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Emergency Remote Teaching: Challenges and Benefits for German Lower Secondary Schools in the Region of Karlsruhe during the Digital Term 2020

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“If we do not change the way we teach, 30 years from now on, we will be in trouble. Because the way we teach are the things from the past 200 years – it is knowledge-based. We cannot teach our kids to compete with machines.”

Jack Ma, 2018

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Abstract

The corona pandemic severely affected public life in almost all countries in spring 2020. Schools were not excluded from the drastic measures and so, at the end of March, the federal government and the federal states decided to close schools for the time being. This presented teachers, pupils and parents with a major challenge that they had not faced before. New dimensions of teaching and dealing with new media were only a fraction of the situation teachers and pupils had to deal with during emergency remote teaching. However, with this unpredictable situation, many challenges, but also opportunities, arose for the school landscape in Baden-Württemberg.

The aim of this research is to determine what challenges and opportunities English teachers at lower secondary schools in the region of Karlsruhe faced during the school closures. To this end, the following research question was posed:

What challenges, but also benefits, did English teachers in the region of Karlsruhe face during the school closures in spring 2020?

Subordinate research questions deal with, amongst other things, with the digital equipment of the schools and their pupils, as well as the implementation of emergency remote teaching in English classes and its core competencies. To answer this research question, expert interviews were conducted with English teachers who taught English during the school closures and had to continue teaching remotely. The findings from the expert interviews clearly show that the challenges outweigh the benefits during school closures and have a significant negative impact on the education sector.

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1 Introduction

School closures, remote teaching and hybrid education characterise the 2020 school year in almost all schools around the world. The spread of the coronavirus shook the whole world. Curfews, contact restrictions, short-time working and the economic standstill at the end of March 2020 characterised life in Germany. This was a new kind of situation the likes of which had never been experienced before.

Due to the rapid spread of the coronavirus, the German government had to act quickly and decided, among other things, to close schools for the time being. This decision to protect the pupils and teachers was necessary to contain the virus. Schools had to act quickly to continue to provide their pupils with quality teaching - but how does this happen when there is little or no digital infrastructure? From one second to the next a new teaching concept had to be developed. Some teachers used the time to convert their lessons to an online format. Platforms such as Skype and Zoom helped to offer normal lessons as far as possible. Others understood "digital teaching" as email contact, with the request to complete the attached files in due time.

School closures and the associated all-day offers put many families in stressful situations. Flats that are too small, no possibility to support the children with their schoolwork, nor the possibility to afford digital terminals, show the social impact of the corona pandemic. Due to the lack of childcare facilities during school, such as homework supervision or the concept of full-time day school, many pupils lost touch with the class and the content of lessons. Even though the schools reopened after Whitsun, they only opened up sporadically and the quality of teaching as we know, decreased. The results were shorter teaching times, the elimination of minor subjects and a number of school tasks that had to be completed at home.

This master's thesis deals with the question, what challenges and benefits German lower secondary schools, in specific English teachers, were exposed to during the digital school term in 2020. Especially at a time when schools can close at any time, it is important for teachers to try out new ways of teaching so that pupils can continue to have regular access to education.

First of all, the historical development of the use of digital media in teaching is examined in more detail. Then a closer look will be taken at definitions which are important for this paper to continue with the current situation at schools in Baden-Württemberg. The forms of learning at home that were used in emergency remote teaching are then discussed. An important aspect in the implementation of digitised teaching at German schools is the “DigitalPakt Schule” (Digitalisation Pact from 2019). In order to be able to benefit from it, a media development plan of the individual schools is required, which breaks down what equipment is needed and what use it should have. Towards the end of the theoretical part of this paper, a look will be taken at the competency expectations that are expected of pupils today, and then bridges the gap to concepts for digital teaching and useful apps, which are essential for emergency remote teaching.

In the empirical part of this Master's thesis, the research design is first described in more detail, the implementation is examined more closely and finally the results are presented. Through expert interviews with English teachers in the region of Karlsruhe, it is intended to find out how the situation was dealt with at the beginning, how the implementation of remote teaching worked and what challenges the schools faced and what possible positive and negative outcomes arose throughout.

2 Media Didactics in Flux: Historical View on the Integration of Media in School

The following chapter will first define the term "new media", which is relevant in the further course of this work. Following on from this, the beginnings of media didactics in the early 1960s will be looked at more closely and explained up to the present state of affairs. In doing so, emancipatory-critical media didactics and action- and communication-oriented media didactics will be taken into consideration, as well as the current status of media didactics.

2.1 Definition of the Term “New Media”

The term "new media"¹ does not refer to new forms whose contents become visually or audibly visible, but rather to the newly arising possibilities of use and the expansion of the functions of older media (Blömeke 2003, 66). The combination of previously separately used media such as images and texts, as well as the new variants of design and interaction, extend the functions of previously existing media (Moser 2000, 198). If one looks at the overhead projector, for instance, it has now been replaced by a visualizer, also called document camera. The new functions of the visualizer are similar to those of a video camera. This means that materials such as books, pictures and worksheets can be projected onto the wall at any time (Bühler & Schlaich 2013, 156).

2.2 The Beginnings of Media Didactics at School

Already in the 1960s and 1970s, media didactics gained increasing importance in the school context. In addition to the classic blackboard, the overhead projector became widely used in 1960. With the help of this new technological invention, texts, drawings and pictures could be presented to the pupils and didactically prepared for use in class. The new function of visualising the learning content and differentiated design options for lessons rapidly established itself in German schools. Following on from this, the invention of the television and the associated audiovisual function also gained great importance in different lessons. Topics that were far from the pupils' minds could then be taught with video cassettes and later also with DVDs. Due to technological change, more and more digital terminals were established in the school institution. The primary aim was to combine learning subjects with

¹ New media for teaching include for instance smartboards, laptops and computers, tablets, visualisers and beamers (Cornelsen).

the new developments in order to generate better learning success for the pupils (Kerres 2001, 64).

Later, learning computers were used in schools, which on the one hand strengthened individualisation in learning and on the other hand promoted self-directed learning. However, this idea of handling the equipment proved to be problematic, as the first computers left few design options for teaching, which was partly due to the simple systems with few programme options (Lohmann 1985, 63).

2.3 The Emancipatory-Critical Influences of the 1970s

The 1970s were initially characterised by emancipatory-critical media didactics, with the aim of taking a self-determined and critical look at the new technologies. The primary aim was to assess the new medium not only as a teaching aid, but also as a learning tool for pupils. The focus here was on the interaction between pupils and the medium, even if the media were to be viewed rather distancedly and critically (Hüther 1997, 212).

2.4 The Action and Communication-Oriented Influences of the 1980s

Following on from the emancipatory-critical media didactics, action and communication-oriented media didactics developed in the 1980s. They turned away from a critical view of the new technologies and recognised them as an offer of interaction between pupils and the medium (Weidenmann 2001, 18). The main focus was on learner participation while in teaching with the medium. The question was no longer how new technologies affect pupils and teachers, but how they can be adequately integrated into lessons. The reference to action orientation also became more relevant in the 1980s. The focus was on the independent examination of a medium, for instance in school projects, including one's own life situation (Hüther & Podehl 1997,124).

As early as 1997, Hüther and Podehl developed goals for the use of media in teaching which are still relevant today (ibid., 125).

The use of media should ...

- create an understanding of teaching as an open learning process,
- contain the inclusion of the media in this learning process as a means in the hands of the actors who shape it,
- contain the creation of own media products,
- follow the objective of using media to activate and initiate independent thought and action,
- encourage the endeavour to use media in a reflective and critical manner and to analyse and use them in their social contexts (ibid.).

The approach of Hüther and Podehl focuses on the idea that teaching welcomes open forms of learning and extends to include fundamental social values such as maturity and the ability to criticise and self-criticise (ibid.).

2.5 The Current Status of New Media in the Classroom

Teaching and learning with new media have become common practice in German schools. Even though there are still schools that work with outdated overhead projectors, there are still many schools that have dared to take the step to new technologies. The use of computers, tablets and even smartboards has given traditional teaching a boost. With the help of new technologies, lessons can be made more interesting, more motivating and in line with the learning objectives. The use of digital media has received a positive response from pupils, as they are also often used in their private environment and are now taken for granted (Petko 2014, 78)

2.6 The Pencil Metaphor as a Metaphor for the Integration of New Media

The pencil metaphor is used to categorise teachers, whether in schools or universities, in their acceptance of the integration of new technologies in the workplace. Figure 1 visualizes the metaphor with its individual groupings. The different components of the pencil each represent a group (William and Flora Hewlett Foundation, 2015, 3).

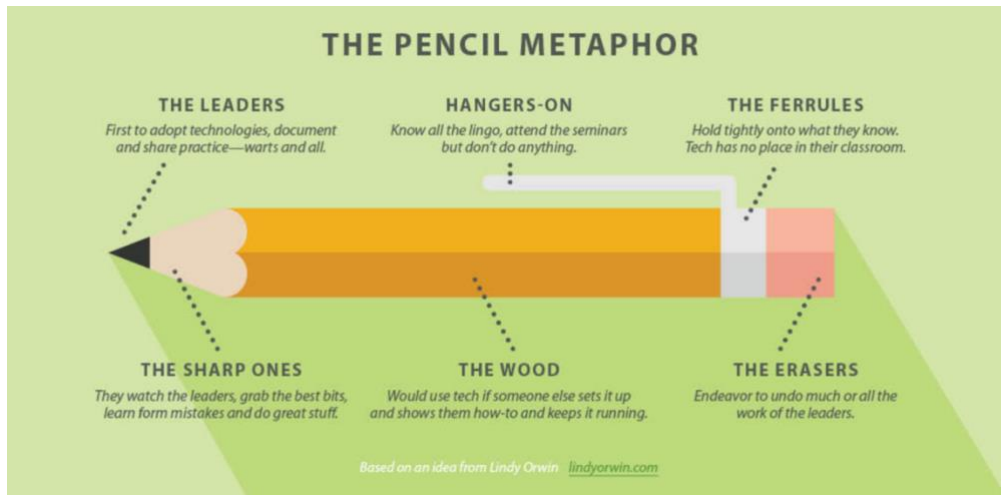


Figure 1: The Pencil Metaphor (William and Flora Hewlett Foundation 2015)

In total, there are six teacher types in the pencil metaphor: the leaders, the sharp ones, the wood, the hangers-on, the ferrules and the erasers. Each grouping is explained in more detail below (ibid.).

