common with other original thinkers and school reformers of the twentieth century (Schieren, 2012).

A major point in Steiner's pedagogical teaching was that Waldorf education, contrary to the traditional school system of his time, was not about "head-learning" but about "limb-learning" (Steiner, 1980). The emphasis in Waldorf education on experience, the senses, and the concern for children as embodied beings, engaging with the material world, reveals a family resemblance to the ideas of pragmatist philosophers such as John Dewey (1902 & 1938), who also emphasised the importance, richness, and value of experience as a source of knowledge. Drawing on and refining Dewey, Richard Shusterman (2008 & 2012) has recently introduced a new philosophical subdiscipline devoted to *thinking through the body*: "somaesthetics," a

concept that seems to come very close to Steiner's "limb-learning." According to Steiner, learning consists of an element of will, which is closely tied to the body and the senses, as well as of emotion and cognition.

A core principle in Waldorf education is Steiner's idea that thoughts are, so to speak, brought out from the artefacts of the experienced world. This idea resonates with the concept of *mere exposure* formulated by Zajonc (1968).

Waldorf education is built on the idea of children developing through stages of seven years each and experiencing the world differently at each stage. The idea of developmental stages is also shared by several other theorists of child development in the twentieth century, such as Sigmund Freud, Jean Piaget and Erik Erikson. In Waldorf education, Steiner's developmental scheme informs the curriculum at each stage. During the first years, the curriculum addresses children primarily through their senses, their imaginations, and their bodies. Writing is taught through storytelling and the drawing of pictures, and the early mathematics education uses rhythm and movement. In Waldorf schools the direct stimulation of the intellect is deliberately postponed until adolescence.

Rhythm, over the day and the year, is an important structural element of Waldorf education. The day always starts with a long main lesson, which is a part of the larger instructional blocks of two to four weeks in length. There are monthly feasts when the classes perform something from their ongoing work, and celebrations following the rhythm of the year.

The arts curriculum is important. It is taught both separately and as an integrated part of the general curriculum. Examples of this integration include the drawing of ornamental patterns and the use of rhythm and movement in early mathematics teaching, and the artistic processing of factual knowledge in the students' workbooks. It is also integrated in the wider curriculum in more subtle ways, as part of a wider endeavour aimed at strengthening the development of broad human capacities. This way of thinking about education has significant connections to the work of Dewey (1902 & 1938), who also made a strong case for the importance of education as a means of learning how to live, rather than as a means of gaining content knowledge only.

The Waldorf curriculum is planned so as to mirror and support the age-specific development of children at each particular stage. In the early stage, the curriculum addresses the child as a bodily being, and appeals to the will, intuition, senses, imagination, and skills of imitation. The children make drawings with thick crayons in primary colours, paint wet-on-wet with watercolours, and produce colour-saturated drawings depicting the fairy tales and stories which are an important part of the curriculum at this stage. Although a topic is given, creativity and freedom of expression are fostered through the free flow of colours and shapes.

Both the general and arts curricula are aimed at supporting the general growth and development of the child at that stage. Tjärnstig (2013) argues that the idea of handicraft as strengthening the will is a central element, as well as a "practice-myth" in Waldorf education. Recent brain research and research on learning increasingly acknowledge the importance of emotion, senso-motorical stimulation, and the body, thus providing new arguments for the emphasis on arts, crafts, and the senses in Waldorf education (Bergström, 1991; Bjørkvold, 2007; Sigman, 2008a & 2008b; Wilson, 1999).

Finally, as pointed out by Dahlin (2010), the development of creativity and individuality in Waldorf education takes place within relatively strict boundaries. The curriculum is strictly designed according to age, the task at hand, the material, and the technique; there is also a fixed class structure and, as far as possible, the class has the same main teacher during the first eight years.

The Case Study: The Waldorf School in Oslo

This school, established in 1926, is the oldest Waldorf school in Norway. The present school consists of three main buildings, built in 1962, 1975, and 1991 respectively. In addition, there is a smithy, which was added to the oldest building in 1980, and a barracks building dating from the 1960s. All the buildings surround a two-level school yard joined by a sloping area with a water staircase of organically shaped flow-formers

from the upper to the lower level. There is also equipment for play, as well as trees, flowers, and a separate building at a different location nearby for the six-year-olds. According to the Waldorf curriculum, children start school at seven, while in Norway children now start school at six. I will deal only with the main school buildings for the second through the thirteenth grades.

The school buildings. The school buildings contain classrooms and several special rooms for arts and craft classes, among them rooms for song instruction, music, sculpture, painting, woodworking, metalwork (the smithy), eurythmy (a special form of dance/drama invented by Steiner that is an important element in Waldorf pedagogy, and a theatre for regular plays, concerts, and other student performances, as well as for the regular feasts. There is also a hall with a fireplace and a canteen.

