



Directorate for Education

Centre for Educational Research and Innovation (CERI), OECD

Innovative Learning Environments (ILE)

INVENTORY CASE STUDY

Lobdeburg School of Jena

Germany (Thuringia)

Students aged 6 to 17 years attend primary school and comprehensive secondary school at Lobdeburgschule. The first three grades of primary school are taught in mixed age groups to allow the flexible transition between grades, depending on students' abilities. A schedule for grades 5 to 13 organizes the school days into phases of autonomous completion of tasks and free creative work, interdisciplinary lessons and projects (especially with respect to new media), professional lessons, and elective lessons in areas of special interest. Learning is self-directed and individualized, and there is differential support. Teachers collaborate in teams per grade.

This Innovative Learning Environment case study has been prepared specifically for the OECD/ILE project. Research has been undertaken by Michaela Gläser-Zikuda, Sascha Ziegelbauer, Julia Rohde, Mathias Conrad & Susi Limprecht from the Friedrich-Schiller-University of Jena under the supervision of Ralph Leipold and Anja Uthleb from the Ministry for Education, Science and Culture of Thuringia, Germany, following the research guidelines of the ILE project.

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ILE "Innovative Learning Environments"

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Case Study: **Lobdeburg School of Jena**

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1. Introduction

The Lobdeburg School in Jena is characterized through their efforts to strengthen the pupils in their personal responsibility and independence. Acceptance and support of each person corresponding to their individuality, is the ambitious target of the school. Teacher and pupils together shape their school as a place of living in which a democratic coexistence is promoted. Features of innovative learning environments are recognizable in the kind of lessons at the Lobdeburg School. An interesting example for this are the glass doors of the class rooms which offer an open atmosphere. Other aspects are shown within the lessons and the school internal curriculum. Thus a solid structure of the everyday school is given by the school time table. The school time table combine four kinds of lessons, weekly plans and free work; teaching of subjects; epochal lessons and elective subject. The core area offers different emphases for example wood processing or home economies. Here is the co-operation with regional partners very positively. Another special feature of innovative learning environments at the Lobdeburg School is shown through the course media and communication for the 11th to the 13th grade. This particular profile corresponds to the importance of media in our society. A deeper and more analytical insight in the features of innovative learning environments at the Lobdeburg School is represented in the current report.

Beside the Lobdeburg School which is described more precisely in the following report, the Jenaplan School and the ImPULS School in Schmiedefeld were chosen for the sample of innovative learning environments. All of these selected schools are located in Thuringia, Germany. Thuringia is one of the 16 federal states of Germany. Due to the federal government's responsibility to educate its citizens, the educational system of this state refers only briefly to the structure of the German educational system. Therefore, elements of this system will be concisely described, as follows.¹ This specific knowledge is necessary in order to better understand the ILE project.

The German educational system has three different kinds of general education graduation degrees. These are: 1) the secondary education degree, called the "Hauptschulabschluss" (obtained after 9 years), 2) the higher-level secondary education degree, called the "Realschulabschluss" (obtained after 10 years), and 3) the highest-level high school and the specialized-field high school degree (called the "Abitur" and "Fachabitur" respectively) which are required for attendance at a university (obtained after 12 or 13 years of schooling). These can be achieved after graduating from primary and secondary schools (I and II) in the German educational system. The secondary school II continues on from the tenth year of secondary school I, which in turn builds upon the education received at the elementary/primary school level.

From ages 6 to 10, German pupils visit the elementary school. The elementary school provides recommendations for each student during his/her fourth and final year there to attend one of the three forms of secondary school as mentioned above (the "Hauptschule", the "Realschule" and the "Gymnasium"). The secondary school I (from the 5th to the 10th grade) includes two years of orientation to allow for changes into other school paths on the

¹ Specifications of particular German federal states will not be mentioned, but they are presented on the following website: <http://www.bildungsserver.de/zeigen.html?seite=505>

secondary level. However, this is not always the case in other federal states in Germany. Therefore, it is important to refer to the school system in Thuringia.

In Thuringia there are schools that are funded by the state government or by private agencies. The Thuringian school forms are: the elementary/primary school (Grundschule), the secondary school ("Regelschule"), the high school (Gymnasium), the comprehensive school (Gesamtschule) as well as special-needs schools (Förderschulen)². The "Regelschule" includes two types of secondary schools (the Hauptschule- and Realschule). The secondary education degree is automatically achieved after the 9th grade/class. If a student voluntarily takes an additional "Hauptschule" test and passes it, he will receive the "qualified degree of secondary education" (Qualifizierender Hauptschulabschluss). The higher-level secondary education degree is achieved after the 10th grade. This latter certificate allows entrance into the highest secondary school classes (11th and 12th grade). Both the secondary school degree (Hauptschulabschluss) and the higher-level secondary education degree ("Realschulabschluss") can be obtained at the high school (Gymnasium). Once either of these degrees is obtained, the student is allowed to enter grades 10 or 11, respectively. At the end of the "Gymnasium" school curriculum, the student is qualified to attend a university. The structure of the "Gymnasium" is similar to that of the comprehensive school (Gesamtschule). However, pupils complete the secondary school degrees, normal und higher-level, in the same way as the procedure is in the "Regelschule". The highest secondary school classes in the "Gesamtschule" include three years (11th-13th) instead of two additional years.

2. Method

Based on the OECD / CERI standards, elements of innovative learning environments were collected and analyzed using various research methods (Bortz & Döring, 2006; Flick, 2005). Interviews with different school personnel, semi-structured observations within the framework of sitting in on school classes and at specific learning environments, as well as document analyses were conducted. All collected data were analyzed using the qualitative content analysis method (Mayring, 2002).

2.1 Interviews

Semi-structured interviews were conducted with different members of the school management, teachers and students from the innovative learning environments, as well as others (parents, school social workers, etc.). All persons interviewed could also ask questions and answer free-style. The interviews at the Lobdeburg School of Jena were conducted in October of 2010. The digitally taped interviews were transcribed and analytically evaluated in terms of content. The focus of the interviews was to acquire school-specific innovative concepts and learning concepts. During the interviews with the school management, a selection of certain learning environments to be evaluated, were discussed.