The “leaders” include all those teachers who like to try out new technologies and also integrate them into their teaching. They recommend them to others, even if there are handling difficulties or problems (ibid.).

The “sharp ones” also like to use the new technologies, but wait until the leaders have tested them in order to then adopt the advantages (ibid.).

Teachers who belong to the “wood” grouping only try out new technologies if, for instance, colleagues would take over the work of setting them up and also, if a contact person was always within reach in case of questions (ibid.).

The “hangers-on” do take the opportunity to educate themselves in the digital fields, but do not apply what they have learned in practice (ibid.).

The “ferrules”, turn their backs on new technologies and do not integrate them into their teaching (ibid.).

Finally, there are the “erasers”. Erasers are opponents of the integration of new technologies and want to dissolve successes of the “leaders” (ibid.).

In summary, it can be said that the pencil metaphor reflects the situation in Germany's teachers' rooms well. Due to the different attitudes towards the integration of new technologies, discussions arise again and again. Contemporary learning does not take place in every classroom because there are still too many teachers who refuse to do so (Spiegel).

How digital media can be integrated into teaching is explained in more detail in chapter 7 and 8².

The next chapter deals briefly and concisely with important terms that are essential for this thesis.

² Chapter 7 will deal with concepts for digital teaching and chapter 8 will give support with digital resources for remote teaching.

3 Definitions of Terms

In the following, subject-specific terms are defined, which are relevant for this work in the further course. The terms to be explained are "COVID-19 Pandemic", "Distance Learning", "Emergency Remote Teaching" and "Hybrid Learning Arrangements".

3.1 COVID-19 Pandemic

Coronavirus is a new type of infectious virus associated with respiratory problems. On March 11th, 2020, the World Health Organisation (WHO) declared the global situation to be a pandemic. The term corona pandemic means that the infectious virus has spread beyond national and state borders and is not confined to one place (Robert Koch Institut).

3.2 Distance Learning vs. Emergency Remote Teaching

To draw a clear line between the terms "*Distance Learning*" and "*Emergency Remote Teaching*", both are first defined. While *Distance Learning* refers to already existing online education, the term *Emergency Remote Teaching* was postulated at the beginning of the pandemic. While distance learning is already predestined for learning from home and was prepared in this way, emergency remote teaching means something different. Here, it is about teaching that has arisen out of an urgent emergency, such as the pandemic, and that first has to be designed. Teachers are confronted with a teaching situation that they usually have not yet dealt with (Hodges et al. 2020, 5).

In the political context, on the scientific level and in the public domain, there was a great deal of discussion about the forms of teaching practised and the teaching of learning content during the period marked by school closures. Terms such as *homeschooling* and distance learning became companions for the teacher culture, the pupil body and the parents' homes. Like homeschooling, distance learning is also a learning arrangement which is regulated by law and anchored in the Distance Learning Protection Act (Fickermann & Edelstein 2020, 23).

This law, passed by the Federal Ministry of Justice and Consumer Protection in 1976, defines distance learning in the first paragraph as follows:

[(1) Distance learning within the meaning of this Act is the teaching of knowledge and skills on a contractual basis and in return for payment, in which

1. the teacher and the learner are exclusively or predominantly spatially separated and
2. the teacher or his representative monitors the learning success.

(2) This Act shall also apply to free distance learning where this is expressly provided for” (Bundesamt für Justiz).

The lessons currently being held in practical application in a domestic setting differ significantly from the usual forms of distance learning. As can be seen from the law, classical distance learning implies a teaching-learning form on a contractual basis with differentiated materials and explicitly trained teachers. This learning arrangement is usually used by people whose everyday life is subject to a tight schedule with many obligations. Due to these facts, distance learning is a possible alternative to the classic face-to-face teaching which is institutionalised and often found in the context of a course of study. On closer inspection, it can be seen that this is only remotely similar to school teaching in times of the corona pandemic. The fact that the pupils do not have to be physically present at the school institution and that prepared learning content can be accessed from home is comparable. School platforms or class clouds, which can be used by teachers and pupils, act as a link to ensure the exchange of materials. It can thus be stated that distance learning is certainly a tried and tested means of conveying teaching material, but parallels to the Distance Learning Protection Act are only partially recognisable. In the meantime, the concept of distance learning has become established within society and is associated with learning from home during the lockdown (Fickermann and Edelstein 2020, 23).

3.3 Hybrid Learning Arrangements as Potential Replacement to Face-to-Face Teaching

Hybrid learning arrangements, also known as blended learning, are a combination of presence and remote learning. In order to be able to guarantee a hybrid learning setting, it is of great importance to integrate digital technologies into teaching and to use them sensibly

for the use of the teaching phases, whether at school or from home (Eickelmann & Gerick 2020, 161).

Annette M. Sauter, who has been working with blended learning since 2004, provides a precise definition:

[B]lended learning is an integrated learning concept that makes optimum use of the networking possibilities available today via the internet or an intranet in conjunction with classic learning methods and media in a meaningful learning arrangement. It enables learning, communication, information and knowledge management, independent of time and place, in combination with exchange of experience and personal encounters in classic face-to-face training (Sauter et al. 2004, 7).

Digitisation plays a central role within this teaching concept to ensure successful implementation. It is also essential for understanding the digital knowledge society. Blended learning formats encourage independent and self-regulated learning by means of explanatory and learning videos, selected texts and tasks which are adapted to classroom teaching and made available to pupils in digital form. In addition to these competencies, the use of digital media is promoted for the learners, which results in a higher motivation to perform due to the topicality of the topic. Consequently, the school learning environment is expanded and linked to the real-life world of the learners (Sliwka & Klopsch 2020, 221).

Studies have shown that even before the pandemic significantly positive results related to different learning processes and their outcomes can be attributed to a hybrid learning arrangement. In addition, the use of digital media promotes creative and productive work and, through the use of different digital tools and features, allows teaching to be shifted to virtual learning rooms throughout Germany (ibid., 222).

On the basis of these facts, despite cancelled school lessons, learning growth and differentiated competencies, development is possible, even if it is necessary to follow.

The following chapter describes the handling of the corona pandemic in Germany, as well as the situation in the schools in Baden-Württemberg.

4 Covid-19 and its Challenges in Baden-Württemberg's Schools

Due to the rapid spread of the coronavirus, the German government had to act quickly and decided to close the schools for the time being in mid-March 2020. This decision put many families to the test. However, no lessons were to be cancelled, but rather lessons were to be held from home. How this was done will be examined in more detail in this chapter.

4.1 The Beginning of Lockdowns and School Closures in Germany

At the end of January 2020, the first case of SARS-CoV-2³ was detected in Germany. At that time, hardly anyone would have thought what consequences the virus would have for the German population. As early as March 11th, 2020, Chancellor Angela Merkel spoke of a precarious situation that had to be taken seriously. The recommendation was made to limit social contacts to a minimum (Bundesregierung a)⁴. A few days later the Conference of Education Ministers met, which was already preparing for school closures but did not want to close the schools. However, when the Robert Koch Institute confirmed the rapid spread of the virus, all schools in Germany were closed by March 18th, 2020 (Bundesregierung b).

This was followed by contact restrictions and retail closures. For the time being, the deadline for reopening schools was pushed back until the Easter holidays, to see if the situation had improved by then (Bundesregierung c).

On May 6th, 2020, the schools were gradually opened up. First of all, pupils in the final year classes were to be allowed back into school in order to prepare for their upcoming exams. Each state had to ensure a hygiene plan, which was to be followed in the schools and also in the day-care facilities (Bundesregierung b).

In September 2020 the new school year has started in Baden-Württemberg's schools. However, there were some changes. Wearing masks is compulsory during the lessons, as well as in meeting areas such as the corridor, the assembly hall or the toilets. Furthermore,

³ SARS-CoV-2 (Severe acute respiratory syndrome coronavirus type 2) is a new type of beta-coronavirus, which was confirmed as the cause of the COVID-19 disease in early 2020 (Robert Koch Institute).

⁴ In order to distinguish the references of the Federal Government in the bibliography, they have been numbered alphabetically.

pupils who are considered to be at risk, should learn from home. To minimise the risk of infection, classes may not be mixed (Stuttgarter Zeitung).

Due to the high numbers of infections, it was therefore decided on December 13th, 2020, to go into a hard lockdown again from December 16th, 2020, on. This meant that the stationary retail trade had to close, with the exception of supermarkets and shops for everyday needs. Schools and kindergartens had to close their doors again (Bundesregierung).

4.2 Current School Scenario at Baden-Württemberg Schools during the Pandemic

The proclamation of pandemic stage 3 in Baden-Württemberg and the associated dynamic occurrence of infections forced the Ministry of Education and Cultural Affairs to take action. According to the Minister of Education and Cultural Affairs of Baden-Württemberg, Dr. Susanne Eisenmann, the exorbitantly rising numbers make it unavoidable to adapt and re-implement protective measures in schools (Ministerium für Kultus, Jugend und Sport).

