

# The Challenge of Open Space: Lessons from a Pioneering School Building Layout in Germany

Christian Timo Zenke, Ph.D.

ASSISTANT PROFESSOR AT THE UNIVERSITY OF BIELEFELD GERMANY

## 1. Introduction

In a school building without walls, how do students and teachers organize their days? How far have the promises of open-space schools—which were first conceived and developed in the 1960s and 1970s—actually been fulfilled, and what drawbacks can be uncovered? For example, to what extent does open-space architecture actually facilitate co-teaching and method diversity? These questions—and several more that follow from them—are at the center of this paper. It attempts to answer them by discussing the development of the Laborschule Bielefeld (Germany), one of the best-known laboratory schools in Europe, and at the same time one of the best-known open-space schools of the continent. As such, the Laborschule has almost no conventional classrooms. Instead, students and teachers spend their schooldays in a “semi-open learning environment” (Haebler, 1973, p. 74) that offers diverse types of gathering and work spaces.

But before the questions raised above can be addressed, it is important to put the goal and architecture of the Laborschule Bielefeld into context; this is why this paper begins with a short overview of the German school system (section 2) as well as the history and pedagogical concept of the Laborschule (section 3). The following two sections describe the open-space concept of the Laborschule in more detail (section 4) and present the results of a survey that recorded how the staff (teachers and others) perceive and assess this concept (section 5). The concluding section finally discusses the implications for the future of the Laborschule in particular and the discourse on the open-space concept at large (section 6).

## 2. The German school system: a short overview

In Germany, school attendance for all children has been compulsory for almost a hundred years. This means that

every child living in Germany is required to attend a public school, or in rare cases a private school, for at least nine years after they turn 6 years old. Each school career starts with the four-year *Grundschule* (literally, basic school or fundamental school). In this so-called “*Primarstufe*” (primary level), all students are jointly instructed regardless of their family background and aptitude. However, an institutional ability grouping takes place after the fourth grade—the transition to *Sekundarstufe I* (secondary level I). This means that children with seemingly different abilities are accordingly categorized into different education tracks: *Hauptschule*, *Realschule* and *Gymnasium* (literally, *Hauptschule* means main school, the term *Realschule* was originally intended to mean something along the lines of practical school, and the term *Gymnasium* is derived from the Greek word *gymnasion*). The *Hauptschule* is supposed to prepare their students for a vocational training to be completed after the 9<sup>th</sup> grade, and the *Realschule* aims at an extended general education by awarding the “*mittlere Reife*” (approximately comparable with the American high school diploma) after the 10<sup>th</sup> grade. On the other hand, the *Gymnasium* as the most traditional institution is the top of the German education system: This is where, each year, the “most talented” students (in terms of their cognitive abilities) are prepared for the *Abitur* over the course of nine years, which in turn allows them to attend a university. This so-called “*polynomial*” German school system, which has been described here in a somewhat simplified manner<sup>1</sup>, has changed slightly over the course of its history, but its basic principle has remained the same for almost a hundred years. At the age of about ten years, teachers and parents make a decision on the future path of each individual child, which is difficult to reverse afterwards.

The most noticeable changes were made to this school system after the end of World War Two. At this point, it is important to note that this paper is only concerned with

1 For a more detailed description, see Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, 2015.

the school system of the former West Germany (the Federal Republic of Germany). The school system of the former East Germany—the socialist so-called German Democratic Republic that was founded in the Soviet occupation zone shortly after the war—was quite different. The focus here will be on West Germany for two reasons. First, that is where the *Laborschule* was founded. Second, when West Germany and East Germany were unified in 1990, the West German school system was largely transplanted into the eastern part of the country.

After the end of World War Two, the hierarchical structure of the German school system was viewed by the Western Allies as having contributed to the support by the German people of the militaristic and totalitarian Nazi regime. This point of view resulted in the first attempts towards the end of the 1940s to transform the existing school system into a “comprehensive school” modeled after the American high school. However, these efforts failed at first and were not resumed until the mid-1960s. In response to the catastrophic state of the German education system numerous efforts were made to fundamentally reorganize the existing school system in Germany. The most important building block of these reform efforts was the introduction of the so-called “*Gesamtschule*” (comprehensive school). It was supposed to bundle the different “elements” of the previous secondary level I and II together in one consolidated school—because that is precisely the meaning of the term “*Gesamtschule*”: complete school—a comprehensive school which serves all students. Although the *Gesamtschule* today, more than fifty years later, has established itself as a popular school form in many parts of Germany, it has ultimately not been able to replace the polynominal nature of the German school system, but merely to supplement it with another element or track.