² Vocational schools are not considered.

2.2 Observations of ILE

The sitting-in sessions of ILE were documented using a semi-structured observation instrument, which included open- and closed-structured areas. The main focus dealt with the role of the teacher and student within the innovative learning environments.

2.2.1 Open observation

The open part of the observation form served to compile basic elements of the ILE. General aspects were important in this case, such as which persons were involved, the room arrangement, the organization of time, as well as the course of action with regard to content and the structure of the learning surroundings.

2.2.2 Closed-structured observation

The closed/structured observation was based on a category system in the context of teaching quality research (Helmke, 2009). Various elements related to instruction quality are focused upon for observation during teaching-learning situations. These are for example:

- class management
- learning climate, motivation
- structuralization, consolidation,
- activation
- differentiation
- an accent on interdisciplinary competencies
- methodological variety
- pupils' speaking time during plenary work.

The observation data underwent a deductive-oriented content analysis (cf. Mayring, 2002).

2.3 Document analysis

With the help of a document analysis of the school program along with further documents, an insight into the general institutional framework and concepts were to be gained. Furthermore, evaluation reports were analyzed to gain information on the effectiveness of the respective ILE.

3. Results of the case study

3.1 Key area A: Context details, goals and history of the innovative learning environments

3.1.1 General information about the Lobdeburg School

The Lobdeburg School is located in Jena, a town with 103.756 inhabitants. Regionally speaking, the city of Jena possesses a relatively well-developed economic and educational infrastructure. The rate of unemployment in December of 2010 was 8.3%, a comparably low figure. Jena is considered to be a “dynamic region” according to results of the Prognos study from 2010 (Prognos-future atlas, 2010).

The Lobdeburg School is an all-day school with additional higher secondary education grades (11th to 13th grade). The school is open for everyone. So there is no limitation according to the social background, talent or special educational needs.

About 612 pupils from 1st to the 13th grade learn and live in the Lobdeburg School. There is also a primary school integrated. The personnel consists of 61 female and 9 male teachers, 5 female and 4 male educators, 2 female social workers, and one female and 3 male integration assistants. Through the presence of the integration assistants the double support of the pupils during the lessons is guaranteed. In this way the school offers the optimal basis to accept and promote each pupil in its individuality. The integration assistants fulfil here both an accompanying function and an advisory function.



Figure. 1: Campus of the Lobdeburg School.

3.1.2 Philosophy and aims of the school

The school’s philosophy is:

- “Learning to live together
 - in the school
 - in the urban district and in the town
 - in Europe and in the world
 - in and with the nature.” (cf. homepage of the Lobdeburg School)

Pupils and teachers have to work autonomously, to solve problems together, to support each other, to accept the individuality of each person, to live justice and democracy and to participate in the school life. Therefore, the necessary democratic structures for decisions were established.

One profile of the Lobdeburg School is media education. From the 5th grade onwards, the pupils learn in two week`s rhythms basic knowledge about word processing and file organization. These are also relevant themes in the following grades. According to the pupils´ age the focus of media education changes. From the 11th to the 13th grade a particular profile, called MuK (media and communication), was established.

3.1.3 Professional understanding of the tasks of a teacher

The teachers are working and acting in accordance to a philosophy of democracy. Solidarity, joint responsibility for the pupils' learning and school life, as well as a corresponding understanding of learning processes and instructional designs are connected to the democratic philosophy. Therefore the teachers have to set a good example.

"We can only expect from the pupils, what we ourselves show in our acting."

(Headmistress)

The headmistress understands herself as a visionary. She has to inspire the colleagues and has to take them to new paths of school development. This is also important for the internal teacher education concepts. The colleagues think if the Lobdeburg School has the aim to educate the pupils for team and democracy competencies, the teachers have to represent that. The teacher education workshops are planned and processed together.

In the Lobdeburg School there is a positive culture of criticism. Critical reflections about the own lessons and about other lessons are obvious and valued. Furthermore, feedback by the headmistress is thankfully taken up.

3.1.4 History of the establishment and development of the school

In the school year 1991/1992, the teachers initiated the teamwork as a structural element in school. Organizational and pedagogical themes, as well as learning and working forms are discussed in the teams. They established the morning circle, social and open instructional designs, co-operations and a large range of offers, in the time from 1991 to 1993. In the context of a programme of the BLK (National and Regional Commission for Education-planning and Science support), in 1993/1994, the handling with heterogeneity in the school changed. In contrast to a selective external differentiation, an internal differentiation with heterogeneous groups was implemented. Therefore, free work was initiated, as well as interdisciplinary and epochal lessons and a school curriculum was developed. In Thuringia the Lobdeburg School had an outstanding position as they implemented the lower secondary education certificate after the 9th grade. With this innovation, no pupil has ever to leave the school without a school leaving certificate.

An integrative element in the interdisciplinary lessons at the Lobdeburg School is the connection to the working and business world. That indicates a lot of co-operations with partners beside the school.

Since 2002/2003, the Lobdeburg School has been representing pedagogical concepts, like the internationally well-known initiative "active school" (Bewegte Schule). Corresponding to the concept of media education, competencies beside the subject orientated expertise are promoted (methodological, social and personal competencies).

The primary school was included in the school year 2005/2006. Since 2008 the Lobdeburg School has been participating in the Thuringian school development programme EVAs (self-responsible school). In the same year the grades of the higher education concepts started. Since 2010 the school has been taking part in a new programme of the Thuringian Ministry of Education, Science and Culture. There the school changes the school type to an integrative comprehensive school. It includes primary school, secondary school and higher secondary education grades (11th to 13th).

3.2 Key area B: Characteristics and learning structure of the school

3.2.1 The design of school life - the school as a place of living

The school building of the Lobdeburg School in Jena was renovated in the school year 2008/2009. It consists of two school buildings and a gym. The two school buildings are connected by an arcade. In the older school building there are class rooms and working rooms for the teacher teams. The new building contains, class rooms, a canteen, a library, as well as the rooms for the social workers and the SMV (pupil's representation). In both buildings there are drinking fountains in easily accessible places. Each class room contains at least one computer with a connection to the World Wide Web. Ten class rooms have been equipped with interactive whiteboards. The doors to the class rooms are fully made of glass. That gives an atmosphere of transparency and openness. Pupils, as well as teachers, value the glass doors as very positive.