On October 15th, 2020, schools were informed nationwide about the adjustments to the most recently applicable *Corona Ordinance*, based on the constantly rising infection figures. In addition to the statistical figures, the regulations are also based on hygiene instructions from the Robert Koch Institute and new scientific findings (ibid.).

The ordinance stipulates that pupils from the fifth grade onwards in both secondary schools and vocational schools are obliged to wear a mask that covers the mouth and nose. This cover must not be removed during school hours. In addition, a ban on entry, residence and participation within the institution of school was enforced for persons and teachers who, despite the legal decisions, do not wear a mask covering their mouth and nose. Pupils and persons whose health and well-being are affected or whose use of a mask is irresponsible for compelling reasons are released from this obligation. Teachers who deliberately disregard the applicable regulations are in breach of their official duty. They are not allowed to enter the school premises or must inevitably leave them and must be reported to the competent regional council (ibid.).

In the case of pupils who deliberately boycott wearing a mask, the schools are required to proceed in an appropriate pedagogical manner, in order to guarantee the wearing of masks on school grounds. If these measures reach their limits, the schools are authorised to implement educational and regulatory measures, for example in the form of a teaching ban for the pupils (ibid.).

In addition, the ordinance stipulates that the extracurricular use of schools is severely restricted and extra-curricular gatherings are no longer permitted. With regard to physical education at school, contact sports and activities that require direct physical contact, are all prohibited (ibid.).

Finally, the revised corona regulation also takes up the individual hygiene concepts and provides hygiene instructions that are adapted to the current status. In this respect, the Federal Environment Agency has drawn up a guideline recommending pulse airing after a 20-minute cycle for five minutes at a time to reduce the risk of infection. The handbook also regulates the mandatory wearing of masks in the teachers' room, which is to be regarded as a space for movement (ibid.).

Regulations such as the distance between pupils inside the school building, disinfecting hands and seating, a prescribed seating arrangement, as well as entering and leaving the school at the designated entrances and exits for the respective classes still exist (ibid.)

According to the Minister of Education of Baden-Württemberg, Ms Eisenmann, collective cooperation of all institutions and individuals is required in order to jointly combat and contain the pandemic (ibid.).

4.3 Educational Inequalities Through Emergency Remote Teaching

Even if it seems that the corona pandemic is a new opportunity for the educational institution, educational inequality in Germany also seems to be increasing. The changes in teaching, which is now to take place from home, are creating a variety of difficulties. Pupils from less privileged households have less access to digital resources such as a laptop, computer or tablet and even internet, which are currently necessary to participate in lessons. Furthermore, these pupils are less likely to know how to use them. Even though German schools offer computer science as a school subject, these lessons are often not sufficient to provide pupils

with a broad knowledge of how to use laptops, computers and tablets. In the course of the corona pandemic, it became clear that the educational institution and also the teaching were largely analogue and that teaching had to be transformed as quickly as possible (Sliwka & Klopsch 2020, 222).

Another problem is the support provided by parents. Pupils with a migration background or from weak milieus often cannot rely on their parents for help in solving school problems. In the classroom they could share uncertainties with teachers or schoolmates. A closer look at emergency remote teaching shows that the term "remote teaching" is attributed many meanings. While some teachers prepare their lessons digitally and offer their lessons in a digital classroom, other teachers send weekly packages by email to their pupils, asking them to complete the tasks. Pupils who do not have access to an electronic device are not allowed to take part in lessons in the first place. There is no longer a contact person, which would be necessary above all for children from socially weak families. Feedback, which is particularly important for pupils from educationally disadvantaged families, seems to have lost its importance, too. Due to the daily contact, which has now disappeared, there is hardly any checking of the tasks to be completed and thus no feedback on the correctness or falsity of the tasks (ibid., 223).

Figure 2 represents the results of the latest study of the School Barometer⁵. It shows the results of the teachers' survey on the corona crisis. Looking at learning deficits and social inequality, 86 % of German teachers assume that these will increase during the corona pandemic. If one looks at the aspect of learning deficits, 35 % of primary school teachers, 39 % of lower secondary school teachers and 31 % of grammar-school teachers see significant learning deficits ahead of them (Das deutsche Schulportal).

⁵ The German School Barometer regularly designs representative studies on everyday school life. Due to the corona pandemic, there is a special issue on the challenges and new tasks of teachers (Das Deutsche Schulportal).

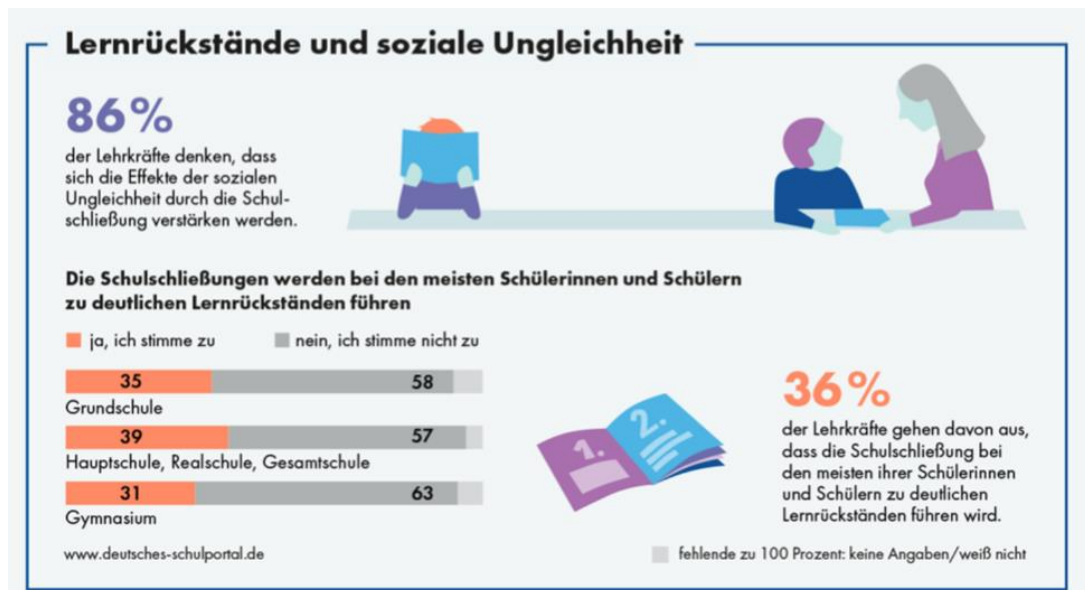


Figure 2: Learning deficits and social inequality in the corona pandemic (Das deutsche Schulportal)⁶

Looking at the latest study of the school barometer, which deals with the topic "Learning in times of the corona pandemic with a focus on the role of family characteristics for the learning of pupils", it turns out that children from families with low domestic resources predominantly have difficulties in self-directed learning and in structuring their day during school closures. The reason for this is the lack of development opportunities which children from socially weak families do not find with their parents (Huber & Helm 2020, 56).

4.4 Benefits of Emergency Remote Teaching

The rapid closure of the schools was followed by a new concept of teaching. "Remote learning" was intended to replace the otherwise normal teaching at school. The mostly analogue lessons at school were now to be replaced by new digital possibilities that had not been used before. The use of digital media gained significantly in relevance during emergency remote teaching. So far, there are not many representative results on the positive effects of remote teaching. However, Wacker, Unger and Rey (2020) interviewed pupils about the benefits of emergency remote learning. The survey involved 121 pupils. 64 pupils feel that the new timetable is a great advantage. They can now organise their time freely and decide for themselves when they want to study and do their homework. This goes hand in hand with the advantage that the pupils feel is important: they can sleep in. 27 pupils see

⁶ As this Master's thesis deals with the challenges and opportunities of school closures in Germany, German sources were consulted. It should be mentioned that only German sources are currently available for the country Germany.

sleeping in late as an important advantage. Looking at the digital aspect of teaching, 13 pupils see digital learning formats as an asset for emergency remote learning. No advantages are seen by 19 pupils in the survey who would rather have lessons at school to get a structure in their daily routine (Wacker et al. 2020, 87).

To enable positive effects of remote learning, overarching guiding perspectives, as already described by Eickelmann & Gerick (2017), should be shared with the pupils.

This is about:

- teaching skills in the use of digital media,
- the use of digital media to improve professional learning,
- the development and implementation of new forms of teaching using digital media, and
- the promotion of media literacy or the acquisition of "digital" skills as a transversal competence (Eickelmann & Gerick 2017, 65).

The guiding perspectives described give a good indication of how digital media should be used in lessons and how they should be perceived by pupils. However, it must be noted that the prioritisation of digital media in lessons has not taken place at all schools in Germany. In order to identify opportunities for emergency remote learning in the new school year 2020/21, the guiding perspectives should be observed by schools and their teachers. Teachers need to obtain an overview of the knowledge of the pupils in order to offer equal conditions for all (ibid., 66).

4.5 Challenges of Emergency Remote Teaching

In addition to the advantages of emergency remote learning, there are also challenges that teachers and pupils have to deal with. On the one hand, the miserable equipment in German schools is a hurdle for emergency remote learning, on the other, the pupils see the lack of communication with the teacher as a challenge. Furthermore, there are problems with self-directed learning, as well as the increase in tasks for the pupils (Das deutsche Schulportal).

Central results during the pandemic are provided by the education report of 2020 and the magazine "Die Deutsche Schule" with the title "Langsam vermisse ich die Schule ...", (I am starting to miss school ...) which are considered in the context of the challenges in emergency remote teaching.