### 3. The *Laborschule Bielefeld*

So at the end of the 1960s, an attempt was made to introduce the *Gesamtschule* on a large scale throughout West Germany. It was at this very time that the *Laborschule* was founded in the city of Bielefeld. Their founder Hartmut von Hentig began his study of Classical Philology in Germany, but finished it in the United States (more precisely, in Elizabethtown and Chicago). He then completed his graduate work from 1952 to 1953 in Chicago before he was appointed to the tradition-steeped chair for pedagogy at the University of Göttingen (Germany) in 1963. There, he quickly developed the reputation of a progressive and far-sighted school pedagogue. He soon became a suitable

candidate—not least against the background of his experiences in the U.S.—to take a leading role in the attempt to introduce “*Gesamtschulen*” throughout the country (cf. Oelkers, 2009). In this spirit, he was also appointed to the University of Bielefeld, which had just been founded in 1966—and thus to a university with the explicit goal to fundamentally reform the content and structure of the German education system.

Against this background, Hentig tied his commitment to work at the University of Bielefeld to the condition that he could establish two school projects in Bielefeld directly associated with the university: The “*Laborschule*” (literally, laboratory school) and the “*Oberstufen-Kolleg*” (literally, secondary-level II college). He wanted both institutions, opened in September 1974, to not only develop new pedagogical methods, but also serve as an “observation, experience and experimental field for the educational sciences” (Hentig, 2006, p. 7)<sup>2</sup> of the affiliated university. Hentig repeatedly used John Dewey’s *Laboratory School*, founded in 1894 in Chicago, as a conceptual point of reference and an educational policy argument. So Hentig not only adapted the name of Dewey’s school, he also adopted many of Dewey’s pedagogical and scientific principles such as a focus on the idea of “experience”, the concept of the school as an “embryonic society” or the close connection to the university (cf. Kleinespel, 1998; Oelkers, 2009).

Thus, both schools are consciously designed as experimental schools with a framework that allows teams of scientists and teachers from various professional backgrounds to work on the development, testing and evaluation of didactic as well as curricular innovations. The aim is to systematically investigate fundamental questions of education, to test reform models within the reciprocal relationship between theory and practice, and to test their transferability to the existing educational institutions (cf. Hollenbach & Tillmann, 2009). While the *Oberstufen-Kolleg* (OS) tried to combine secondary level II with parts of the university’s basic curriculum, the *Laborschule* (LS) concept is based on a direct link between the primary level and secondary level I. Since its opening in September 1974, the LS has accepted 60 students each year at the age of five (and thus even one year earlier than the traditional primary school), leading them to all types of school-leaving certificates that are currently awarded after the 10th grade by the more traditional schools in Germany. LS graduates can either move on directly to vocational training, depending on their level of performance and interest, or continue on to secondary

2 The sources for all direct quotations in this paper are originally in German. The translations used here were prepared by the author of this paper.

level II and then to a university (see fig. 1).

Although the LS thus combines several school types in this sense, it still has a clear division into four different school levels: All LS students spend their first three years in a mixed class of about 16 five- to seven-year-old boys and girls (the so-called level I) until they progress to a different group at the beginning of third grade (which is actually the beginning of their fourth year at the school since they started one year earlier than usual). They spend another three years in groups of 21 children of various ages on that level, which is called level II. At the beginning of sixth grade, the students move from level II to level III (grade 6 and 7) and then on to level IV (grades 8 to 10). On levels III and IV, the students are no longer taught in mixed-age groups as they were before (or at least to a lesser extent). So starting in grade 6, each individual class is made up of students who are usually no more than twelve months apart in age, just like their peers at traditional schools.

However, the basic pedagogic approach to renounc-

ing any form of *external* differentiation is common to all levels. This means that teaching at the Laborschule takes place in a single, and thereby inevitably very heterogeneous, group for all students regardless of gender, achievement or any special educational needs, which is why teachers have to adapt their lessons to the individual needs and abilities of each student (cf. von der Groeben, Geist & Thurn, 2011). Further characteristic features of the “Laborschule” pedagogy are

- The extensive renunciation of grades, examinations and homework
- The wide range of elective subjects
- The diverse educational offers in breaks and afternoon sessions
- The large extent of democratic participation by the students in matters of everyday school life
- The high priority of social learning