On the ground floor of the school all rooms can be reached by wheelchairs. Furthermore, there are toilets for handicapped persons.

The school premises with its green areas integrate into the Lobdeburg landscape. There are playgrounds for the younger pupils and meeting points for the elder pupils. At the moment a modern sport field is built on the school premises.

All-day school concept

As mentioned before, the Lobdeburg school is an all-day school. There are offers, beside the regular learning and lesson times, for additional activities in social groups. With this concept, the school offers a secure care and variation in pupils' free time activities. Moreover, there are subjects available that can be freely chosen by the pupils. For example pupils can decide for subjects like creative play, French, school magazine, and so on. Furthermore, in the context of the all-day school concept the school offers homework-assistance, as well as methodology and communication trainings.

A part of the all-day school concept is a specific establishment run by youth welfare services offering care and supervision of schoolchildren outside of lessons. Activities offered in this establishment from Monday to Friday include various themes and learning methods in primary and secondary school: e.g. building music instruments, to felting, playing the guitar, playing the flute (Momolo e.V.), baking and cooking, memory games, dancing, creative play and ball games.

Social work at school

The school's social work contains offers for support and free time activities. Pupils, parents and teachers of the school can participate. The prime focuses of the social work are: advice, support and advancement. All offers of the social work at school are for free.

Parents get support from the social workers with questions about education and life, as well as with first contacts to other institutions. Teachers get support with social education and project planning.

Projects of the school's social work are:

- Communication training (5th and 6th grade)

- A social competence training, called "Keimzeit" (8th grade)
- Orientation in the fields of work and life (a co-operation with external partners; 9th and 10th grade)
- Workshops for pupils' representatives ("rights and duties" and "conflict solving")
- Elections of the pupils' representatives
- "Learning with head, heart and hand" - a project for practical learning
- "Wer nicht hören will, muss fühlen!" - a project for emotional regulation in the 5th grade
- "Typical female - typical male" - a project for developing identity in co-operation with external partners (6th grade).

Co-operations

The Lobdeburg School co-operates with many regional partners. This includes e.g. the membership "Berufsstart plus" (a project for the transition into vocational training) of the Eastern Thuringian Apprenticeship Network. Furthermore, the following co-operation partners have to be named: *Eine-Welt-Haus e.V.*, the car dealer *Reichstein & Opitz GmbH*, the *Bildungswerk BAU Hessen-Thüringen (educational institution)*, the *JBZ (education centre in Jena)*, *DKJS Regionalstelle Thüringen (regional office of the German Children and Youth Foundation)*, the *University of Applied Science of Jena*, the "*Lobdeburgschule*" e.V (registered association), the *International AKademie INA gGmbH*, the *Freie Universität Berlin*, the *Jenaer Antriebstechnik GmbH*, the *Kaufland Jena-Lobeda*, Kindertagesstätte "Anne Frank" (day care centre), the *KOMME e.V. of MEWA Textil-Service AG und Co. Jena OHG*, the *MoMoLo e.V.*, the *vocational training centre for health and social issues*, the *Theaterhaus Jena gGmbH (theatre)*, and the adult education centre Jena. A further important partner is the vocational training centre in Jena-Göschwitz.

3.2.2 The organization of learning and teaching

Structural elements in the mixed-age groups 1st – 3rd grade

Monday morning circle: The Monday morning circle is a ritual that gives a good start for the week. Various topics are discussed there e.g. holiday or weekend experience as well as aims and plans for the following week. In the Monday morning circle new epochal topics are started.

Free work: The free working phase starts to beginning of the week immediately after the morning circle. Also during the remaining week the time for the free work shifts into the first third of the school day. Finally to the end of the week on Friday the free work takes place again in the first lesson. The pupils are supported by individual plans. These plans contain themes and worksheets of the subjects German and mathematics. The pupils can choose the order in which they want to process their plans. Furthermore, they can decide about the time they want to use for each topic and about the topics which they want to deal with. The pupils can work with partners, alone or with the help of the teacher. For support, a range of different worksheets and materials are prepared. With this support, the pupils can learn mostly self-regulated.

School period	Monday	Tuesday	Wednesday	Thursday	Friday
1	Morning circle	Subject orientated lessons			Free Work
2	Free Work				
3					
4					Subjects or epochal projects
5					Final circle
6	Subject orientated lessons		Subject orientated lessons		

Table 1: Weekly rhythm

Epochal projects: The epochal projects are based on general subjects. Interdisciplinary contexts are included. Subjects like art, technology and music are incorporated in the epochal projects. For example, in the epochal topic "My body" the pupils learn to identify and to name different parts of the body, to measure them and to paint paintings about them. The planning of the epochal themes includes a lot of pupils' activities. Multi-methodological working forms are used. The themes and the time organization is shown in table 2.

Time	First grade	Second grade	Third grade
6 Weeks	Traffic	My Body	Our class community
8 Weeks	From the corn to the bread	Trees	Animals in autumn
	Festivities and traditions at Christmas	Festivities and traditions at Christmas	Festivities and traditions at Christmas
4 Weeks	Birds	Calendar	Weather
6 Weeks	Pets	Free time and media	Early spring bloomers
	Festivities and traditions at Eastern	Festivities and traditions at Eastern	Festivities and traditions at Eastern
6 Weeks	Meadow	Senses	Teeth
The left time till the summer holidays	Free subjects	Free subjects	Free subjects

Table 2: Themes of the epochal projects in the 1st – 3rd grade

Final circle: Every Friday, the school week is ending with the final circle. The pupils reflect about the week and their own learning process. For the support of future learning processes, offers can be made by teachers and other pupils. The aim of this final circle is that every pupil learns to self-reflect the own learning process and competencies and to finish the school week for everyone in a positive way.