4.5.1 Lack of Digital Equipment in German Schools

The abrupt decision to close the schools was accompanied by the need to design new teaching concepts for remote learning. The focus here is primarily on digital equipment, as this forms the basis for learning from home. One of the tasks of the Education Report 2020 (Bildungsbericht 2020) is to take a closer look at the digital equipment in educational institutions. In an international comparison, general education schools, including lower secondary schools, perform below average. For this reason, the Federal Government and the states have made the "DigitalPakt Schule"⁷ available, which will provide 5.5 billion euros for an improved digital infrastructure (Autorengruppe Bildungsbericht 2020, 240).

A survey with school headmasters from 2020 shows that 71 % of schools do not have class sets with mobile devices and 69 % of schools do not have access to the internet. Compared to other European countries, Germany is also below average here (Verband Bildung und Erziehung).

4.5.2 Lack of Communication between Teachers and Pupils

Another problem pupils have to deal with is the lack of communication with their teachers. This includes especially feedback on tasks that are to be completed, as well as support in completing schoolwork (Wacker et al. 2020, 88).

A survey of pupils by Wacker et al. includes the perceived disadvantages of emergency remote learning from the pupils' perspective. Figure 3 shows that one third of the pupils mention the lack of communication, feedback and support lost in emergency remote teaching. This point is particularly important for pupils from educationally disadvantaged families (ibid.).

⁷ The concept of the "DigitalPakt Schule" (Digitisation Pact for Schools) will be explained in chapter 5.1.

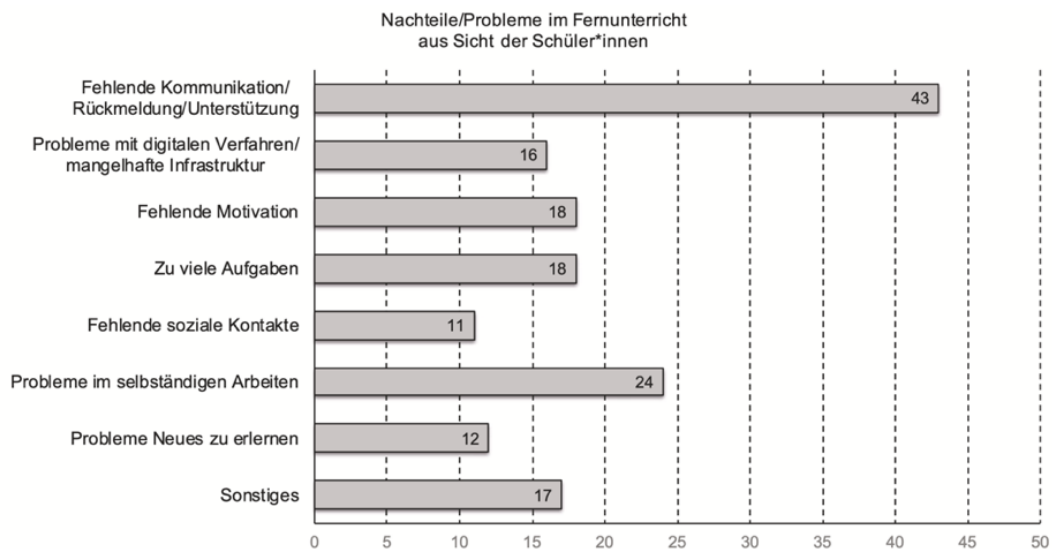


Figure 3: Disadvantages of remote teaching of the sight of pupils (Wacker et al. 2020, 88)

In the transition from presence lessons to emergency remote teaching, it is important for teachers to support their pupils so that they do not feel "lost" (ibid.).

4.5.3 Lack of Self-Directed Learning

Another challenge of emergency remote teaching is self-directed learning. Stephan Huber and Christoph Helm (2020) found out, that it is essential for pupils to learn self-directed learning skills. One third of the pupils in the survey reported problems with time management, structuring the day and self-directed learning. Teachers should address these issues so that these pupils can learn well and efficiently. It is necessary that teachers and non-school staff take responsibility for these pupils so that the gap that the coronavirus has widened can be closed (Huber & Helm 2020, 55).

4.5.4 Extension of the Number of School Tasks for Pupils

Due to the lack of attendance time, many teachers are tempted to give their pupils more tasks than usual. Many pupils feel that this intensifies the tasks, which take much more time than usual. Because emergency remote teaching is not the same as face-to-face teaching, but the time the class sees each other via videoconference is limited to a minimum, teachers are tempted to give more assignments. This can cause despair and demotivation among the pupils (Wacker et al. 2020, 89).

As this chapter shows, the coronavirus posed a major challenge to the school landscape, even though it brought some benefits. Precedent and essential now is the shift to digital solutions. The following chapter 5 shows how this process can be stimulated and accelerated.

5 Stimulating the Digitalisation Process: The Path to Contemporary Learning

Due to the school closures and the associated remote learning, it was essential for Germany's schools to work digitally. However, the conditions at most schools were the same: little to no digital resources. This problem has not only been known since the corona pandemic, because since May 27th, 2019, the “DigitalPakt Schule” (Digitisation Pact for Schools) was adopted by the Federal Government and the Lower House of Parliament. With a subsidy of five billion euros, Germany's school landscape is to be digitised by 2024. As of March 2020, however, only 0.6 % of the Digitisation Pact for Schools fund was used in Baden-Württemberg. Why the process in Baden-Württemberg is so slow is explained in more detail in this chapter.

First of all, the new media in the classroom are examined and their relation to the educational plan is explained. Then a closer look is taken at the Digitisation Pact for Schools of May 2019, which provides for a media development plan that serves as a basis for technical end devices in schools. Finally, the pandemic-related aid packages *Corona-Aid I* and *Corona-Aid II* are broken down within the school context.

5.1 New Media in the Classroom

New media in the classroom are an important aspect of contemporary teaching and learning at school. At a time when technical innovations are conquering the market ever more quickly, there is a need to adapt traditional teaching and, where available at school, to integrate technical terminals (Leutner, 2000, 9).

It was not only with the growth of digital media that teaching received support. Blackboards, movable walls, posters and also overhead projectors were and still are among the most important media in the classroom for communicating teaching content in a well-founded way. With the digital turnaround, however, the concepts were further developed. More and more schools are replacing their blackboards with interactive smart- and whiteboards, as well as overhead projectors with beamers. New media include smartphones, tablets, laptops and computers, as well as the use of the internet (Cornelsen).

Despite technical progress, only a few teachers dare to use new media in lessons so far. There is too much fear that pupils will be distracted from the actual teaching content by other

stimuli. Nevertheless, new media in the classroom offer a great opportunity for teachers, as they can be well integrated didactically, methodologically and in terms of content. For the pupils, such a prepared teaching arrangement has a motivating and interesting effect (ibid.).

At a time when pupils are growing up with new media and are very familiar with them, this aspect should be seen as an advantage. Instead of searching for information in an Encyclopaedia or a book, online search engines are used, as the time required is considerably less. This is where teachers can intervene and train pupils in the correct use of new media, such as the correct approach to information gathering, analysis and evaluation (ibid.).

Possibilities for the meaningful use of new media can be integrated into every teaching sequence. On the one hand, they can be used to save presentations or results that have been worked out, on the other hand, they can be used as a means of information retrieval. New media are also a great help for pupils when solving work assignments. Another aspect of integrating new media in the classroom is the function of cooperative learning. Pupils are able to interact together, keep up to date and exchange files (ibid.).

5.2 Promotion of Digitisation in German Schools: Digitisation Pact for Schools

In May 2019, the German Federal Government adopted the Digital Pact for Schools in the Lower House of Parliament in order to improve the digital education infrastructure at all schools in the country and thus strengthen the associated digital skills at German schools. In this context, the Federal Government is providing schools with funding of 5 billion euros from 2019 to 2024. The funds are distributed across all 16 states. For the state of Baden-Württemberg, 650 million euros are available for use in the five-year application period (Bundesministerium für Kultus, Jugend und Sport Baden-Württemberg).

The aim of the Digitisation Pact for Schools is to bring all schools in Germany up to the latest technical standards in order to enable modern learning. To this end, the funding is to be used for the following investments:

- Expansion of digital networking throughout the entire school area,
- Wi-Fi on the entire school premises for teachers and pupils,
- digital teaching and learning formats such as clouds and work platforms,
- display and interaction devices such as interactive boards,
- digital tools for science teaching and career guidance and
- school equipment such as laptops and tablets (ibid.).

In order to be able to use the funds of the Digitisation Pact for Schools, the school authorities must submit a “media development plan”, which is developed by a task force of teachers of the applying school. Ideally, the school authorities should be involved in the planning process. How a media development plan looks like and how it is created will be described in the next chapter 5.3.

5.3 Media Development Plan as a Binding Basis for the Digitisation Pact for Schools

The Media Development Plan is the basis for financial support with regard to the Digitisation Pact for Schools and is filled out with the help of an online tool created by the State Media Centre Baden-Württemberg. In order to draw up the media development plan, the respective schools should form a task force, or steering group with teachers who are motivated and committed to jointly develop the media development plan according to the needs of the school. The respective media centres provide support for the sensible use of digital media (Landesmedienzentrum Baden-Württemberg a).

It should be mentioned that employees of the steering group for the media development plan do not receive credit hours from the authorities and are therefore involved in the preparation of such a plan purely out of their own motivation(ibid.).

In the following, the individual steps required to create a media development plan are presented.

The first step in creating a media development plan is to record the school profile. This includes the core data of the school and includes the number of pupils, the personnel structure and, for instance, special school profiles (ibid.).

Then the schools have to take stock of their existing media equipment to see to what extent digital acquisitions have already been made, or to see that the existing equipment is not sufficient (ibid.).