**4. The open-space concept of the Laborschule and**

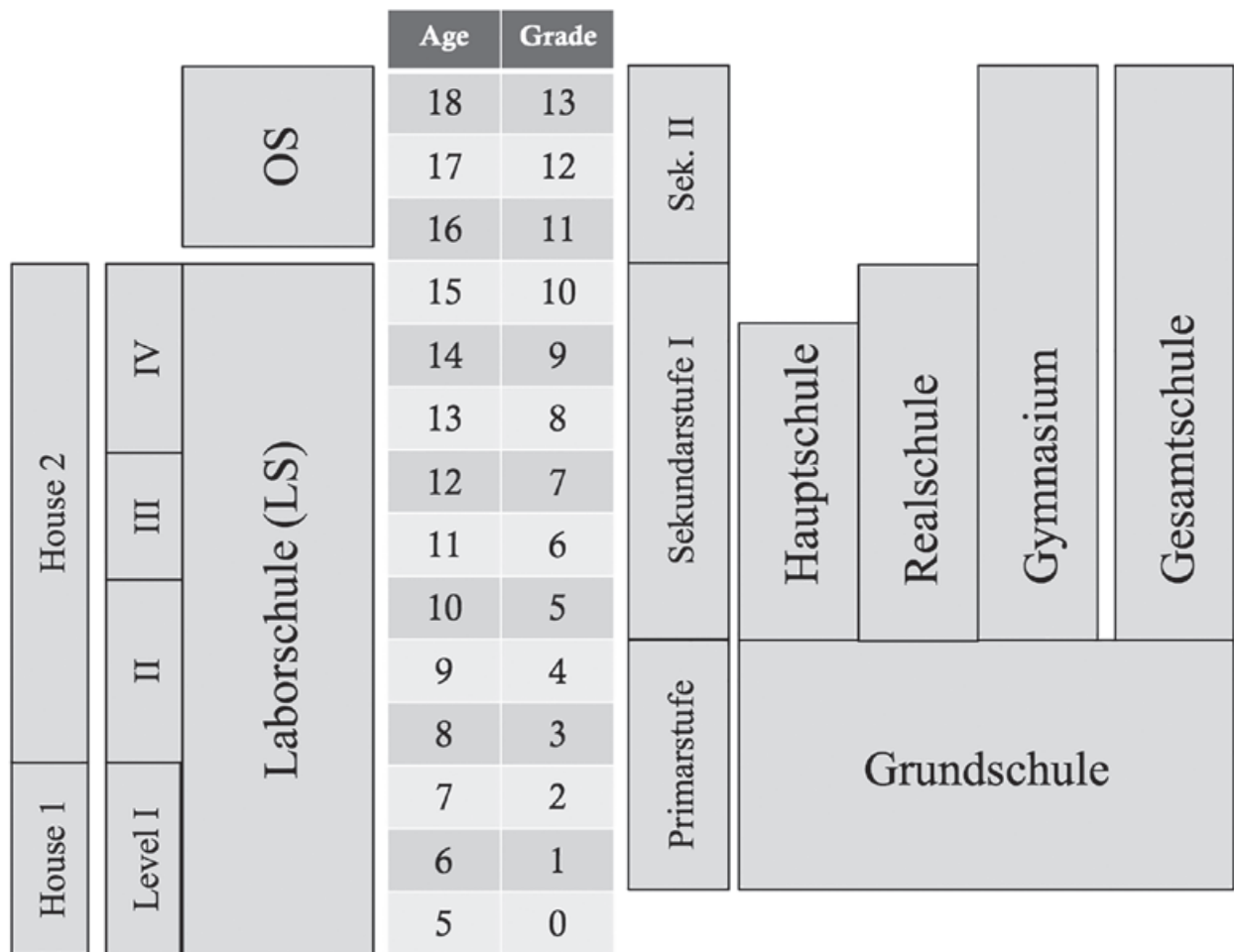


Figure 1: The Laborschule Bielefeld as compared to the conventional structure of schooling in Germany.

## its educational aspirations

However, a special challenge for the Laborschule education in this aspect is to implement all these pedagogical demands and requirements in a very special building—which brings us to the main topic of this paper. Since its opening in September 1974, the LS has not only taken a “special position” (Benner & Kemper, 2007, p. 322) in the German school system through its concept as a state experimental school but also due to its architectural design. As a particularly prominent representative of the model of the “Großraumschule”, which was highly debated in Germany in the 1970s (cf. Blömer, 2011; Zinner, 2014), it renounced the spatial separation of individual groups in classrooms almost completely (cf. Huber & Thormann, 2002; Harbusch, 2015). Instead, the idea was to teach all students in a “semi-open learning environment under one large, uniform roof” (Haebler, 1973, p. 74). The term “Großraumschule” literally translates to “large room school” and is equivalent to “open-space school” or “open-plan school” in English-speaking countries. Specifically, this means that the LS consists of a total of two buildings whose dominant structural feature is the idea of open space: The smaller “House 1”, where students from grades 0 to 2 are taught, and the much larger “House 2” for grades 3 to 10. (See Fig. 2)

This open-space concept was always meant to serve various educational aspirations, which Hartmut von Hentig (1997) summarized as follows:

1. *The creation of a civilizing society*: “Where the eyes of many are watching, people will conduct themselves in a humane manner. In an open-space school, under the public eye and ear, there are no screaming teachers and no students who behave in a manner that makes the teacher resort to raising his voice in desperation.” (p. 148)
2. *Preparing for the world “out there”*: “A large part of life of most of these students will take place in situations similar to those of the open-space of the LS. The students must be able to concentrate in the presence of others who do different things, put up with a certain amount of movement and noise, and, more importantly, behave themselves so as not to disturb the others.” (p. 148)
3. *Opening up to the school community*: We were “hoping that the feeling of security in the small core group would go hand in hand with opening up to the larger

community: The security of the small ‘home area’ should foster the students’ curiosity for the world, and vice versa; the boundlessness should evolve into joy and a clear sense of accountability.” (p. 149)

4. *Promoting awareness of the whole*: The original draft of the buildings intended that “every student of the Laborschule experiences the school as a whole at least once a day on the way from the entrance to his ‘workplace’, and that the child sees what is happening ‘above’ him or her, in the world of the big kids, so that he or she can take pleasure in it or measure up to it, and ‘under’ him or her, in the world of the smaller kids, so that he or she can estimate their own progress.” (p. 157 f.)