The oldest school building, completed in 1962, referred to as the “precambrian building” was originally planned in goethean style, but it was simplified due to financial constraints. As a result, the architect, Eivind Thommassen, who was also a father at the school, withdrew from the project. The building was completed by another architect, Hans Mollø Christensen, and is a two-story modernistic building typical of its time. Later, the first architect’s son, Øystein Thommassen, also an architect, was engaged to design the smithy, which was added as an extension to the first building. He also designed the most recent building (Granly, 1996). Both these buildings are designed in goethean style, with the characteristic organic shape that has become the trademark of Waldorf schools.

The second building was designed by Per Cappelen and completed in 1975 (Granly, 1996). The teachers were extensively involved in the process, and in retrospect the teachers I interviewed thought that the process—typical of the 1970s—totally exhausted the architect, who died soon after the building was completed. Despite the teachers’ involvement, the building is a relatively traditional two-story school building with long corridors and square classrooms. It is solidly built with plastered walls and the classrooms have large windows, directed outward, while the other side, toward the schoolyard, has very small windows at the upper level, which give it a castle-like appearance. It is also referred to as “the castle.” It is now painted in a deep, bright pink colour. Its spacious entrance hall is used as a restaurant during the regular markets and other events. The building contains several special rooms, such as a school kitchen, a library, a staff room, a theatre, and rooms for chemistry and physics, eurythmy and music instruction.

The most recent building, completed in 1991, was designed in goethean style, with little or no participation from the teachers. Part of the interior was later rebuilt, as, according to the teachers, there was a mismatch between the architect’s vision and the teachers’ (and students’) needs and experiences. It is a one-story building with a high roof with broken angles, and high-ceilinged rooms planned for two parallel classes and two levels: the eighth and ninth grades.

Making room for the students. Originally, there were common rooms between the classrooms in this most recent building, for the 8th and 9th stage. These common rooms were intended as a mingling space for the students, but they became overcrowded and noisy, so they were rebuilt and are now being used for other purposes. “Children of the body size they have at this age [13-15 years old], need more space,” observed one of the teachers. As an alternative to the common rooms, the middle room in the oldest building was rebuilt as a canteen for students at the higher levels. One of the other teachers explained the situation:

There we took the largest and finest middle room and made it into a common room, a canteen, but also a social room. It is a large room that can be used in such a way that it has become the heart [of the building], and it is nicely done. [The walls] are colour washed and it’s done properly. The furniture is scarce, but it is real wood and made of quality materials, and there is a lot of air and plants.

Referring to the students, who were too big and too loud in the common rooms in the other building, the first teacher concluded: “When they get up there, there is enough space, and they quiet down and enjoy themselves. This room has really become the heart of the building.” This brief exchange on the fit between the rooms, the students, and their body sizes and age-specific needs—as well as the need for buildings to have a “heart” in terms of social space—illustrates how a concern for the students’ bodily and social well-being infuses the teachers’ reflections on the buildings, space, and aesthetics of the school.

Room for the Child

The rooms at the Waldorf School are not seen simply as given structures; rather, there is an ongoing spatial involvement, during which the classrooms were actively shaped and modified to make room for each class. One of the teachers, who had come from a public school, observed: “something that impressed me when I came to this school was how the rooms were really *created*; how the teachers intervened creatively in the rooms and shaped each room.” The active shaping and decoration of the rooms seem to transcend the limitations of the building itself:

I am always surprised when new parents claim it's so cosy here. I don't know, maybe they are used to other schools, or they have other experiences.... Because we are rather ambivalent, toward this building [the 1975 "Castle" building], at least, as a building for the lower classes. Many of us think it's a little hard and there are these long corridors.... [It's] not optimal actually for the lower classes.

The words of this teacher illustrate that the act of modifying and transcending the limitations of the given building structures may be as important as the architecture. As one teacher said of the parents and students: “When they, enter the classroom, they feel that a lot of work has gone into creating a nice atmosphere in a way that is welcoming to the child.” Another teacher provided a similar assessment:

That is what they think about. They sense the intent, and the feeling of the room; how it has been shaped. Because the rooms are actually very square, there is no irregular angle or anything in this building, and it is also very worn.

As examples of how to make the room inviting to the children, the teachers mentioned flowers, items from nature, candles, and paintings or drawings. Each classroom has a large mounting board for presenting students' work, on which paintings and drawings from the ongoing work is displayed.

The active endeavour to shape the rooms goes beyond decoration of the classrooms, as one teacher in the "Castle" building suggested: “The classrooms [in this building] are exactly eight by eight [metres]. We were a little surprised [when we measured them] that they are actually square.” Another teacher explained:

We have modified them with colours. Just like in a painting, you can obtain depth, making some elements recede and some parts emerge. In the same way you can make the walls recede or emerge... by using warmer or colder nuances of the colour.

This meant that a “yellow” room had been painted in several shades of yellow, using the colour washing technique with transparent colour on a white background, a technique frequently used in Waldorf schools. In this case the use of warm and cold nuances of the colour modified the impression of a square room. Similarly, colour had been used to modify the impression of the long corridors and the back stairs in the same building. This active shaping of the rooms, framed by the teachers as a welcoming and embracing act toward each class as well as the individual child, may be seen as the visual and spatial manifestation of the child-centredness of Waldorf education.