The next step is to formulate goals for the school that are to be achieved with the help of the planned media. An important factor here is the acquisition of media competence and trained handling of new media (ibid.).

Furthermore, a catalogue of measures is drafted by the steering group which combines the already formulated objectives with measures of use (ibid.).

In the further course of drawing up the media development plan, the aim is to develop a media and method curriculum for each individual school subject. The aim is to anchor both didactic and pedagogical implementation for each subject and to justify the integration of the new acquisitions in subject teaching (Landesmedienzentrum Baden-Württemberg b).

Following on from this, the planning for the equipment is now being carried out. This is mainly concerned with spatial planning and the associated acquisitions. The integration of the new equipment in the individual rooms must be reproduced in detail to justify the usefulness of the desired products (ibid.).

A further point that must be considered by the steering group when planning the media development plan is the support and maintenance concept. By means of a detailed description, it should be justified to what extent maintenance and care of the future devices should be provided so that they can be used as long as possible (ibid.)

Since not every teacher has had contact with digital end devices or even specific software, the media development plan calls for continuing education planning. The reason for this is the correct handling in the use of the new acquisitions, which the teachers have to learn through further training (ibid.).

The most important point in the application process is the need for investment. A list of the equipment and software to be ordered gives the final price for the applying school. All

equipment and software, including their prices, are listed here in order to finally break down the final costs (ibid.).

Finally, the responsibility for the media development plan is determined together with the time schedule. On this basis, binding statements are made on the use of the equipment over time and the responsibility for this is ensured (ibid.).

If all the points explained in the media development plan have now been precisely filled in and well argued, it can be submitted to the school authorities for approval (ibid.).

Due to the pandemic, the Federal Government has relaxed the requirements for participation in the Digitisation Pact for Schools. As of July 2020, schools can initially submit an application without a media development plan. However, the media development plan must be received by the school authority at the latest when the orders are settled. This measure is intended to take the wind out of the schools' sails in these difficult times, in order to get the funding faster (Bundesministerium für Kultus, Jugend und Sport Baden-Württemberg).

5.4 Measure to quickly Release Funds for Digitisation in German Schools: Promotion on Content

The challenges of the corona pandemic at the school level and in relation to the entire school landscape more than clearly illustrates the need for a digitised infrastructure of the educational institution and digital educational content. With the "Corona-Hilfe I: Förderung von Content" (Corona-Aid I: Promotion on Content), which was adopted jointly by the Federal Government and the Bundestag, the course for infrastructural change has been set and the way towards a digitally oriented school has been paved. These aid packages can be applied for by the individual institutions by the end of the year (Bundesministerium für Bildung und Forschung).

In order to ensure that the process of designing the technical digital infrastructures runs as smoothly as possible, the German states have been given the opportunity to apply jointly for funding for content and structures and then to implement them. This fully reflects the stated objectives of the Digitisation Pact for Schools. In addition, the funding provided is to be used in many ways. On the one hand, they are intended to promote the development of new

educational content and, on the other hand, to facilitate the integration of third-party sources and associated licence use on a monetary level (ibid.).

In this context, the funds are to be seen as temporary educational investments by the German states and the individual municipalities. Successful content promotion can only take place if there is a comprehensible link between the investment and the Digitisation Pact for Schools (ibid.).

This makes it possible to realise digital educational offers despite school closures and to prioritise the expansion of the digital, infrastructural level. For this purpose, 100 million euro from the Digitisation Pact for Schools were made available for the projects at municipal and state levels (ibid.).

5.5 Measure to quickly Release Funds for Digitisation in German Schools: Promotion on Digital End Devices

In the previous chapter on Corona Aid I, it became clear how important changes in the digital infrastructure of the school landscape are, in order not to be completely defenceless against current events in the education sector. The corona pandemic is developing into a test of strength for people in Germany and worldwide. There is almost no sector that is not affected by its effects, which fundamentally changes everyday life. Be it the economic sector, which has to struggle significantly with a drop in sales and the gastronomy for instance, who fear and have to fight for their existence. Also, the health care system, which is pushed to its capacity limits by the massive increase in the number of infections (Bundesministerium für Bildung und Forschung).

This is especially true for the education system. In order that this test does not end in an educational crisis, it is essential that all of the teachers, school administrators, caretakers and all other responsible persons working in this field work hand in hand to successfully face the crisis. Parents, too, are being given new tasks and roles. More than ever, they are called upon to act as learning companions for their children (ibid.).

A large part of teaching is currently hardly ever done in classroom mode but is held within hybrid learning settings or entirely digitally. On the basis of these facts, the coalition

committee decided to make monetary funds in the form of 500 million euros available for pupils and schools. The aim is to support the aforementioned groups of people and the institution school with mobile terminals and equipment for the production of online learning materials in order to be able to continue to guarantee sustainable education. This was anchored and supplemented in the Digitisation Pact for Schools under the name "Corona-Hilfe II: Sofortprogramm Endgeräte" (Corona-Aid II: Instant Programme for Digital Devices) (ibid.).

In detail, the immediate action programme aims to ensure that in recent weeks and in the near future, digital learning has become more and more important and continues to grow. Pupils need a laptop, tablet or other digital device for learning from home. However, not all parents and families have the financial means to purchase such a device. In the spirit of educational justice, this emergency programme tries to enable the need to participate in digital education. Another essential point that is pushed by the aid package is the promotion of equipment for online learning content and refers to hardware and software as well as training that is necessary (ibid.).

For the successful process from application to distribution, the individual federal states themselves choose the procedure how the various devices are to be acquired. The distribution of the terminal equipment is carried out by the schools themselves, as the respective responsible persons know best about the individual situation (ibid.).

As can be seen from the Digitisation Pact for Schools, Germany cares deeply about the digitisation of schools. The fact that this has hardly happened so far is becoming particularly apparent now in the corona pandemic. The current state subsidies, which are also quickly tangible, can at least help pupils, teachers and schools in an accentuated way.

Why the examination with contemporary media is important for pupils, but also for teachers, is explained in the next chapter 6.

6 Competence Expectations for Pupils in the 21st Century

The constantly rapid technological developments expect new skills from their users, which are constantly being expanded. In the school context, this means that teachers need to prepare pupils for a world in which digital settings are becoming increasingly common. This chapter is about the skills that pupils in the 21st century need to have, in order to succeed in a fast-moving world. It takes a look at digital citizenship and theories of 21st century skills. As there is not only one catalogue of 21st century skills, two concepts will be examined more closely.

6.1 Digital Citizenship

In a world dominated by constantly evolving technologies, people in the 21st century are growing up with many possibilities of digital devices. The term "Digital Citizenship" was created with this thought in mind. Karen Mossberger defines digital citizenship as a citizen who uses various forms of information technology to get involved in society, as well as, if possible, in politics and government. In addition, those citizens use the internet regularly and purposefully. Furthermore, digital citizens also know how to use the media responsibly, which is particularly reflected in the security of information (Mossberger et al. 2007, 2).

6.2 Theories of 21st Century Skills

Due to the constant and growing technologisation of the world, it was necessary to prepare pupils for the changing world of work. There are different theories about 21st century skills. In the following, two approaches will be presented.

6.2.1 21st Century Skills According to P21

P21 (Partnership for 21st Century Learning) is an American initiative consisting of specialists from politics, business and education who have taken a close look at this topic. With the idea of acquiring four core competencies, which are also known as the *4C's*, the idea of 21st Century Skills was born. By acquiring the key skills of *creativity*, *collaboration*, *communication* and *critical thinking*, pupils should be able to learn more self-directedly and be prepared for a constantly changing world of work (OECD).

The four competencies are explained in more detail below.

Creativity means thinking outside the box and not always accepting things, but also questioning them (ibid.).

The competence *collaboration* sees itself in the cooperation with others, as one can work together more productively and link ideas. At the same time, this competence also promotes compromises in order to find the best results for problem solving (ibid.).

Communication is similar to collaboration in that it involves talking to each other. Pupils should be able to exchange information and ideas about a subject (ibid.).

The last and most important competence is *critical thinking*. Critical thinking is an engine in every environment to deal with topics in order to ultimately strive for improvements (ibid.).

6.2.2 21st Century Skills According to the World Economic Forum

A further thought on 21st century skills was provided by the World Economic Forum 2016. The four "basic competencies" that P21 developed, have remained in the World Economic Forum skills. However, 12 additional competencies have been included to these thoughts. Furthermore, there are two new categories: *Foundational Literacies* and *Character Qualities*, each with six new competencies (World Economic Forum, 2016, p. 4).

Figure 4 shows the World Economic Forum's 16 21st century skills that pupils should possess. As it can be seen from the figure, the 21st century skills are based on foundational literacies, competencies and character qualities.



Figure 4: 21st century skills according to the World Education Forum (World Education Forum 2018)

Looking at the *Foundational Literacies*, pupils should have

- a reading and writing competency,
- an understanding of numbers,
- a science education,
- IT literacy,
- financial literacy, and
- cultural and civic skills (ibid.).

As with P21, the *Competencies* also include

- critical thinking/problem solving,
- creativity,
- communication, and
- collaboration (ibid.).

Character Qualities include essential skills for coping in an ever-changing world. These skills include

- curiosity,
- taking initiative,
- perseverance,
- adaptability,
- leadership, and
- social and cultural awareness (ibid.).

All these skills should be taught to pupils during their school years in order to be successful in the 21st century. The focus should no longer be on classical learning, which is heavily content-driven. The focus should be on collaborative work and strategy development for problem solving. These skills are particularly awakened through social and emotional learning, which support to be successful in an increasingly digitalized world (ibid.).