In addition to all these aspirations, the founders of the LS had another one for which they used the term “flexibility”. In fact, Ludwig Huber stated that this was perhaps even the most important aspiration from a didactic point of view: “[The hope] that the students and teachers would form groups based on what the task and the occasion require: Sometimes individually, other times in small groups, then again in large or even very large groups, depending on what the particular situation calls for, whether it be researching, reading and writing, discussing, cooperating, presenting, or simply listening; and that they can easily move from one area to another, depending on whether the work requires using your head or if it involves manual crafting and experimenting. For that reason alone, it is very important that everyone is able to easily move from place to place. Therefore, there is no need for walls that block the view and limit the size of the groups, and there is no need for doors and hallways that make moving around difficult.” (Huber & Thormann, 2002, p. 67)

For example, booths were built, privacy panels were installed, provisional walls erected, fences raised. Similarly, disputes this is the theory. But what first comes to mind, when looking at pictures from the first years of school life—such as figure 2, which shows the open space of the Laborschule right after its opening in 1974—is the emptiness of the building. This is due to the fact that it was only slowly “filled”. Although by now, it has a total of 700 students spread over 36 groups, it initially started with only 180 students divided into 9 groups, so that it took a total of four years to reach capacity for the first time. Accordingly, in the first years after the opening of the school, the school continuously changed its appearance: Booths were built, privacy panels were installed,



Figure 2: Volkmann, J. (Photographer). (1974) House 2 of the Laborschule Bielefeld

provisional walls erected, fences raised. And: Disputes started over the open space. Again and again, people criticized the excessive volume, complained about the lack of space and pointed out the difficulty of teaching in an adequate manner in the open space (cf. Rosenbohm, 1977; Hentig, 1997) “The *Versammlung*” (see fig. 3).

In the course of the 1980s, however, everyone learned gradually to deal with the existing building, and the arrangement that people found back then remains in use to this very day. Thus, three groups are located on each of the three large so-called “fields” of House 2, sharing the available space—though with more or less clear marking of separate zones for the individual groups. The social as well as spatial center of each group is formed by the so-called “*Versammlung*” (assembly): A meeting place, mainly consisting of wooden benches, on the edge of the open-space area, where the group meets repeatedly throughout each school day in order to split up afterwards into individual, partner or group work in the adjoining open space. The same goes for House 1: Three groups each share a common zone within the building and practice a fluent transition between individual work, partner work and group work in teams that are continually formed and re-formed, so that students work together with a different combination of their peers throughout the day. Here again, the repeated center of focus is: The *Versammlung* (see fig. 3).

## 5. Results on the perception and assessment of the open-space nature of the Laborschule

Although dealing with the open space of the LS has certainly “normalized” over the years, the sentiments of the teachers and students towards “their” section of the



Figure 3: Mette, V. (Photographer). (2015) “*Versammlung*” at House 1 of the Laborschule Bielefeld

open space are still quite ambivalent. For example, this was demonstrated in a study published by Gail Weingart in 2003, in which a total of 653 LS students—over the course of 9 years—were asked about their perception and assessment of the open-space nature of the “*Laborschule*”. The analysis of the data collected by Weingart in this study produced two key takeaways:

1. “More than half of the students surveyed see advantages of the open space in its function as a *social place*. Most of the students are comfortable in these surroundings and appreciate the fact that the open space fosters friendships.” (Weingart 2003, p. 71)
2. “However, they see disadvantages of the open space as a *learning location*. More than half of respondents report that they are often distracted in the open space, and almost half report that they are prevented from focusing on work. Originally, it was hoped that the open space would have a positive influence on the behavior in such a way that the students learn to be considerate of others. Conversely, they were supposed to learn to concentrate in the presence of others, even if they move around in the room and make noises. According to the results presented here, these hopes seem to have been [only] partially fulfilled.” (p. 71 f.)