Structural changes in class fourth

From the 4th grade on, the pupils learn in classes. However, the elements of the mixed-age groups (1-3) are also integrated here.

Epochal themes of the 4th grade are:

Time	Epoch	
Aug./Sept.	<i>I – You - We / Our School</i>	A project to become acquainted with the other pupils; trips
Sept./Oct.	<i>Jena</i>	Sightseeing, working with maps and compass
Nov./Dec.	<i>Forrest Traditions at Christmas</i>	Visiting a forest ranger; games in the wood
Jan./Febr.	<i>Sex education</i>	Co-operation with a girls' project
Febr./March	<i>Water</i>	Visiting public utilities, sewage plant
March/April/May	<i>To bike</i>	Theoretical and practical education in biking; Co-operation with the traffic school Jena
June/July	<i>Thuringia</i>	Visiting the capital of Thuringia

Table 3: Epochal themes of the 4th grade

Profile area from the 7th to the 10th grade

The profile area is divided into the core area and the elective subject. The core area takes place in a two-week-rhythm. In the 7th and 8th grades the courses are about: Home economics (in the kitchen and in the sewing room), Media and Technology (in the computer lab), Wood processing (in the workshop), and Metal processing (in the workshop). Furthermore, in the 9th and 10th grades there is the subject Social studies (figure 2). In this course the pupils learn about family planning, life skills, the child's development, as well as a healthy lifestyle. The elective subject includes 19 groups with about 15 pupils each group. The offers are: Applied Science (in co-operation with the SBSZ in Jena-Göschwitz), technical advice (e.g. light and sound technology for the school's musical), wood and metal processing for the musicals stage design, and computer hardware (e.g. support for the school's computer network with about 140 connected personal computers). The following offers are included in the subject Drama: theatre, musical, creative design, layout (for the pupils' magazine), fashion design (e.g. costumes for the musical) (figure 3), and the ginkgo radio. In Social studies, there are themes like welfare and healthcare education. For all groups the elective subject is scheduled on Tuesday afternoons. Furthermore, there is the elective subject French.

With what we are occupied?	
<p>.... actually with social work</p> <p>How does that work?</p> <ul style="list-style-type: none"> • We inform us about organisations, associations and actions which help people in their life. For example: <ul style="list-style-type: none"> ◦ UNICEF, world hunger aid (international level) ◦ German red Cross, "Arbeiterwohlfahrt", "Weißer Ring" (national level) ◦ We trying to learn more about the activity of a social worker. Therefore we visit locally facilities in Jena ◦ Through the organisation of events for our first classes we learn what it means to be a social worker. On this way we have learnt that it is not easy to plan such eventful afternoons for our smallest 	
Activities in school year 2005/06:	
<ul style="list-style-type: none"> ➤ Visit of an exposition: <ul style="list-style-type: none"> ◦ World Press Photo exposition ◦ Exhibition about the work from the organisation "Weißer Ring" ➤ Development of portraits of national and international organisations and associations ➤ Reading literature to the topic mental, bodily and emotional development of school beginner 	
Events for the primary school pupils:	
	<ul style="list-style-type: none"> • Kite festival with kit flying • Handicrafts for Christmas • Carnival festival

Figure 2: Example for the course social studies in the 9th and 10th grades

Present and Design – sew with the sewing machine	
<p>In this elective subject the pupils from class 7 to 10 learn together.</p> <p>For the newcomer from class 7 it is important to</p> <ul style="list-style-type: none"> - learn in a little while handling the machine - learn something about several fibres, textiles, their care characteristics and processing technology 	
Than they can work together with the advanced pupils	
<p>At school year 2004/2005:</p> <p>Sewing the dresses for the musical "Taras Laden"</p>	
	<p>At school year 2005/2006:</p> <p>Production of a wall hanging with the help of the crazy patchwork technique. On this way the pupils learn something about the tradition and history of patchwork.</p>



Figure 3: Fashion design as example for the elective subjects

Systematical development of methodological competencies

The changing social and economical developments in a global world require a special focus on learners’ methodological competencies. According to this development pupils have to be systematically trained in different methods. Therefore, the Lobdeburg School developed a specific methodological curriculum. (cf. table 4).

5 th grade	6 th grade	7 th grade	8 th grade	9 th grade	10 th grade
Organizing a subject folder/notebook	Group work	Working on operators in tasks	Role play	Arguing	Exercising and improving all methods
5-step reading method	Scientific literacy	Extracting from texts	Interpreting texts	Criteria for pupil’s presentations	
Working on operators in tasks	Brainstorming	Arguing	Interviewing	essay writing	
Gathering information from texts	Mind maps	Criteria for pupil’s presentations	Interpreting Statistical graphs		
Interpreting a picture	Poster design	Discovering			
Pupil’s presentation	Creative play	Classroom breaks with physical activity			
Learning how to learn	Gathering, analyzing and summarizing material				
Working with partners	Using lexica and reference books				
Free work					
Learning activities and games					

Table 4: Methodological curriculum at the Lobdeburg School

Lessons and certificates

The lessons are orientated on the Thuringian curricula for primary school, secondary school, higher secondary school and special-needs school. In dependency to the learners' age, the focus lies on:

- Self-responsibility (weekly plan, free work, individualized learning),
- Interdisciplinarity (epochal projects),
- Interest orientation (elective subjects, free work),
- Practical learning (core area, elective subjects), and
- Social learning (partner and group work).

Basic knowledge and different learning strategies are very important in the learning environments at the Lobdeburg School.

A lot of lessons are opened. That means that the classrooms, the common hall, the library, the computer lab and some subject classrooms can be used by the pupils, if they want. Teachers are more tutors/facilitators than instructors. They care about the pupils' individual needs.

The work in weekly plans starts in the 5th grade in the subjects German, Mathematics and English. The differentiated worksheets are prepared for a period of one to six weeks. Normally, the pupils decide which worksheets they want and when they want to work with them. Before the first lesson in the morning starts, the pupils have time for an open start. They can use the rooms from 7:15 am.