Before teachers can teach their pupils the 21st century skills, they have to learn how to teach with current technological devices. With this in mind, the following chapter 7 introduces digital concepts that are helpful for getting started with digital teaching.

7 Digital Didactics: Concepts for Digital Education

The implementation of digital media into lessons is a challenge for many teachers. The so far low use of new media in lessons or the lack of knowledge about the use of new technologies is initially deterring many teachers. By applying the Pedagogy Wheel 4.1, based on *Bloom's taxonomy* and the *SAMR model*, the course is set for an initial application and the integration of new media in the classroom. Another extension for digital teaching is the method of the *Flipped Classroom* within the use of explanatory videos.

In the following chapter, *Bloom's taxonomy* is first explained, which aims to assign learning goals to certain categories in order to have a more focused view of the learning goal control. Then the *SAMR model* is discussed, which creates a basis for the first encounter with digital media in the classroom for inexperienced teachers. Then, the *Pedagogy Wheel 4.1* is examined in more detail, which is based on Bloom's taxonomy and the SAMR model in order to assign applications to the above-mentioned models. Before looking at the concept of Flipped Classroom, the *Accelerated Learning Cycle* is explained in more detail, to fill lesson phases with useful apps. Finally, an already existing teaching method, namely *Flipped Classroom*, is presented. The features of this teaching method will be presented, which is not only useful for presence lessons, but especially for emergency remote teaching.

7.1 Bloom's Taxonomy

In 1956, Benjamin Bloom recognised that the learning objectives of every lesson should be assigned to specific categories, as they are essential for teachers in terms of learning objective control. With its six different levels, which build on each other and are interdependent, learning objectives can be precisely located in a taxonomy level (Bloom 1956, 23).

Bloom's six taxonomy levels are explained in more detail below.

The first taxonomy level, *knowledge*, focuses on what learners have already learned. This can be achieved over a longer period of time through differentiated exercises or tasks that require memorising (ibid.).

Building on the previous level, *understanding* follows. Learners can pass on the knowledge they have acquired so that they can apply it in an everyday context. Furthermore, this can also take place in colloquial language as long as the correctness of the content is guaranteed and results from the fact that the learning subject has been internalised (ibid., 24).

The third taxonomy level of *application* refers to the implementation of learned contents in a new context (ibid.).

After the phase of application, the level of *analysis* is reached. The learning object is then broken down into its individual parts by means of models, case studies or similar tasks. The main focus of this level is to enable learners to deal with complex issues and to recognise connections between the individual parts (ibid.).

Bloom also addresses the level of *synthesis*, which involves the networking of all previous levels. The learners demonstrate that they can constructively pass on the complex connections of a topic to others (ibid.).

Finally, the *assessment* let learners question the sense of a model or study. With the help of the previous objectives, learners should be able to form a constructive judgement about the learning subject (ibid., 25).

7.2 SAMR-Modell

The SAMR model ("The Substitution Augmentation Modification Redefinition" - model), developed by Ruben Puentedura⁸, has become increasingly important since the integration of digital learning and media technologies in teaching. The model is best suited for those teachers who have not yet had any contact with digital media in the classroom, to show them the advantages of new media in the classroom. The model can be used to easily explain how the implementation of digital tools can successfully increase work, teaching and learning (Stauffacher-Birrer 2018, 18).

⁸ Dr Ruben Puentedura is the founder of a large consulting firm (Hippasus) in the USA and has made it his mission to provide initial guidance to teachers on integrating digital media into their teaching (Hippasus).

Substitution, the first step, involves the conversion of analogue tasks or even working materials into a digital form. This is not about a functional improvement; instead, the switch to a digital medium comes to the fore. This aims at facilitating the first contact with new media and thus initiating new ways of mediation. (ibid., 20).

Augmentation, on the other hand, provides for an initial improvement. The aim is to use basic functions, such as a spell checker for a programme. This is about more intensive contact with the new media and their examination (ibid.).

Modification shows the phase of redesign, in which analogue tasks are converted into digital ones in order to make their advantages clearly visible. By using different software programmes, it is possible to implement these objectives within this phase. Examples are email programs or writing programs. For the learners this opens up the possibility of creating a blog in which they can interact through constructive contributions. If one looks at the focus of the modification phase, it is primarily a matter of the complete conversion to digital working methods (ibid.).

The last phase, *redefinition*, takes up the integration of previously unthinkable technologies in teaching. One thought would be to convert essay writing into digital storytelling. The aim is no longer to create monotonous slides, but to make visually difficult content explainable (ibid.).

Figure 5 shows the structure of the SAMR-Model including its different phases to integrate new media in the classroom. As can be seen, the change is accompanied by two phases: the enhancement and the transformation.

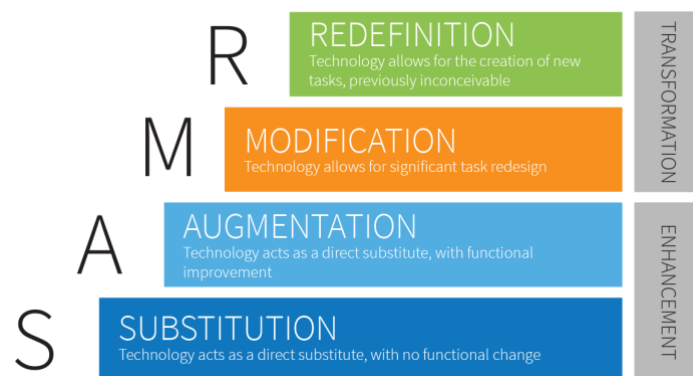


Figure 5: The SAMR-Model (Schoolology)

7.3 Padagogy⁹ Wheel 4.1

The Padagogy Wheel was developed in 2013 by the Australian Professor Allan Carrington, who teaches learning development at the University of Adelaide. During a research stay in the United Kingdom in 2012, he came up with the idea of relating various apps to the taxonomy levels of Bloom and then locating them. He then modified the six existing levels and combined "remembering" and "understanding" within one section. This resulted in a five-stage compressed model of the Padagogy Wheel (Stauffacher-Birrer 2018, 18).

The first version of the Padagogy Wheel was tested by Carrington's teachers. The primary aim was to integrate applications into the Padagogy Wheel that support learners to achieve better performance. To this end, he assigned a total of 65 apps to the categories "analysis" and "design". Over time, he added the content items "requirements profile" and "skills" to include learners' prerequisites and skills. Version 3.0 resulted with the integration of the "SAMR model" and the aspect "motivation". Meanwhile version 4.1 followed, which contains 130 apps (ibid.).

Allan Carrington encourages teachers to use the Padagogy Wheel as a guide for the initial implementation of new media. The process is divided into five successive points.

Firstly, the teacher is obliged to define *attributes*. On the one hand, this means that at the end of the teaching sequence teachers formulate realistic objectives regarding the learning goals to be achieved. On the other hand, one is confronted with the question of which requirements and skills are to be promoted (ibid., 23).

The second step deals with *motivation*. Teachers should consider to what extent their teaching can strengthen the points "autonomy", certain "competences", and "self-determination" of pupils (ibid.).

In the next step, *learning goals and Bloom's taxonomy*, the teacher should assign the goal or goals to the levels of Bloom's taxonomy (ibid.).

⁹ In fact, the spelling of this term is deliberately misspelled by the inventor.

The penultimate step, *technology*, is about finding the appropriate technology for the learning objective. It does not always have to be a digital device or an app that helps learners to reach their learning goal. As a result, the use of digital media should be closely compared with the learning objective (ibid.).

Finally, the *SAMR model* is discussed. If the teacher has decided to use an app, they should deal with it intensively in order to integrate it successfully in the classroom. For applications with similar functions, it is advised to use established ones first. In the later course of the process, new applications can then be additionally included (ibid.).

Considering all steps of the Padagogy Wheel 4.1, the use of new media should not be an obstacle for inexperienced teachers. The combination of the SAMR model and Bloom's taxonomy has paved the way towards digital teaching.

Figure 6 shows Carrington's Padagogy Wheel after the integration of the SAMR model, Bloom's taxonomy and the various apps.