In addition, Weingart could confirm a result that Beate Wischer had already formulated a few years earlier. Just like Weingart drawing on the results of a periodic survey of the graduates of the LS, she postulated: “The capacity for focusing on and attending to one’s own work, which is especially required in the open space, seems to be more difficult to attain for some students than others - espe-



cially for boys. As a result, the ‘open-space’ learning arrangement can favor certain groups of students, especially those for whom learning is obviously easier” (cf. Wischer 1999, p. 46). Thus, the assessment of the open space of the LS by the students is very ambivalent: On the one hand, the students certainly regard this layout as a strength of their school and they would not want it to be replaced by traditional classrooms. On the other hand, however, the openness of the available premises appears to not have developed its full potential, especially with regard to their function as a *learning location*—as well as with regard to the weaker students.

In light of these results, an expansion to the LS was finally built in 2001, also designed as an open space, which since housed grades 9 and 10, and thereby significantly relieved the “old” open space of House 2, which had become a bit cramped. Nevertheless, the buildings of the LS remain a much-debated issue—and this is not only due to its now significantly increased age. More than forty years have passed since the opening of the school in 1974, which is not only reflected in the general condition of the buildings, but also in terms of obsolete media equipment, high energy consumption, and outdated safety standards.

For these reasons I initiated a research project in the summer of 2015, together with two teachers of the LS, Jutta Walter and Marlena Dorniak, which had a double agenda under the guiding theme “school as an inclusive space”. On a general level, we were interested in making an empirically-driven contribution to the current discussion on “school architecture”, but on a local level, our research project also aimed to facilitate a school development process that ultimately attempted to improve the utilization of the “Laborschule” open space (cf. Zenke, Dorniak & Walter, 2015). In that regard, we conducted a survey of all LS employees in the fall of 2016—teachers, special needs teachers, social workers, educators, secretaries and janitors—in which we asked about their use and perception of the “Laborschule” building. The participants were asked to answer the following three questions in writing:

1. Which spatial conditions at the LS do you particularly like?
2. Which spatial conditions at the LS do you not like at all?
3. What would be your three biggest wishes for a remodeling of the LS?

The results of this survey, which we subsequently an-

alyzed using methods of the qualitative content analyses according to Kuckartz (2016), allow conclusions to be drawn; particularly about the perception and use of the LS *open space*. We were quite surprised to find that 60 of 73 people surveyed, and thus 82% of all participants, considered the open space and the associated openness of the building something they “particularly like” about the LS. Divided by the individual professions. The result was even clearer: 37 out of 41 teachers (90%), 8 out of 11 employees in the probationary year (73%), 10 out of 12 other pedagogic workers (83%) and 4 out of 8 other employees (50%) expressed a positive opinion about the open space (plus one person who didn’t indicate their profession).

In addition to the praise of the school’s “landscape-like architecture”, the emphasis was on the “transparency and openness” associated with the open space. Furthermore, it was described as “inviting”, creating a “community atmosphere” and a “feeling of freedom”. Twenty respondents highlighted the positive impact of the open-space area in regards to cooperation and considerate behavior. They felt that the open space opened up various “contact opportunities”, promotes “exchange + communication with the neighboring groups”, provides various gathering opportunities and ensures that friends and colleagues are “near [or] on hand”. They also pointed out that this setting did not only enable students to help each other “across the various groups” but it also allowed the colleagues to be “more open in their teaching methods and able to cooperate spontaneously with others”. Appreciation was also expressed for the flexibility of the open space, including the fact that the furniture is well-suited to be rearranged as needed (9 people gave this answer), as well as for the regulating power of the “Public Eye” (by 3 people).

Although the basic *principle* of the open space was generally judged positively across all professions, the concrete *implementation* of this principle in the various segments of the school was evaluated quite differently. In particular, House 1 with its mixture of open areas, opportunities to retreat and go outside, was repeatedly described as the most successful form of the open space; whereas the extension building was criticized for its narrowness and bad acoustics. A teacher at level IV said: “I really like the open space idea and find it exemplary in House 1, good in House 2, but bad in the so-called new building because of the bad acoustics.”

But this criticism was not only directed at the open space of the *extension building*. In fact, many people criticized the general acoustics and ventilation of the *entire*

open-space area. What is more, the survey participants pointed out the general need for renovations, as well as complained about the lack of available space; particularly in the areas of the extension building and in the teaching areas of level II. However, the greatest criticism of the open space was directed at the lack of *opportunities for retreats* within and near the open space. For example, 31 people (42%) complained that there were too few “places of retreat for adults and students” and demanded “more rooms with walls and doors for spontaneous use”, “back-up rooms integrated into the open concept”, “retreat areas to work, to rest, to be loud”, small “glass-walled rooms or learning offices”, “resting areas” or “alternative possibilities for small groups”.

This makes one thing quite clear: The staff is not concerned with having additional *specialist* rooms at their disposal, such as rooms dedicated to the natural sciences or the arts, which do exist in limited number in other parts of the building. Rather, they desire the open-space area be supplemented with retreat opportunities of different sizes and openness that they would then use in a flexible and spontaneous way which should be situated right at the edge of the open space. So a central result of our survey is the staff’s request that the open-space area be retained as a structurally dominant element of the LS, but at the same time, it should be supplemented and thereby improved through: a) flexible retreat opportunities within or near the open space b) more direct exits to the outside (ideally from any area), c) more effective noise reduction through structural improvements (maybe sound-absorbing elements), and d) better ventilation (ideally through large, easily opened windows).