The Class as a Community and the Classroom as a Home

The teachers fully embraced the idea of the school as a place where both teachers and students should feel at home. One teacher recalled her first encounter with the school: “[The school] has more of the character of a home, even if it is not. When I first came to the Waldorf School, I felt that here I could stay all day, read a book, drink tea, and bring my sleeping bag.”

The teachers also emphasised the interplay between the classroom as the “home” of the class, and the class as a community:

Now we are at home, in our room. This is my social community, I am *chez moi* [at home] with all the different children and the teacher. With the personal character [of the room] based on the [appropriate] stage, and the teacher...shaping those who are there, what they are doing, and the drawings, paintings, and rituals reflecting what is in the room.

This emphasis on the class and class identity is at odds with the flexibility discourse and individualism of the public school curriculum in Norway. In the group interview, this aspect emerged as something the Waldorf teachers felt the need to defend:

I am thinking of the class identity, which is very important in the Waldorf School, and I am thinking of the students and parents who come from public schools, [and who] are often a little surprised [and think] we should mix the classes more.... We are a little conservative on that point, in that we really defend the class identity.

Creating a sense of belonging is thus both spatial and relational. The teachers emphasised the importance of the school building and the classroom as the common “home” of the class and the class teacher, as well as of the class as a community. Homeliness is also embedded in the educational structure, as the following comment on the importance of blackboard drawings illustrates:

One aspect that enhances the feeling of being at home in the classroom is that we start every day with the main lesson, [which is part of] teaching blocks of three to four weeks at the lower stage and two to three weeks at the higher stages. [During each block] there is usually a drawing or an illustration related to the topic of this block on one side of the blackboard. In the lower classes it is related to the storytelling. It may be some trees, or a cat or a fox or the like. And during the teaching block the drawing transforms (as more detail and refinement are added). At the higher level there are more scholarly illustrations. The teacher usually takes pains to make it nice, as it is also an image that the students are supposed to copy into their books.... The image will stay for a week or two, and then it is also fun to spend some time to make it nice, even if it is simple or just an illustration of an experiment or whatever. But it also feels like “it’s mine.”

The effort put into the blackboard drawings is directed at the children, but it is also an outlet for the teachers’ creativity and professional pride: “it’s mine.” What emerges from this exchange is the strong interconnection between the classroom as a personalised space, shaped by the teacher, and the educational activities in the class.

The teachers emphasised homeliness, but the examples illustrate that it is a specific school-homeliness based on the common identification with the class, the room, and the activities shared within these walls. Homeliness at school aims at being home at school, rather than making the school look like a private home, although some of the aesthetics, such as candles and plants, have connections to the domestic sphere.

Returning to the blackboard drawings, the importance of this particular element of the education was underlined by a recent incident: when the school recently invested in new blackboards, blue blackboards were chosen because they were perceived, following a referendum among the teachers, to provide the best background for the blackboard drawings.