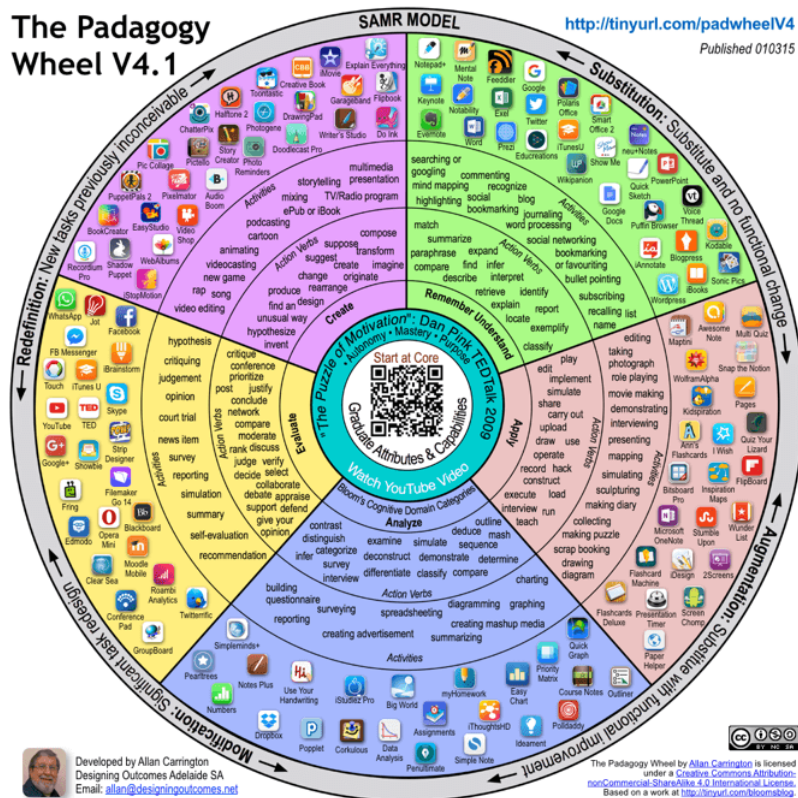
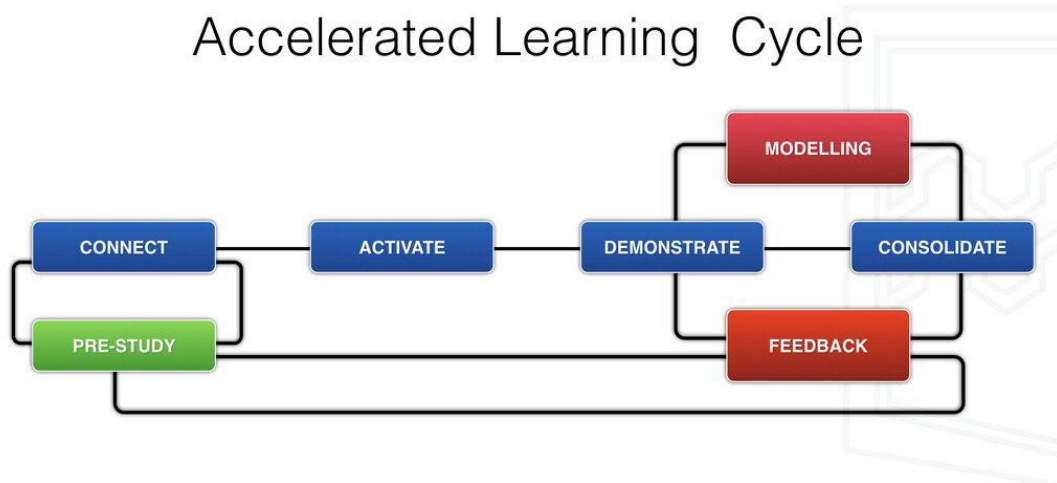


Figure 6: The Padagogy Wheel 4.1. (Oxford Study Courses)

7.4 Accelerated Learning Cycle and the Link to Digital Learning

The Accelerated Learning Cycle according to Alistair Smith (1996) is a didactic concept. It is about designing lessons in such a way that pupils go through a continuous and deep process of understanding. Classically, there are four phases in teaching: the connection phase, the activation phase, the demonstration phase, and the consolidation phase. Looking at the phases of instruction, it is essential for pupils to receive varied tasks as well as verbalize their performance through feedback (Smith 1996, 8).

Figure 7 shows the Accelerated Learning Cycle according to Alistair Smith. In addition to the four essential teaching phases, the focus is also on pre-learning selected content, which is also known, for example, from the concept of the Flipped Classroom. Furthermore, a distinctive feedback culture and the modeling of learning tasks are indispensable (Rennbuckel).

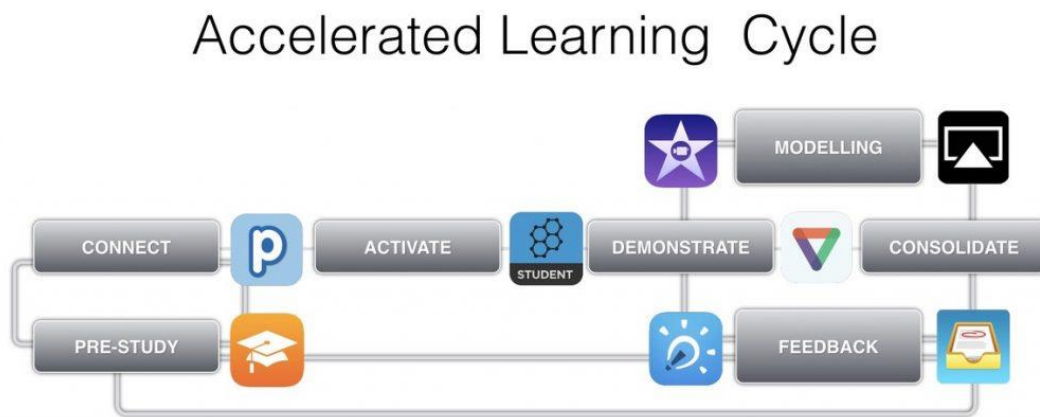


Source: Accelerated Learning in the Classroom, Alistair Smith, 1996

Figure 7: The Accelerated Learning Cycle after Alistair Smith (Rennbuckel)

When the Accelerated Learning Cycle is linked with digital learning, a suitable application can be included in each joint of a lesson in order to deepen each phase of the lesson. The

following figure 8 shows how apps can be used to make sense of the joints between new phases (tablet-teachers¹⁰).



Source: Accelerated Learning in the Classroom, Alistair Smith, 1996

Figure 8: The Accelerated Learning Cycle combined with apps for the classroom (tablet-teachers)

In order to seamlessly link to the learning content, for instance, the app *Popplet* can be used. This application is a tool in which teachers can brainstorm together and design mind maps to collect and link pupils' thoughts and ideas. At the same time, *Mentimeter* can also be used to link to a previous learning topic or to test pupils' knowledge. The different apps can be appropriately integrated according to the learning objective and the lesson content after the individual phases of the cycle¹¹ (tablet-teachers).

In addition, they function as enhancing tools for teaching, which serve to convey the learning objectives via a different path. The focus is by no means on the technical end device or even an application, but entirely on the learning content (ibid.).

Considering the above-mentioned connecting points, collaborative work between pupils, with apps and teachers can be achieved.

¹⁰ The tablet-teachers are an association of lower secondary school teachers from a school in Karlsruhe who have iPad classes at their school and regularly hold training sessions in Germany and in Europe on digital learning (tablet-teachers).

¹¹ Chapter 6.5. will go into more detail about useful apps for teaching, which is why only two apps from the figure are presented here.

7.5 Flipped Classroom

To understand what Flipped Classroom is, it is important to talk about the history of its creation. When Jonathan Bergmann and Aaron Sams began working as teachers in Colorado in 2006, they were not yet aware of the groundbreaking innovations they would one day bring. Both teachers taught chemistry, and by starting their careers together at the same school, an intense friendship developed. Bergmann and Sams began to design chemistry lessons together, create tests together and prepare laboratory experiments together. In a way, they shared the work and benefited from each other (Bergmann & Sams 2012, 3).

It quickly became clear that their pupils had little time to learn, as they took part in many extracurricular leisure activities alongside school and had to travel a lot due to the school's rural location. In addition, sick pupils missed lessons and could no longer follow the learning content (ibid.).

While leafing through a media magazine, Sams discovered software which made it possible to link a Microsoft PowerPoint slide with an audio recording, which in turn could be labelled. When both teachers discussed the advantages of the programme, they realised that it was a possibility to offer pupils adequate and differentiated teaching at any time and from any place. It seemed to be advantageous that especially pupils who were not present in class could access the individual contents themselves at home. Consequently, Bergmann and Sam produced videos of their learning contents and uploaded them on a website so that their pupils could access them at any time (ibid.).

Up to this point, the pure video sequences were not yet a flipped classroom. After Bergmann and Sam's videos attracted national and international attention and met with an exclusively positive response, they further developed their concept. The two teachers gave out the videos with learning content as homework and used the time in class to clarify any ambiguities and difficulties that arose among pupils. The concept of the Flipped Classroom resulted from linking explanatory videos as homework and the classroom time as a phase of practice and consolidation (ibid., 4).

7.5.1 How to Flip the Classroom

The concept of the Flipped Classroom can be applied in any subject. According to the principle, one creates an explanatory video with the software of one own's choice (PowerPoint, CamTasia, ExplainEverything, ...) and make the videos available to the pupils on a platform. This can be done using private YouTube channels, school internal servers, class clouds or an intranet. Via these platforms the pupils can access the videos which they receive as homework. The advantage lies in the possibility to watch the videos as often as necessary to internalise the learning content. In the classroom itself, questions that arise at the beginning are answered. Once this phase is completed, the exercise and consolidation phase of the learning subject follows. Accordingly, the pupils are presented with different types of tasks so that all pupils can work individually at their own level of learning (Bergmann & Sams 2012, 14).

One advantage of the Flipped Classroom concept is that it gives the teachers more time to actively support the pupils. The consolidation phase allows the teacher to use the teaching time to act exclusively as a learning guide. In a classic teaching-learning scenario, this time is missing. Furthermore, the pupils are required to have competencies in the areas of self-organisation and time management in order to cope with the tasks and this results in a sensitisation. In addition, attention is paid to media competence which is anchored at the level of educational policy (ibid.).

7.5.2 Chances of Flipping the Classroom

The reasons for implementing Flipped Classroom in teaching are reflected in many ways. On the one hand, one ties in with the life-world of the pupils who have grown up with the possibilities of digital media and use them in their daily lives (Bergmann & Sams 2012, 20).

On the other hand, busy pupils are given the chance to watch the videos during the bus or train ride and thus use their time effectively. In addition, the method is a great benefit for pupils who are ill. They can work on the content of the lessons from home and are thus on the same level as their fellow pupils when they can take part in lessons again (ibid., 21).

Furthermore, the Flipped Classroom is an opportunity to do justice to all pupils equally. Especially those pupils who find it difficult to follow all the contents of the lessons can

receive a lot of attention from their teachers during the practice and consolidation phases (ibid., 22).