## 6. Conclusion and Implications

Fortunately, the owner of the LS buildings, the state of North Rhine-Westphalia, are now convinced of the necessity of basic renovations—or even a more extensive remodeling. To prepare for this, a participative process was initiated in January 2017, within which the architects’ office *Hausmann Architects*, together with teachers, students, other employees as well as representatives of the state, are working on a review and adaptation of the LS room structure in pedagogical and construction terms—a process which will be supported by the results of our research project that have been outlined above. The goal is to develop an appropriate vision of how the LS buildings should ideally be structured in the future. This process is meant to consider the input of all current users of the LS buildings and take into account all available robust em-

pirical research results. The central question is: How can the benefits of an open-space concept be retained while the drawbacks and weaknesses are rectified?

As we are nearing the end of this paper, it is important to note that the experiences and results of our research work (which will be supplemented by an videographic study on the use of the LS open space in the course of 2018), are not only relevant for the *LS*. On the contrary, the concept of open space as a suitable spatial arrangement of school life as well as learning has become increasingly important in the current German-language discussion on school architecture (cf. Zenke, 2016). At the same time, there are few actual implementations of the open-space concept in Germany. In fact, the LS is the only German “survivor” of the 1970s open-space school boom. That is why it plays an important role in the corresponding discussion. The opportunities and risks of the open-space principle can be analyzed, discussed, evaluated and developed further by looking at the history as well as the current state of the LS.

Obviously, a single implementation of the open-space principle (such as has been presented in this paper) has its limits as an empirical basis for this discourse. That is why the following two highlighted theses emphasize the central result of the research as well as introduces the current presented here, will certainly need to be discussed and tested not just in the context of the Laborschule Bielefeld, but introduced into the wider discussion on the subject—more specifically, the international discussion, seeing that countries other than Germany have a vibrant tradition of open-space schools as well:

1. Open-space school architecture can provide a very suitable framework for the implementation of a school life that is simultaneously individualizing as well as community-promoting. This potential depends on whether it is possible to create an appropriate balance between openness and closeness; in terms of architecture as well as pedagogy.
2. Teaching in the open space therefore needs its own “open-space didactics.” That is, teaching strategies that enable the individual teacher to use the openness of the building productively for his or her teaching purposes. This is because the attempt to work with the usual methods of classroom teaching in the open-space area inevitably leads to frustration and lack of success. In other words, if you change the structure of a school building, it is essential to change the teaching methods of the school as well—and vice versa.