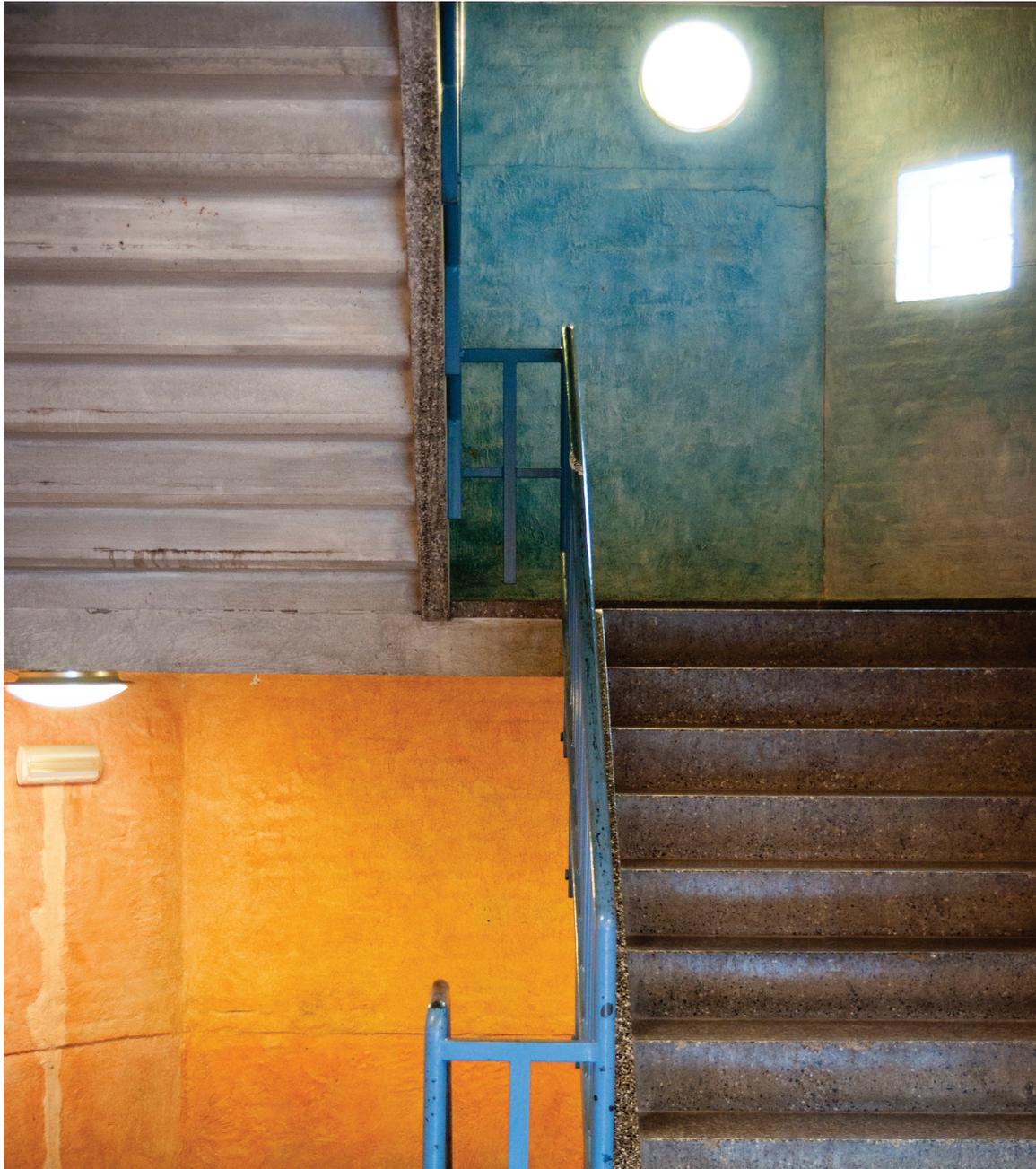
The strong emphasis on blackboard drawings has several implications. The idea of having the same image on the blackboard, evolving and being refined over several days or weeks as a visual support for the education, as well as a decorative, artistic element in the room, has connections to the idea of effects through “mere exposure,” as suggested by Zajonc (1968). Through the long-term exposure to an environment of a specific quality and to the slowly evolving, artistic and visual support of the educational content, Waldorf education reaches out to the child at a subconscious level, engaging his or her emotions and senses in the learning process.

Colours and the Stages of Childhood

The choice of wall colours in the classrooms was linked to the idea of children developing through stages and Steiner’s colour scheme, as one of the teachers explained:

A small child has different needs compared to an older child. Very broadly you can say that a small child is more into warm, soft colours, and as he or she approaches adolescence and the intellect awakens and is sharpened, cooler colours are more suitable—more withdrawn, they do not embrace you in the same way, but let your own clear thought emerge.

When asked about the idea behind the colour scheme, one of the teachers answered: “It’s a dogma, it’s a dogma, I almost have to say so. There is no research behind it; it’s only because Steiner said so.” Recent research into the effects of colours on perception and performance seems to support the idea that different colours do have specific impacts and that the perception of colours is conditional (Hill & Barton, 2005; Hurlbert & Wolf, 2004; Purves & Lotto, 2003). These findings suggest that there may be more to the colour scheme than a dogma, and that the choice of colours may actually matter. It turned out that the teachers and the school had a rather pragmatic approach to this dogma. For practical reasons it was not so easy to follow the scheme fully—today the pink rooms, which were intended for the youngest children, are being used for other purposes. The teachers agreed that such details as pink or yellow walls at the lowest stage probably did not matter: “We do not get every colour nuance, but we have the main characteristics of the colour scale.”



The colour scale is the most visible manifestation of how the buildings and aesthetics are thought to support the developing child through the different stages. The shifting colours illustrate how the child is

conceptualised as an embodied being with age-specific needs in terms of environment. By literally moving from the warm, embracing environment in the early years to the cooler environment in adolescence, the children are exposed to manifest expectations of growing up and moving on, from a sensing child to a thinking adolescent.

According to Steiner's developmental scheme, it takes seven seven-year stages to reach full human maturity. When the students leave secondary school at 19, they have reached the third stage. The continued emphasis on structure at the higher stages in this school, expressed in the classroom and teacher-led education, indicates that young people at this age are still seen as humans-in-development, and in need of supportive structures, socially as well as physically.

Room for Thinking

Thinking emerged as an important aspect in the interviews. One way of framing the importance of thinking was linked to child development by the teachers:

as [the child] approaches adolescence and the intellect awakens and is sharpened, cooler colours are more suitable—more withdrawn, they do not embrace you in the same way, but let your own clear thought emerge.

In the comment above thinking is considered a *developmental aim*, and “clear thought” is linked to the awakening of the intellect in adolescence. The spatial response to this awakening is a lessening of and withdrawal from the warm spatial embrace of the lower stages, and an opening up to growing bodies and intellects.

In the comment below a teacher of eight-year-olds makes an argument for the classroom as a *room for thinking*:

I want to make an argument for the classroom.... Something happens when they enter the classroom. It's very good, it is *our* classroom... and all the children have their own place and they know what is going to happen, and these four walls, they are really frames around what we are doing. It's... unbelievable what you can achieve because of these walls.... Sometimes we are outdoors [in the school garden at a cooperative farm nearby, and] we do get something done there, too. But to *work! And to think! Work all at once together!* It's almost magic how those square, somewhat worn walls can help.