From the 1st to the 4th grade, pupils usually work in 90-minute-rhythms. Some parts of the epochs are anchored in this learning time. In the following grades (5th to 10th grade) the pupils work more autonomously than in the first four grades.

Epochal lessons and projects

The epochal lessons are an element from the first to the 10th grade. The interdisciplinary character of the themes is characteristic for the epochal lessons.

The epochal lessons are structurally divided into two areas: The elective and the compulsory area. The elective area supports learning that is orientated on the pupils' interests. Pupils can choose between 16 different offers. The courses of the elective area include mixed-age groups from the 7th to the 10th grade. The compulsory core area is for all pupils. Here they learn practical and social competencies. They have to be prepared for the life after school. The courses are called "Fit for everyday life" (mixed-age group 7/8) and "Fit for a life in the family/society (mixed-age groups 9/10).

Pupils' assessment

The new learning environments and instructional designs have an influence on the forms of school reports at the Lobdeburg School in Jena. The assessment at the School is very transparent. In addition to the yearly school report every pupil gets an appraisal about methodological, social and personal competencies from the teachers' perspective. To inform the parents there are self-commutated transcripts of marks in the homework books. In the final report of the school year, each epochal lesson is graded for each pupil but not relevant for transfer to the next class level. This assessment results from different performance records.

Methodical competence	+			-
You divide your time and you have a good rate of working [planned task-solving]				
You have attention for your working documents [management of documents]				
During a presentation you pay attention for depiction and design [presentation and design]				
Social skills	+			-
You express yourself clearly and precisely [communication skills]				
You know and respect the agreed rules [play by the rules - dealing with others]				
You know forms of politeness and keep them [play by the rules - dealing with others]				
Concerning agreements you are reliable [play by the rules]				
You listen to others and let them pronounce [dealing with others]				
You integrated yourself into the group but you can also dissociate from the group [cooperation with others]				
You have a trustful and helpful contact with others [helpfulness]				
You perceive conflicts and try to solve them with peaceful means [cooperation with others]				
Comments				

The pupils’ representatives have decided that the pupils should use the same criteria for their self-evaluation instrument. They are assessing themselves. That’s an important measure for the development of self-competence and the organisation of the own learning process. Therefore, every epochal lesson is reflected by teachers and pupils. Pupils get a mark for the epoch consisting of the subject assessment and epoch assessment. The marks are documented in the final report of the school year. On this way the pupils get marks for each epochal lesson, but only the conflation and average of all marks are relevant for transfer to the next class level. Not the marks for the epochal lessons alone. Grades for the teaching of subjects are introduced in the respective core.

Personal competence	+			-
You follow the lessons attentive and concentrated [concentration]				
You solve the tasks engaged and concentrate [concentration/ motivation]				
You work independent without feedback and control [independence]				
You finish projects and do not early give up [endurance]				
You finish tasks on time and meet deadlines [punctuality]				
You pay attention to quality during execution of the tasks [care]				
You are careful in dealing with books, material and equipment [dealing with teaching material]				
You recognize your strengths and weaknesses and you can work with it [ability to self-assessment]				
You are open-minded and interested at new subjects and tasks [curiosity]				
You create alone new ideas and solutions [creativity]				
Methodical competence	+			-
You realized facts and connections fast [identification of essentials]				
You are able to select and evaluate information's [information procurement]				
You use the received learning contents for solving the tasks [application of knowledge]				
You demand clarifications if you don't understand the tasks [planned task-solving]				

Figure 4: Assessment of competence development

3.3 Key area C: The state and quality of learning at the school

In the following part of this report, three exemplary features of learning environments are specifically introduced. They were chosen to characterize the state and the quality of learning at the Lobdeburg School. Single elements were already explained in this report and thus will be outlined only briefly. The selection of these features occurred in two steps. In the first step, a group of Lobdeburg School provided a list with those learning environments which they themselves deemed suitable for a closer look. In the second step, the following three features of learning environments were selected by this report's authors:

1. Free work in mixed-age groups (1st to 3rd / 4th grade)
2. Media and communication (11th to 13th grade)
3. Epochal projects

3.3.1 Free work in mixed-age groups (1st to 3rd grade)

Concept

Basic topics of German and Mathematics are in the focus of this free work period. The pupils can work and learn with support of individual learning plans. They decide about the order, the speed, the working forms and the worksheets themselves. Repeating an already done topic is as well as the dealing with worksheets of higher competencies or future grades, intended. Pupils can learn in a natural, self-regulated way.



Figure 7: Room for the free work in the mixed-age groups (1st to 3rd grade).

Participating persons

Learner: At the moment, there are six learning groups with pupils of the 1st to the 3rd grade. The 4th grade is taught separately.

Teacher: The class' teachers work in teams and develop together the worksheets for the free time.

Educators can participate, if they want. So they can use similar working forms and social forms with the same pupils in the afternoon.

Figure 5: Room for differentiation in the area of the after-school club.



Figure 6: The building of the Lobdeburg School was fully renovated.

Time organization

The free work is every day at definite two hours. The daily period of free work always starts with a welcoming in a chair circle. In these two hours, there is only a break for a common breakfast.

The pupils can work in groups, with single partners or alone. The atmosphere can be characterized as concentrated, silent and also relaxed. The teacher supports and helps, gives additional impulses and monitors the individual learning processes.

Room design

The room is divided into four seating groups for four to six pupils. A lot of material and worksheets, a computer and additional seating facilities can be used. Each pupil has his/her own free working box to collect the done work.

Pupils in the mixed age groups worked concentrated. They are able to explain the working steps they do. Through an adequate and various processing of tasks and material for the self-organized learning process of the pupils, the teachers see themselves as tutor. The opening of the lessons in the elementary school, the individualization of learning and as well the changed organisation of teaching, offers a wide range of differentiation and support for pupils with special talents or weaknesses. In a prepared learning environment, the responsibility for the learning process is delegated to the pupils. (cf. School report of the self-regulated School Lobdeburg School Jena, p. 6-10)

3.3.2 Media and communication (11th to 13th grade)

Concept

"The field of "media and communication" is more and more important in the information society. These competencies count to the fundamental key qualifications in the modern working environment. They allow an active participation and involvement in our society." (c.f. curriculum MuK)

In the three years, from the 11th to the 13th grade, the pupils take part in the course "media and communication". The curriculum includes modules about different media (print, audio and video, computer and internet).