## References

- Benner, D., & Kemper, H. (2007). *Theorie und Geschichte der Reformpädagogik: Teil 3.2 Staatliche Schulreform und Schulversuche in den westlichen Besatzungszonen und in der BRD*. UTB. Weinheim: Beltz.
- Blömer, D. (2011). *Topographie der Gesamtschule: Zum Zusammenhang von Raum und Pädagogik*. Bad Heilbrunn: Klinkhardt.
- Groeben, A. von der, Geist, S., & Thurn, S. (2011). Die Laborschule - ein Grundkurs. In S. Thurn & K.-J. Tillmann (Eds.), *IMPULS Laborschule: Vol 5. Laborschule - Schule der Zukunft* (2nd ed., pp. 260–277). Bad Heilbrunn: Julius Klinkhardt.
- Haebler, L. von. (1973). Laborschule Bielefeld. *Bauwelt*. (Heft 2/1973), 72–81.
- Harbusch, G. (2015). The Forest-Gnome School in the Factory Hall. Ludwig Leo's preliminary design for Hartmut von Hentig's "Laborschule Bielefeld". *Candide*. (No. 9), 13–44.
- Hentig, H. von. (1997). Die Gebäude der Bielefelder Laborschule. In G. Becker, J. Bilstein, & E. Liebau (Eds.), *Räume bilden. Studien zur pädagogischen Topologie und Topographie* (pp. 139–160). Seelze-Velber: Kallmeyersche Verlagsbuchhandlung.
- Hentig, H. von. (2006). *Die Bielefelder Laborschule: Aufgaben, Prinzipien, Einrichtungen. Eine empirische Antwort auf die veränderte Funktion der Schule* (6th ed.). *IMPULS: Informationen, Materialien, Projekte, Unterrichtseinheiten aus der Laborschule Bielefeld: Vol. 7*. Bielefeld: Eigenverlag.
- Hollenbach, N., & Tillmann, K.-J. (2011). The Teacher-Researcher Model at the Laboratory School: Initial Concept and Today's Practice. In N. Hollenbach & K.-J. Tillmann (Eds.), *Teacher Research and School Development. German approaches and international perspectives* (pp. 201–207). Bad Heilbrunn: Julius Klinkhardt.
- Huber, L., & Thormann, E. (2002). Großraumschulen - Erwartungen und Erfahrungen: Oder: "Vom versuchsweisen Wegfall der Wände". In L. Wigger & N. Meder (Eds.), *Raum und Räumlichkeit. Festschrift für Harm Parschen* (pp. 65–86). Bielefeld: Janus Verlagsgesellschaft.
- Kleinspel, K. (1998). *Schulpädagogik als Experiment: Der Beitrag der Versuchsschulen in Jena, Chicago und Bielefeld zur pädagogischen Entwicklung der Schule*. Weinheim, Basel: Beltz.
- Kuckartz, U. (2016). *Qualitative Inhaltsanalyse: Methoden, Praxis, Computerunterstützung* (3rd ed.). *Grundlagentexte Methoden*. Weinheim und Basel: Beltz Juventa.
- Oelkers, J. (2009). Die Reform der Pädagogik: Hartmut von Hentig. In S. Asal & S. Schlak (Eds.), *Was war Bielefeld? Eine ideengeschichtliche Nachfrage* (pp. 111–142). Göttingen: Wallstein.
- Rosenbohm, V. (1977). Schule im Großraum. In Lehrergruppe Laborschule (Ed.), *Laborschule Bielefeld: Modell im Praxistest. Zehn Kollegen ziehen ihre Zwischenbilanz. Mit Graphiken und Fotos von Klaus Lamberty* (pp. 190–197). Reinbek bei Hamburg: Rowohlt.
- Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (2015). The Education System in the Federal Republic of Germany 2013/2014. *A description of the responsibilities, structures and developments in education policy for the exchange of information in Europe*. Bonn. Retrieved from [https://www.kmk.org/fileadmin/Dateien/pdf/Eurydice/Bildungswesen-engl-pdfs/dossier\\_en\\_ebook.pdf](https://www.kmk.org/fileadmin/Dateien/pdf/Eurydice/Bildungswesen-engl-pdfs/dossier_en_ebook.pdf).
- Weingart, G. (2003). Der Großraum der Laborschule im Urteil der Schülerinnen und Schüler. In N. Hollenbach & G. Weingart (Eds.), *IMPULS: Informationen, Materialien, Projekte, Unterrichtseinheiten aus der Laborschule Bielefeld: Vol. 39. "Als Laborschüler hat man Vor- und Nachteile ..."*. *Beiträge zur Evaluation der Laborschulpädagogik aus Sicht der Absolvent(innen)* (pp. 53–80). Bielefeld: Eigenverlag.
- Wischer, B. (1999). Die Lernkultur der Laborschule im Urteil ihrer Schüler(innen): Ein Vergleich mit dem Regelschulsystem. In M. Jachmann & G. Weingart (Eds.), *IMPULS: Informationen, Materialien, Projekte, Unterrichtseinheiten aus der Laborschule Bielefeld: Vol. 33. Die Laborschule im Urteil ihrer Absolventen. Konzepte, Ergebnisse und Perspektiven der Absolventenstudie* (pp. 33–60). Bielefeld: Eigenverlag.
- Zenke, C. T. (2016). Schularchitektur und inklusive Didaktik: Auf der Suche nach einer inklusiven Schulraumgestaltung. In K. Rosenberger, D. Lindner, & F. Hammerer (Eds.), *schulheft: 163/2016. Schulräume. Einblicke in die Wirkkraft neuer Lernwelten* (pp. 20–30). Innsbruck: Studienverlag.
- Zenke, C. T., Dorniak, M., & Walter, J. (2015). Die Laborschule als inklusiver Raum. In N. Freke, H. Kullmann, F. Lücker, A. Textor, & C. T. Zenke (Eds.), *Werkstattheft: Vol. 50. Laborschulforschung 2015. Anträge und Berichte zum Forschungs- und Entwicklungsplan* (pp. 125–132). Bielefeld: Eigenverlag.
- Zinner, M. (2014). schulRAUMkultur: Wie Anstalten loslassen? Wie in Schulen heimkommen? *zeitschrift ästhetische bildung*, 6 (Nr. 1/2014), 1–17.

## Author Bio

**Christian Timo Zenke, Ph.D.** is an assistant professor at the University of Bielefeld (Germany) in the field of educational science. His central research interests are school architecture, history of progressive education, participatory action research and aesthetic education.