These thoughts not only highlight the importance of the classroom as a structure for education, but also draw attention to *thinking* as an important element of education even at this level (eight-year-olds), when the Waldorf curriculum is directed at appealing to children through their senses and bodies, rather than their intellects. This comment reveals how thinking is taken for granted as a specific activity in the class(-room). It also reveals an understanding of thinking that is not purely intellectual. If thinking at this stage involves the body, the will, and the emotions, then the warm, embracing spatial environment of the Waldorf classrooms makes sense as a supportive structure for thinking the way children are believed to be thinking at this stage.

Other recent studies of Waldorf schools have concluded that thinking as a specific activity and skill, or *learning to think* in the words of Oberski (2006) and Dahlin and Majorek (2009), is an inherent element as well as an aim of the Waldorf school curriculum. The interviews with Waldorf teachers support and extend this finding, and show how the teachers actively *make room for thinking*.

The Decoration of the Classroom and the Class Spirit

A music teacher observed that the decoration of the rooms affected the class spirit:

I move from class to class, and then you see that each class is different depending on what they do. In some classes there is very little consideration of how the room looks, and it reflects a slightly chaotic structure in the class.

The idea of an interactive relationship between the physical environment and the social environment was also pointed out by Forster (2000), who saw the school building not only as a “built environment” but also as a “social room”, and pointed to school buildings both as facilitators of and constraints on communication between groups and individuals. In her view, the relation between the room and the student(s) is always

interactive. Rooms that are often visited will, through their constant presence, inadvertently become important rooms of perception.

Flexibility through Varied, Fixed Structures

Although the focus of this study was on the relation between Waldorf education and architecture/space, defensive positioning against the mainstream trend toward flexibility kept reappearing throughout the interview with the teachers. The defensive positioning on one hand may be seen as an expression of the hegemony of the flexibility discourse, and the relatively deviant and marginal position of Waldorf schools in Norway, but the discussion also produced the insight that within and because of the building structure, the Waldorf teachers had, in fact, considerable flexibility. According to the music teacher, for instance, it would have been impossible to teach the mandatory choir classes, with up to three classes being taught together, without special rooms for this purpose.



In view of recent research, there is no need for the defensive positioning of Waldorf schools against the hegemonic flexibility/modernity discourse. Rather, recent research on student outcomes in relation to different educational models and, implicitly, different architectural solutions concludes that teacher-led “blackboard” education in classrooms, in combination with individual work and teacher-student dialogue, are the most important predictors of positive student outcomes (Opheim, Grøgaard, & Næss, 2010).

Pressure to Conform

Although the curriculum of Waldorf schools is accepted as equal to that of public schools, they are subject to pressure to conform to the general trends in the public school curriculum, such as output control through standardised tests and the primacy of theoretical topics. During the interview, the teachers realised that there had been a reduction of rooms for arts and crafts in their school in recent years, and that this reduction of space reflected a reduction of arts and crafts classes in the curriculum. Computer classes had, for instance, (literally) taken the place of weaving.

The general reduction of arts and crafts rooms and classes came as a surprise to the other teachers when it was pointed out by one of the arts teachers. They all agreed it was a point of concern. This concern is echoed by Johansen (2012), who in a recent article in the *Journal of Waldorf Education* asks if Waldorf schools have made too many compromises in order to conform to the demands of the public school curriculum and contemporary test regimes, at the cost of crafts and the senso-motorical approach to education, which is distinctive of Waldorf education.

Aesthetics and Participation or to Colour Wash or not to Colour Wash?

Colour washing, a painting technique in which transparent colour is brushed on a white background, has been a trademark of Waldorf schools, and one of the teachers spoke warmly of the colour washing technique as adding beauty and positively influencing the spatial experience: “We use transparent paint to obtain the experience of room and colour, so that there are not only just flat walls as a tight square around you, but they breathe a little.” As the head of the building committee over several years, this teacher had had a large number of rooms colour washed. Some years ago she initiated a project in which the back stairs of one of the buildings were redecorated by teachers and some parents who wanted to learn the colour washing technique. Architects were hired to plan the colours, and the result is bright and colourful, with gradually shifting colours starting with bright turquoise downstairs, changing gradually past the different parts of the staircase/floor, and mirroring to some extent the activity in the corresponding rooms. Outside the (backstage) entrance to the theatre, for instance, the staircase walls are red, while outside the music room, they are blue.

In the latest renovation projects, the use of transparent paint has been abandoned. Many of the recent renovation and redecoration projects have been initiated by the parents and funded by money raised through the annual autumn and Christmas markets, which are organised by the parents.