"Our age (generation) is totally integrated in the use of media technology. That we get practicality things on this way by the school, I think that is genial."
(Pupil, 11th grade)

This modules focus on the evaluation, usage and the production of media. In this context, the online platform "Moodle" is used for a blended learning approach.

"Have a insight in the work of the others is a good thing."
(Pupil, 11th grade)

"If you hear the critic from the others and you know that's are pupils of the same age and approximately the same taste [...] than this critic is a little motivation."
(Pupil, 11th grade)

Thus, pupils learn a practical, responsible and critical use of media. Connections to processes of communications are explored and used. The pupils can use modern equipment and they get support by technically competent teachers.

Participating persons

Learner: All pupils from the 11th to the 13th grade, who want to do their A-levels, should participate in the course "media and communication".

Teacher: Two teachers conceptualize the lessons for the course "media and communication" in all grades. They also offer support beside the lessons.

Time organization

The course is timed with a three-hour-period a week. With this time organization, it is possible to run a project orientated learning environment.

"The pupils learn in self-organized groups. They should set a goal and they think about possibilities for reaching it with two, three or sometime even five persons together."
(Teacher)

"I like starting the school year with a project, for example the video recordings, and not only with stupid theory. So we learn by doing."
(Pupil, 11th grade)

The competence orientated media education is processed in thematic units. This ensures the pupils the opportunity, to test themselves and to reflect or question their own actions. In After a instructional phase the lessons homework is discussed, later on work on the online platform is done, and finally daily tasks are set and performed. The pupils act in small, self-regulated learning groups. They only ask for help, if they need it. Finally, single working results are presented, discussed and reflected.

Room design

For the courses of "media and communication" two computer rooms are available. These rooms include twenty-two workstations. In the middle of the room there is a round table, which is used for discussions. Instead of a classic blackboard, both rooms are equipped with interactive whiteboards. Results and demonstrations of new practices can be presented.



Figure 8: Room for the free work in the mixed-age groups (1st to 3rd grade).

"We are equipped totally good. Both by the networking of computers and in the classrooms with the whiteboards."

(Pupil, 11th grade)

By the course media and communication at the Lobdeburg School, the pupils develop cross-curricular methodological competences as well social and personal skills. The pupils can choose autonomous suitable methods and work techniques. This approach promotes the pupils in an independent organisation of their own learning process. In the sense of adequate support of self- and personal skills, the pupils set themselves targets and plan their projects alone and cooperative. On this way the pupils can reflect critically their own working process and the process and product of their group members. The course offers competences for an active and critical participation in our media society. The pupils are empowered to a critical and self-reflective handling with media. This is important for a life in a society with a increasing influence by the media. (cf. Curriculum MuK Lobdeburg School)

3.3.3 Epochal projects

Concept

Epochal projects provide the opportunity to deal with a theme in a more extensive way than usual.

"We are now working the whole week on one topic. [...] *I find it better.*"

(Pupil, 6th grade)

"Through this continuous work we learn more about the whole topic than by the work at several individual topics."

(Pupil, 6th grade)

"[...] *learning is more intense.*"

(Pupil, 6th grade)

The themes include different subjects and topics of the Thuringian curriculum. But the themes of the epochal projects are more than a sum of various disciplines. They help to anchor school topics in contexts with a clear reference to applications. For example, the theme "The Roman Empire" includes, besides historical facts and connections, aspects of architecture as well as old medical knowledge. In this context, the pupils have the chance to produce their own salves and essences.

Participating persons

Learner: The pupils work together in age groups.

Teacher: Teachers of different subjects work together and conceptualize an epochal project theme. The special value of this kind of work is that the different perspectives come together. These perspectives are relevant for the pupils during their learning process.

Time organization

The pupils work for about one week on one theme. At the beginning all pupils get an input by the teacher. First questions about the theme are developed. According to the pupils'



interest, small working groups are formed. The results will be presented at the end of the week. The different groups and also pupils of other classes contribute different perspectives to the same topic. So a manifold picture arises.

Room design

Normally, there is no need for a special room organization or equipment. But this depends on the theme. Some themes need special rooms; other themes can be handled without any special arrangement.

Figure 9: Library – the pupils use often the library for the epochal projects.

The epochal lessons and projects, as a kind of open teaching, offer a large variety of tasks. On this way the pupils acquire established know-how. The epochal lessons enables cross-curricular teaching, create a favourable learning situation and a broad basic education. Because of the closeness to everyday life, the epochal lesson offers a strong practical orientation. (cf. School report of the self-regulated School Lobdeburg School Jena, p. 10)

3.3.4 Understanding the innovative learning concept of the Lobdeburg School

"For me, the advantage is that the learning can be characterized as constructive and that they [the pupils] can make their own experience. By self-experiencing they can reach their aims. We do not have any frontal instructional structures." (Teacher)

At the Lobdeburg School the pupils get free space for **self-regulated learning** and for establishing learning strategies. This in turn is associated with a changed role of the teachers. This is especially relevant in the epochal lessons and projects. Already in primary school the teachers are preparing and supporting the pupils' learning paths.

"In normal frontal instructional settings, [...] I stood in front of the pupils and processed topic after topic. [...] Now we [teachers] prepare the learning materials and the pupils choose some of them in accordance to their own competencies." (Teacher)

In the epochal projects the pupils emphasise the theme centring. This represents the effort of the Lobdeburg School to imbed topics and subjects in interdisciplinary contexts.

"I like it more, that we work on one theme. [...] There, your mind doesn't have to switch [between different subjects], you can focus on one thing." (Pupil, 6th grade)

The pupils' interests are very important and so they are considered during the planning and acting phase of the lessons and projects. The pupils can experience themselves as autonomous and competent learners what leads to motivation.