# IALS JOURNAL

Volume VIII, No.1



international  
association of  
laboratory  
schools

## IN THIS ISSUE

Two Korean Laboratory Schools Interpreted  
through the Lens of Ecological System Theory  
*Yong Joon Park and Youjin Yang* 1

The Challenge of Open Space: Lessons from a  
Pioneering School Building Layout in Germany  
*Christian Timo Zenke* 9

Exploring Preschool Teachers' Narrative  
Comprehension Knowledge and Instructional Practice  
*Felicia R. Truong, Ruth Ebisuzaki, and Abby Carlson* 17

Am I a Math Kid? Developing a Growth Mindset  
in Mathematics Through Empathy  
*Jillian Green* 27

Let's Be Mindful with Young Children!  
*Satomi Izumi-Taylor, Angela Davis Jones,  
and Sandra Brown Turner* 35

Thoughts on Developing the Positive Professional  
Disposition of Middle Level Pre-service Teachers:  
Experiences and Reflections that Guide Professional  
Behavior via Laboratory School Role Models  
*Cheryl A. Slattery* 40

Laboratory Schools: Sound Theories into  
Sound Practices, Highlights from the IALS Annual  
Conference in Memphis, Tennessee, 2017  
*Sandra Brown Turner* 42

**IALS Journal**  
**Volume 8, Issue 1**

## **CONTENTS**

Editor's Comments / **iii**

### **Featured Article:**

Two Korean Laboratory Schools Interpreted through the Lens of Ecological System Theory

*Submitted by Yong Joon Park and Youjin Yang / 1*

The Challenge of Open Space: Lessons from a Pioneering School Building Layout in Germany

*Submitted by Christian Timo Zenke / 9*

Exploring Preschool Teachers' Narrative Comprehension Knowledge and Instructional Practice

*Submitted by Felicia R. Truong, Ruth Ebisuzaki, and Abby Carlson / 17*

Am I a Math Kid? Developing a Growth Mindset in Mathematics Through Empathy

*Submitted by Jillian Green / 27*

Let's Be Mindful with Young Children!

*Submitted by Satomi Izumi-Taylor, Angela Davis Jones, and Sandra Brown Turner / 35*

Thoughts on Developing the Positive Professional Disposition of Middle Level Pre-service Teachers:  
Experiences and Reflections that Guide Professional Behavior via Laboratory School Role Models

*Submitted by Cheryl A. Slattery / 40*

Laboratory Schools: Sound Theories into Sound Practices, Highlights from the IALS Annual Conference  
in Memphis, Tennessee, 2017

*Submitted by Sandra Brown Turner / 42*

Information for Contributors, CFP / **inside back cover**

**JOURNAL EDITORS**

**Dr. Christopher Keyes**, Shippensburg University of Pennsylvania earned his PhD in Language, Literacy and Culture from Vanderbilt University. His research focuses on multilingual students and on professional learning. He is presently an assistant professor of teacher education at Shippensburg University, where he teaches in the graduate reading program, the middle-level education program, and the ESL program. He has had three children attend the Grace B. Luhrs University Elementary Laboratory School at Shippensburg University.

**Dr. Shannon Mortimore-Smith** earned her PhD in English Education from Western Michigan University. She is currently an Assistant Professor of English at Shippensburg University in Pennsylvania, where she teaches adolescent literature and secondary certification courses. Her research interests include multimodal, 21st-century, and New Media literacies, including the role of comics, graphic novels, Japanese manga, and video games in the English classroom. Her daughter attends the Grace B. Luhrs University Elementary Laboratory School at Shippensburg University of Pennsylvania.

**REVIEW BOARD**

Jean Bird	Carnegie Mellon University
Sandra Turner	University of Memphis
Cheryl Slattery	Shippensburg University of Pennsylvania
Rebecca Blahus	Shippensburg University of Pennsylvania
Sharon Carnahan	Rollins College
Amani Reed	Teacher's College at Columbia
Ceceile Minott	University of the West Indies
Emily Barnes	Shippensburg University of Pennsylvania
Kayla Post	Shippensburg University

**EDITORIAL RESPONSIBILITY**

The *IALS Journal* is published once a year and addresses key issues facing today's laboratory and university affiliated schools. Articles offer perspectives on educational trends and include topics such as the history and future of lab schools, innovations in curricula and programs, lab school administration, and teacher education. The journal includes articles grounded in evidence-based classroom practices, action research, and theoretically based quantitative and qualitative scholarship.

Points of view or opinions expressed in the *IALS Journal* do not necessarily represent the views or opinions of the *IALS Journal* editors or *IALS: The International Association of Laboratory Schools*. *IALS* supports this journal to share ideas and stimulate discussion within the campus school network and with public and independent schools. Contributing authors are encouraged to express their opinions and research openly on issues related to teacher preparation, research, curriculum development, pedagogy, and staff development. Readers should evaluate these ideas in regards to the environment of their campus, independent, or public school.

The *IALS Journal* is printed once a year by Shippensburg University of Pennsylvania, 1871 Old Main Drive, Shippensburg, PA, 17257. The Executive Director of *IALS* is Patricia Diebold of Edinboro University of Pennsylvania, Edinboro, PA. Current copies of the *IALS Journal* may be obtained from the journal editors or online at the *IALS* website at: [www.laboratoryschools.org](http://www.laboratoryschools.org).

IALS: Dedicated to Research, Leadership,  
And Educational Excellence.