During the Christmas market the whole school is radically transformed into a bazaar with restaurants, theatres, and a “middle age” market with bonfires and home-made wooden carousels and other attractions. One can hypothesise that this yearly experience of the whole school being transformed into the site of a condensed spatial, sensual, and social event imbues the school building with an ever-present potential for adventure. The spring-cleaning, during which the parents clean the whole school, represents another intensive, although totally different annual involvement with and care for the buildings, organised as a social event which ends with a common meal. All in all, the parents and children get both an intimate relation to and a powerful sense of ownership of the school buildings.

The latest renovation and redecoration projects may be seen as examples of the parental dedication to the buildings and aesthetics of the school. The parent-initiated renovation projects also reveal some of the limitations of such broad involvement. As discussed above, the choice of colours, as well as the painting technique ideally represents an educational/developmental aspect of the Waldorf School. In the latest, parent-led projects, the choice of colours as well as the painting technique was more ad hoc than in the previous teacher-led projects. The teachers explained this with pragmatic considerations, such as the renovation projects being a gift from the parents, the difficulty of the colour washing technique for people lacking the skill, the fragility of colour washed walls, and the corresponding maintenance costs. There had also been a referendum among the secondary students, who wanted something light and fresh. Architects were engaged to make a colour plan, but when I visited the renovated “precambrian” building with the architects after it had been painted, they did not quite recognise their proposal, which had only been partly implemented. Some of the colours were different and there was less variation. The wall colours—light blue and light violet—led to some controversy, with some of the students complaining that the newly painted rooms were hard and cold and gave them head-aches, and teachers from other parts of the school particularly criticized it. The teachers and other staff in the building, however, were quite satisfied with what they saw as a much-needed renovation.

The entrance hall in the “castle” had also just been painted, and here, too, colour washing had been dropped for reasons of convenience. One of the teachers spoke of the students’ negative reactions—they

complained that the walls without colour washing were “un-steinerian”--but he personally thought they were excellent. I got the impression that he was amused and thought it good to provoke the “conservative” students a little.

The participatory approach and democratic spirit are an important aspect of Waldorf schools (Solhaug, 2007), and the different renovation projects illustrate how participatory processes may take different directions, sometimes supporting the educational and architectural ideas, and sometimes leading to outcomes which are less grounded in the school’s educational ideals. On the other hand, the broad ownership and creative involvement with the buildings on the part of parents may be seen as representing the core values of Waldorf schools.

Furthermore, breaking loose from tradition and challenging what has been taken for granted, such as the necessity of colour washed walls, contribute to the ongoing spatial/aesthetic reflection of students, teachers, and parents. Finally, the different redecoration projects illustrate that architecture and aesthetics are not the mechanical representation of ideas that are fixed once and for all. Rather, the buildings and rooms are being shaped and reshaped in ongoing processes that involve real buildings and real people, with all their strengths and limitations.

Concluding Remarks

The spatial dimension is an integrated element of Waldorf education, both in theory and in practice, and ideas of space, rooms, and architecture are embedded in the curriculum in several ways. This case study revealed an ongoing spatial reflection. The teachers linked their spatial involvement to their teaching practices, as well as to more general considerations for the developing child based on the ideas behind Waldorf education.

The walls and the classroom, and even to some extent the buildings as a whole can be seen as *a personalised space* that strengthens class identity and the sense of the teacher and class as a team. The personalised classroom functions as a container that prevents the class from disintegrating. The school buildings as a home, and the special rooms for classes in arts, crafts, and music support the particular activities in their specificity.

The conceptualisation of the classroom as a containing structure enables the spatial and social structures for learning and thinking as a collective endeavour, and for the class as a reflective and social community. Both the building structure and the class structure provide room, physically as well as socially, for thinking as collective reasoning in the class(room).

The emphasis on homeliness casts the school as a space to *be*, which corresponds to the educational emphasis on immersion and concentration on one subject over time, as expressed in the long main hour in the morning and teaching blocks of several weeks. The rooms are shaped so as to support concentration and immersion in the subject at hand over time, and at the same time, the aesthetic-spatial arrangements mirror and support the growing and developing child. The way in which the teachers actively intervene in the spacial and aesthetic structure and thus shape the room for learning may be interpreted as part of the same concern for the involvement with real objects in the world as an important part of the learning process. Despite the architectural limitations of some of the school buildings, the building structures are seen by the teachers as enabling: the combination of traditional classrooms and a large number and variety of special rooms enables the variety and the distinctiveness of the Waldorf curriculum. The prioritisation of social space is seen as contributing to a productive learning environment.

The spatial-educational dimension is not fixed, but is subject to change. Some changes are due to internal participatory processes, such as the choice of colours and painting technique in the recent, parent-led renovation projects, and others are due to external pressure to conform to the curriculum and test regimes of public schools, such as the reduction of arts and crafts both in terms of space and in the curriculum.

In conclusion, due to their spatial-educational distinctiveness, Waldorf schools represent an interesting contrast to contemporary trends in public schools, but Waldorf schools are under pressure to conform to

current trends. In view of recent research, Waldorf schools should perhaps be more confident, both in terms of their educational ideas and content and their spatial solutions. Maybe municipal schools in Norway, too, like in the US, should rather look to Waldorf education, rather than Waldorf schools conforming more to the municipal school curriculum?