"I am more practically than theoretically orientated. To try something is better for me, than to listen to somebody. If you have a problem, you can ask somebody or read in the written materials for support." (Pupil, 11th grade)

Without any doubt the pupils' everyday life and interests are considered in the Lobdeburg School. This is an important aspect of the learning environments from the 11th to the 13th grade.

"Of course, media, especially new media, determine the life reality of the new generations more than we can sometimes imagine it. There is always enough cause to broach the issue of media in lessons and to use the media. [...] This is still a desideratum. The cultural break is existent and so you have to face it." (Teacher)

To explore solving paths for social problems and to consider the individual problems at the same time is a fundamental goal in the development of instruction.

"The epochal subject MuK [...] makes intensive learning processes possible. Free time is offered for extensive creative experiments. [...] The subject MuK fulfils the requirements of changing generations [...]" (Teacher)

This can also be seen in the lower grades 1 to 4. In the context of free time work in mixed-age groups, the pupils learn to act together, as well as more and more self-responsibl.. The teachers consolidate their trust into the pupils and experience the additional value of the holistic learning process.

"For me the innovation is that the pupils can learn from each other and that I am more a tutor. This is what I am and I am often surprised about it. [...] I realize this is really working. The children can help the other children in one case, and in another case they get help." (Teacher)

The heterogeneity, due to the mixed-age groups, will be taken up with the various forms of **co-operative learning**. The elder pupils can also benefit from this.

The monitoring of pupils' learning processes and pupils' assessment is getting another value in this context. In age groups, in different subjects and in teacher centred instructional designs the focus is a homogenous development of pupils' knowledge. Otherwise, in pupil-orientated learning environments the diagnostic focus changes to a more **formative character**.

"Within the learning process, I am not the supervisor. I have checklists with different methods of solution that the pupil can use to reconsider their own results. [...] They become more self-responsible and cannot give the responsibility to the teacher." (Teacher)

At the same time it is important that the teachers can understand the development of each pupil. A primary school teacher shows it in the following way:

"I have the overview what everyone is able to do. The children come with a question and I notice >Ah, this is something in the basic understanding. So we have to go three steps back<. I cannot say that a pupils' problem has not been noticed." (Teacher)

For the stakeholders of Lobdeburg School innovation in the design of learning is not necessarily the development of something entirely new. Rather the combination of the orientation on specific learner's abilities and the use of proven elements are focused on to gain overall novel concepts.

"We are not the only ones that are working with "Moodle". We are not the only ones that have a lot of free work phases. We are not the only ones that work mostly in social learning groups. I think the concentration of the mixture is the interesting aspect." (Teacher)

3.4 Key area D: Effects and effectiveness of the school

To describe and measure the effectiveness of a school is a difficult undertaking. There are countless possibilities and methods to do this. However, the potency of each of these possibilities is to be viewed critically. From the scientific point of view, the point of reference for measuring the effectiveness of a school is always related to the purpose of these points in representing the effectiveness. Therefore, it can occur quickly that schools receive positive as

well as negative ratings which permit a characterization but do not necessarily allow a comparison with other institutions, however. This is also the case for the following results and sources, assuming the efficiency and effectiveness of the school.

3.4.1 Achieved final certificates

The Lobdeburg School offers the qualification for all possible school leaving certificates in Thuringia: The certificate of secondary education, the general certificate of secondary education, as well as the general higher education entrance qualification (Abitur). The following table shows the successfully passed exams of this school on the basis of absolute and relative frequencies. The general higher education entrance qualification is missing in the table. In this year, the first age group is passing it.

School year	Final certificates	Number of exam participants	Number of successfully passed exams	Percentage of successfully passed exams (%)
2007/08	Qualifizierender Hauptschulabschluss	27	20	74
	Hauptschulabschluss	7	7	100
	Realschulabschluss	54	53	98
2008/09	Qualifizierender Hauptschulabschluss	17	12	71
	Hauptschulabschluss	5	5	100
	Realschulabschluss	35	34	97
2009/10	Qualifizierender Hauptschulabschluss	17	11	65
	Hauptschulabschluss	6	6	100
	Realschulabschluss	44	42	95

Table 5: Final certificates at the Lobdeburg School.

3.4.2 Results of the Thuringian competence test

In a national competence test, pupils in Thuringia are regularly tested in the subjects of German, mathematics, and English. The grade levels 3, 6 and 8 are focused upon. Comparative data of these tests are the corrected average for the State of Thuringia as well as the Lobdeburg School average from previous school years. The given percentages show the positive or negative divergence from the Thuringian average.

Test year	Divergence from the corrected Thuringian average
2008	n.s.
2009	ca. 3%
2010	ca. 7%

Table 6: Results of the Thuringian Competency Test in the years from 2008 to 2010

The table shows that the Lobdeburg School is with 7% in 2010 above the average of Thuringia.

3.4.3 Development project "Self-regulated School" (EVAS)

The evaluation by an external team of experts aims at a whole new view of the school in relation to specific criteria, as well as at providing feedback to the school. These criteria describe the theoretical framework of a "self-regulated school" and contain school-specific criteria that were discussed in advance with the school. The evaluation included the use of various gathering methods such as interviews, direct observations and document analyses. Therefore, this evaluation report is comparable to the theoretical framework of the OECD/CERI - Project ILE.

The main results of this study were collected based on quotations from the evaluation report. The report focuses on five quality areas of a non-hierarchical order:

Quality area I: Teaching and learning

"Because of the appropriate, varied and differentiated collection of materials and worksheets, the teachers and integration assistants have a supportive function. We have observed that you support on request, give positive feedbacks and facilitate the learning processes. The learning time was used effectively. In primary school the open instructional designs and the individualized learning processes as well as a changed organization allow a wide range of differentiation and support." (School report of the self-regulated school Lobdeburg School Jena, p. 8-10)

"In all attended lessons you used various forms of media and materials for a clear structure and for individualized support [...]. [...] The pupils learn mostly self-responsibly. (School report of the self-regulated school Lobdeburg School Jena, p. 8-10)

Quality area II: School climate and school culture

"Visitors at your school recognize at all times that the pupils have excellent conditions to learn. The atmosphere is free of stress. Pupils are motivated by teachers and educators. The mutual respect is noticeable and visible at all times." (School report of the self-regulated school Lobdeburg School Jena, p. 14)