Acknowledgements

The study has been funded by The Nordic Research Network for Steiner Education (NORENSE)/Rudolf Steiner University College (RSUC). I am indebted to the teachers, other Waldorf school staff and the architects who took the time to meet with me and answer my questions.

Photos: Freddy Wike

References

- Bergström, M. (1991). *Barnet - den sista slaven* (The child, the last slave). Jönköping: Seminarium Forlag.
- Bjørkvold, R. (2007). *Det musiske menneske* (Musical man). Oslo: Freidig Forlag.
- Briseid, L. G. (2012). Demokrati-forståelse og intensjoner i demokratioppdragelsen— Norske læreplaner mellom 1974 og 2010 (Understanding of democracy and intentions in the democracy upbringing - Norwegian curriculums between 1974 and 2010). *Nordic Studies in Education*, 1, 50-65.
- Dahlin, B. (2010). A state-independent education for citizenship? Comparing beliefs and values related to civic and moral issues among students in Swedish mainstream and Steiner Waldorf schools. *Journal of Beliefs & Values*, 31 (2), 165-180.
- Dahlin, B., & Majorek, M. B. (2009). *On the path towards thinking: Learning from Martin Heidegger and Rudolf Steiner*. *Studies in Philosophy and Education*, 28 (6), 537-54.
- Dewey, J. (1902). *The child and the curriculum*. Retrieved June 26, 2012, from <http://www.gutenberg.org/ebooks/29259>
- Dewey, J. (1938). *Experience and Education*. New York, NY: Kappa Delta Pi.
- Emotion Review*. (2010). The contributions of Robert Zajonc. October, 2 (4), 315-362.
- Engelsen, B.U. (2008). *Kunnskapsløftet: sentrale styringssignaler og lokale strategidokumenter. Rapport nr. 1 fra forskningsprosjektet Analyse av reformen kunnskapsløftet ARK* (Increase knowledge: main signals of governance and local strategic documents. Report number 1 from the research project on the Increase knowledge reform). Oslo: Universitetet i Oslo, Pedagogisk Forskningsinstitutt.
- Forster, J. (2000). *Räume zum lernen und spielen: Untersuchungen zum lebensumfeld 'schulbau'* (Rooms to learn and play: Investigations of school buildings as a living environments). Berlin: Verlag für Wissenschaft und Bildung.
- Granly, O. (1996). Steinerskolen i Oslo fra 1945 til i dag (The Waldorf School in Oslo from 1945 to today). In E. Marstrander (Ed.), *Menneske først!* (Human being first!) (pp. 113-175). Oslo: Antropos.
- Hattie, J. (2009). *Visible Learning: a synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
- Hill, R. A., & Barton, R. A. (2005). Psychology: Red enhances human performance in contests. *Nature*, 435, 293. Retrieved May 24, 2012, doi:10.1038/435293a.
- Hurlbert, A., & Wolf, K. (2004). Color contrast: a contributory mechanism to color constancy. In C.A. Heywood, A.D. Milner, & C. Blakemore (Eds.), *Progress in brain research 144. The roots of visual awareness: a festschrift in honour of Alan Cowey* (pp.145–160). Amsterdam: Elsevier B.V.
- Jerkø, S., & Homb, A. (2009). *Planløsning, akustikk og støy i baseskoler. Prosjektrapport 43* (Plan, acoustics and noise in open plan schools. Project Report 43). Oslo: SINTEF Byggforsk.
- Johansen, K. H. (2012). Retten til en meningsfull undervisning i Steinerskolen (The right to meaningful education in the Waldorf School). *Tidsskriftet Steinerskolen*, 1/2012. Retrieved May 23, 2012 from <http://www.steinerskole.no/?p=1969#more-1969>
- Junge, E. (2011). *Steinerskolen i Stavanger. Thesis, history and theory of architecture*. Trondheim: Norwegian University of Science and Technology (NTNU).
- Kirkebø, L. S. (2010). *Pedagogisk arkitektur?* (Pedagogical architecture?). Masters Thesis in History of Art, University of Bergen.
- Moravánszky, Á. (2012). The Rudolf Steiner Goetheanum. Retrieved March 26, 2012, from <http://www.domusweb.it/en/architecture/the-rudolf-steiner-goetheanum>
- Oberski, I. (2006). Learning to think in Steiner-Waldorf schools. *Journal of Cognitive Education and Psychology*, 5 (3), 336-349. Retrieved July 9, 2013, from <http://dx.doi.org/10.1891/194589506787382431>