Quality area III: Cooperation and communication

"You have implemented clear structures and professional forms of co-operation at your school. All teachers and educators are involved." (School report of the self-regulated school Lobdeburg School Jena, p. 18)

Quality area IV: Guidance and management

"Your school is led by your headmistress and her permanent substitute in a trustful relationship. The school board mentioned in all interviews, that there is a great engagement, strategic visions and trust in the personnel. The systematically acting and guiding is supportive, demanding and at all times focussed on the pupils' welfare. [...] All colleagues and the headmistress meet each other at eye level with the feeling of a common

responsibility for the everyday school life. (School report of the self-regulated school Lobdeburg School Jena, p. 22-23)

Quality area V: Aims and strategies

"Your school concept and school development programme is in a constant change. The planned concepts have precise deadlines and persons in charge are named. The school's internal training programme for teachers is consequently conceptualized. In your school there is a continuous evaluation process that questions about the effectiveness of learning environments. Therefore school internal comparative tests are processed." (School report of the self-regulated school Lobdeburg School Jena, p. 26-27)

3.4.4 „Thuringian Network for Innovative Schools“ (ThÜNIS)

The ThÜNIS study aims to help schools recognize their actual level of performing and, based on this, focus on a sustainable school development (cf. ThÜNIS State Lobdeburg School of Jena Final Report, 2009). External experts are involved in this study such as scientists and school development advisers, as well as school representatives. The participation is voluntary. The data collection is based on questionnaires, focuses on central aspects and processes at the school such as lessons, school climate, qualification, school organization, and so on.

The central results of this evaluation are structured in accordance with ThÜNIS classification standards. They are briefly explained as follows:

- Satisfaction with the teaching of subject-specific competencies: Ratings of the pupils, teachers and parents as to how successfully the pupils learn at school.
- Learning and teaching methods: the use of different learning and teaching methods is recorded.
- Well-balanced lessons: Subject-specific as well as cross-curricular aspects of lessons are rated.
- The support of positive social behaviour: teachers and pupils rate how and to what extent rules and support systems for positive social behaviour exist.
- Individual pupil support: situations in which pupils need (specific) support as well as the existing support systems.
- Assessment: various aspects of assessment and advising in the school are focused on.

The questionnaires follow a normative perspective. It is questionable as to the extent in which the answers of the involved school participants correspond to the norm in the ThÜNIS questionnaire. The results are illustrated in terms of percentage for the Lobdeburg School in comparison to the results from all Thuringian schools.

Area of school development	Agreement in % (Lobdeburg School, 2009)			Agreement in % (Thuringia)		
	Pupils	Parents	Teachers	Pupils	Parents	Teachers
Teaching and learning						
Satisfaction with the subject-specific competencies	78	84	87	78	78	73
Learning and teaching methods	80	78	83	79	72	83
Well-balanced lessons	65	---	87	67	---	79
The support of positive social behaviour (child-raising effectiveness)	84	76	95	76	74	93
Individual pupil support	79	86	97	75	84	95
Assessment and evaluation	49	46	64	54	48	71

Table 7: ThüNIS results part 1

With regard to the aspects support of positive social behaviour and individual pupil support, pupils, parents and teachers of the Lobdeburg School more agree with the school concept than the members at other schools in Thuringia.

The following results describe how effective pupil competence development at the Lobdeburg School is rated by pupils themselves, teachers and parents. Four competency areas related to the Thuringian Education Curriculum were taken as a basis. These are: expertise, method skills, social skills and self-competence. The aspect of satisfaction explains to what extent pupils have the feeling that they are supported in their development of self-competence at the school.

Area of school development	Agreement in % (Lobdeburg School in 2009)			Agreement in % (Thuringia)		
	Pupils	Parents	Teachers	Pupils	Parents	Teachers
Degree of effectiveness						
Expertise	70	---	70	68	---	75
Method skills	84	74	89	82	77	89
Social skills	82	78	87	79	74	85
Self-competence	72	68	72	74	63	80
Satisfaction	58	74	93	60	74	89

Table 8: ThüNIS results part 2

The table shows that in the range of social skills pupil, parents and teachers attribute the Lobdeburg School more effectiveness.

Another evaluation section of ThüNIS aims to determine school climate and school culture.

Areas of school development	Agreement in % (Lobdeburg School in 2009)			Agreement in % (Thuringia)		
	Pupils	Parents	Teachers	Pupils	Parents	Teachers
Learning climate in various learner groups (class lessons, single-age groups, mixed-age groups)	81	78	98	77	79	93
Friendly and secure atmosphere	70	68	87	69	78	84
Problem solving	80	---	100	72	---	96

Table 9: Additional ThüNIS results

Referring to the learning climate in various learner groups and problem solving, pupils and teachers of the Lobdeburg School have a more positive picture from their school than other schools in Thuringia.

4. Conclusion

The Lobdeburg School combines various concepts under one roof. The co-operative organization of a secondary school with an all-day concept, higher education grades (11th to 13th), and a primary school are to be specially mentioned. According to this, it is obvious that this school participates in the new Thuringian school development experiment, called Comprehensive school (Gemeinschaftsschule). An innovative element which should be particularly emphasised is the epochal instructional design. With its interdisciplinary character it is possible to work on themes that are independent from subject structures and align with the lives of the pupils. This particular approach complements the whole concept of school organization. An integrated approach to media literacy education is structured coherently in the concept and focuses on technical aspects of media usage. The pupils' autonomy in the shown learning environments has the highest priority. But the concept is flexible at all times. The teachers can also lead and support, if it is necessary.

The professional understanding of the teachers and the development of the teachers' expertise is a further important element of the own school's development concept. Competent teachers and a consequent leadership is a very valuable constellation for successful and effective everyday school life. Last but not least, it has to be mentioned that the history of the school's development has been shaped by school experiments, projects, partnerships and co-operations. Each of these steps has given a new element and new points of view into the school concept. So, all these elements can be found in the school concept today which documents an innovative learning environment.

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