- Oberski, I. (2011). Rudolf Steiner's philosophy of freedom as a basis for spiritual education? *International Journal of Children's Spirituality*, 16 (1), 5–17. Retrieved July 9, 2013, from <http://www.tandfonline.com/doi/abs/10.1080/1364436X.2010.540751#.UdveMFNNxU8>
- Oommen, V.G., Knowles, M., & Zaou, I. (2008). Should health service managers embrace open plan work environments?: A review. *Asia Pacific Journal of Health Management*, 3 (2), 37-43.
- Opheim, V., Grøgaard, J. B., & Næss, T. (2010). *De gamle er eldst? Betydningen av skoleressurser, undervisningsformer og læringsmiljø for elevens prestasjoner på femte, åttende og tiende trinn i grunnsoppleringen (Rapport 34)* (The old are the eldest? The importance of school resources, educational techniques and learning environment for the student's achievement in the fifth, eighth and tenth grades in primary education (Report 34)). Oslo: NIFU STEP. Retrieved May, 04, 2012, from <http://www.nifu.no/Norway/Sitepages/PublicationDetails.aspx?PublicationID=646>
- O'Reilly, M. R. (1993). *The peaceable classroom*. Portsmouth, NH: Heinemann.
- Pappano, L. (2011). Waldorf education in public schools. *Harvard Education Letter*, 27 (6). Retrieved May 7, 2012, from <http://www.hepg.org/hel/article/515#home>
- Purves, D., & Lotto, R. B. (2003). *Why we see what we do: An empirical theory of vision*. Sunderland, MA: Sinauer Associates.
- Schieren, J. (2012). The concept of learning in Waldorf education. *Research on Steiner Education*, 3 (1), 63-74. Retrieved April 17, 2013, from <http://www.rosejournal.com/index.php/rose/article/viewFile/99/124>
- Seland, M. (2009). *Det moderne barn og den fleksible barnehagen. En etnografisk studie av barnehagens hverdagsliv i lys av nyere diskurser og kommunal virkelighet* (The modern child and the flexible kindergarten. An ethnographic study of daily life in kindergarten in view of recent discourses and public reality). Ph.D. Dissertation, Norwegian University of Science and Technology (NTNU), Trondheim.
- Shield, B., Greenland, E., & Dockrell, J. (2010). Noise in open plan classrooms in primary schools: A review. *Noise Health*, 12 (49), 225-34.
- Shusterman, R. (2008). *Body consciousness: A philosophy of mindfulness and somaesthetics*. New York, NY: Cambridge University Press.
- Shusterman, R. (2012). *Thinking through the body: Essays in somaesthetics*. New York, NY: Cambridge University Press.
- Sigman, A. (2008a). *Practically minded: The benefits and mechanisms associated with a craft-based curriculum*. Sheffield: Ruskin Mill Educational Trust.
- Sigman, A. (2008b). Handle with care. *Human Givens Journal*, 15 (3). Retrieved May 24, 2012, from <http://www.hgi.org.uk/archive/handlewithcare.htm>
- Solhaug, T. (2007). Steinerskoler i et demokratisk perspektiv. En sammenlikning med offentlige skoler i Norge (Waldorf schools in a democratic perspective. A comparison with public schools in Norway). *Nordisk Pedagogikk*, 2, 150-171.
- Solhaug, T. (2011). New public management in curriculum reform in Norway. *Policy Futures in Education*, 9 (2), 268-279.
- Steiner, R. (1980). *Allgemeine menschenkunde als grundlage der pädagogik* (General human knowledge as the basis of education). Dornach: Rudolf Steiner Verlag.
- Tharaldsen, E. (2010). *Hverdagens forvandling: Om Rudolf Steiners estetikk* (The transformation of the everyday: On Rudolf Steiner's aesthetics). Oslo: Antropos.
- Tjärnstig, L. (2012). Bearbetning av kunskapen som konstnärlig process--bildskapandets betydelse (The processing of knowledge as an artistic process—the importance of image-making; in Swedish). *Waldorf Agora*. Retrieved April 17, 2013, from <http://waldorfagora.se/bearbetning-av-kunskapen-som-konstnarlig-process-bildskapandets-betydelse/>

- Tjärnstig, L. (2013). Waldorfskolans teori och praktik (The theory and practice of the Waldorf School). *Waldorf Agora*. Retrieved April 17, 2013, from <http://waldorfagora.se/waldorfskolans-teori-och-praktik/>
- Vinje, E. (2010). Baseskoler. En kritisk diskursanalyse av teksten Baser fra Rådgivningstjenesten for skoleanlegg (Open plan schools. A critical discourse analysis of the text Open Plan from the Advisory Agency for school buildings). *FORMakademisk*, 3 (2), 3-25.
- Vinje, E. (2011). Baseskoledebatten i media–Hvem mener hva og hvorfor? (The debate on open plan schools in the media--Who means what and why?). *FORMakademisk*, 4 (1), 24-47.
- Walden, R., & Borrelbach, S. (2002). *Schulen der zukunft. Gestaltungsvorschläge der architekturpsychologie* (Future schools. Suggestions for formation from architectural psychology). Heidelberg: Asanger.
- Welburn, A. (2004). *Rudolf Steiner's philosophy and the crises of contemporary thought*. Montreal: Floris Books.
- Wilson, F. R. (1999). *The hand: How its use shapes the brain, language, and human culture*. New York, NY: Vintage books; Toronto: Random House.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9, Monograph Supplement, No. 2, Part 2, 1–27. Retrieved 9 July, 2013, doi:10.1037/h0025848.