The opportunity to watch the learning videos before the classroom lessons, enables increased teacher-pupil interaction and serves to consolidate the acquired knowledge. By using the lessons as a phase of practice and consolidation, the teacher has more time to devote to the pupils (ibid., 24).

Furthermore, a more intensive bond is created between the pupils and the teacher, which allows precise attention to be paid to the strengths and weaknesses of the individuals. This results in an individualised range of tasks for the pupils and the possibility to use the teacher's attention in a targeted way. These facts are decisive advantages of the Flipped Classroom. (ibid., 27).

Another opportunity of the Flipped Classroom is shown in classroom management. In the Flipped Classroom, pupils who are considered troublemakers in conventional lessons have no stage for disruptions in class. This is based on the fact that the attendance time is used for exercises and practical tasks and is thus followed by continuous occupation (ibid., 29).

If one looks at the transparency of every lesson, this is immanently strengthened in the method of Flipped Classroom. If parents ask what was done in class, teachers and pupils can quickly and easily refer to the videos (ibid., 32).

A final advantage, which also plays a role in the current corona pandemic, is the use for absent teachers. If a teacher is at a training course or is prevented from attending lessons privately, the pupils can simply watch the pre-recorded learning videos in the substitute lesson and thus do not miss any learning content during the teacher's absence - a win-win situation for both parties (ibid., 32).

The didactic concept of the Flipped Classroom has advantages for digital teaching and learning. Even before the pandemic, the concept had already gained attention and use. In the pandemic, however, the flipped classroom was seen as a way to compensate for cancelled lessons by means of explanatory videos.

All the digital approaches mentioned in this chapter can help teachers in the process of incorporating digital media into their teaching – whether in presence or emergency remote teaching. It is more important for teachers in the 21st century to address this in order to be able to teach in a contemporary way. This should also be taken into account by the schools in the form of training, but also in teacher training at universities.

Which digital resources are particularly useful in emergency remote teaching will be shown in the next chapter 8.

8 Digital Resources for Emergency Remote Teaching

In recent weeks, school administrators, teachers and IT administrators have been increasingly confronted with questions regarding digital communication channels, learning platforms and online conference services used in emergency remote teaching. The relevance of planning an adequate remote teaching concept reflects regional developments which include school closures and make a rethinking of lesson planning indispensable. Existing online teaching concepts need to be reflected and optimised in the sense of a multi-professional team with teachers, parents and pupils in order to fulfil the educational mission despite lost learning time or a new lockdown. As a binding element within the learning arrangement of emergency remote teaching, direct teacher-pupil contact must not be allowed to break off.

At the beginning, video conference tools such as Zoom, Skype and WebEx, which are used in emergency remote teaching, are examined. This is followed by a classification of the possibility of mail and email orders in the context of emergency remote teaching. Finally, a closer look will be taken at useful apps for the digital lessons.

8.1 Online Conference Services as a Helpful Tool for Digital Lessons

The fact that teaching in today's world does not necessarily have to take place in a designated classroom, has become abundantly clear and almost inescapable as a result of the corona crisis. To make this a reality, teachers, pupils, and even parents have a variety of applications at their disposal that provide support for moving learning into a virtual classroom. Various platforms from a wide range of providers are used to design remote teaching courses. Exemplary are the providers *Zoom*, *WebEx* and *Skype*. All the programs mentioned have the same function: a large number of people can take part in a so-called *video conference*. In doing so, they can talk to each other, see each other and work together (Wacker et al. 2020, 86).

In the following, the online conference services that are used in emergency remote teaching and hybrid teaching will be presented.

Skype is an utility that can be downloaded for free on any laptop, computer or mobile device. Through this programme, users are given the opportunity to connect with selected people in

the professional environment, at school or in their free time at any time and regardless of the location via the appropriate technical terminal. With the integrated text function as well as the special voice and video call functions, one's own experiences can be shared and collaborative work with other people can occur. Furthermore, it is possible to have one-on-one as well as group conversations and thus open virtual spaces (Skype).

Zoom established itself as one of the leading providers in the field of video conferencing software in 2020. The video conferencing service impresses with three elementary main functions. On the one hand, unlimited one-on-one calls can be held for free. On the other hand, group video conferences with a duration of up to 60 minutes and a maximum number of participants of 100 can be realized free of charge. Lastly, the screen sharing function can be mentioned, which allows the participants to visually follow what can be seen on the presenter's end device. A supplementary feature within this program is the option to create so-called "breakout rooms" in order to discuss in small working groups, to develop content and not to disturb other participants. The number of participants and the duration can be adjusted individually. In addition, the division of the groups can also be generated randomly by the program (Zoom).

Cisco Webex is another video conferencing provider that gained prominence during the corona pandemic. Similar to Zoom, the presenter's screen can be shared so that the different participants can view documents, spreadsheets and applications. Furthermore, the host has the function to record the meeting in order to make it available to other people at a later time. Finally, it can be noted that this program is also suitable for an audience of up to 40,000 participants, who can attend an online meeting regardless of the presenter's connection. In addition, other tools such as learning management systems can be easily integrated into a meeting (Cisco Webex).

Depending on a school's preference and specifications, a video conferencing platform was selected and used for virtual instruction. The systems mentioned above are the most commonly used programs during school closures, which is why only these will be discussed in this chapter (Wacker et al. 2020, 86).

Finally, it must be mentioned that the Zoom platform may no longer be used in Baden-Württemberg in the meantime, as it does not comply with data protection regulations (Staatliches Schulamt Karlsruhe).

Online conferencing systems give teachers and their pupils the opportunity to stay connected even in times of school closures.

8.2 Emergency Remote Teaching via Email

Even though many digital options existed for maintaining classes during school closures, not all teachers took advantage of the options. Instead, emails were sent with work assignments, which were sent out at the beginning of the week, asking pupils to complete them. Other teachers created work plans that pupils could pick up at school, or in some cases, teachers brought them to pupils' homes (Wacker et al. 2020, 84). In a study by Porsch and Porsch, 45 % of parents surveyed of primary school children said they had received work assignments from teachers via email, what should be the replacement for the lessons that did not take place (Porsch & Porsch 2020, 70).

8.3 Useful Apps for Remote Teaching

Apps are a tremendous asset in remote teaching, but also in face-to-face classes. With fewer opportunities to collaborate during a digital lesson sequence, a variety of apps can be used to make lessons more engaging and strengthen the community of the pupils (Fischer et al. 2020, 145).

In the following, four apps that can be integrated into remote teaching are presented.

8.3.1 Brainstorming in Emergency Remote Teaching

The app *Padlet* is suitable for collecting, structuring and expanding ideas together with pupils. It is a way to brainstorm without a whiteboard, in which pupils can simultaneously attach their ideas and thoughts to a mobile device of their choice. Collaboratively, ideas from other pupils can be commented on directly, noted as positive, and structured together at the end (padlet).

The following figure 9 demonstrates an exemplary pinboard of Padlet, in which one can see pinned contributions of people. Here, images were used, as well as text to share thoughts with other people. Padlet can be used either from the computer in the web browser, as well as with a tablet or smartphone in the app. The advantage of using Padlet is the easy handling and the free registration of the teacher. The pupils do not need a profile, as the pinboard is sent via a link from the teacher and is therefore freely accessible to the pupils (ibid.).

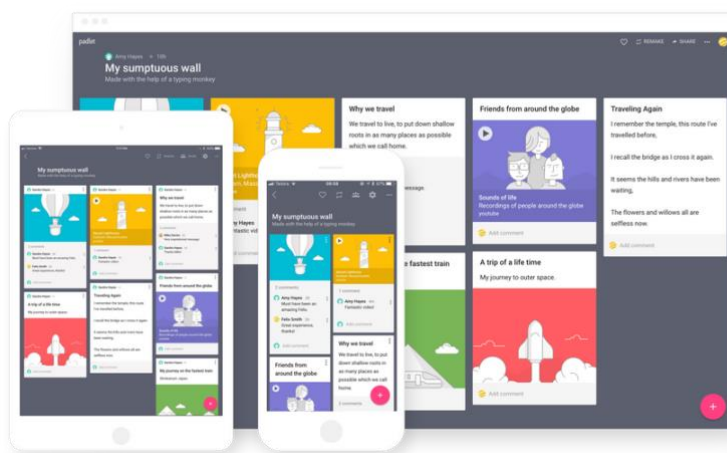


Figure 9: Sample pinboard from padlet (padlet)

8.3.2 Repetition and Understanding of Learning Content in Remote Teaching

The *Quizlet* app has an advantage when it comes to following up on content or repeating lesson content in remote teaching. Teachers and pupils can create digital flashcards and generate learning sets for their pupils. The application is particularly suitable for foreign language lessons, as vocabulary can be learned and reinforced. Moreover, with Quizlet one can make the remote teaching more active by offering it as a game. At the same time, the app also works as a vocabulary trainer and learning tool outside of the classroom. Teachers can create and share learning sets with their pupils, or pupils can create their own. There are also learning sets from Quizlet itself that can be used (Quizlet).

Quizlet can also be integrated into other areas of instruction, as Figure 10 shows. Besides the function of learning flashcards, pupils have the possibility to strengthen their writing skills as well as to practice their pronunciation.

Another function is the option to do a self-test on the learning items to know whether the learning item has been sufficiently reinforced.

Furthermore, there is the category of matching, which is structured in a playful way and pupils have to match two cards. In this section, exemplary terms can be assigned to definitions. Continuing on from this, there is the possibility of extending the previous category in a game that resembles a universe. For instance, the name "Gravity" includes terms and definitions from outer space that must not fall to the ground. The pupils have to quickly enter the correct terms into the mask. Finally, there is the "Live" option, which can be played digitally in class. The pupils are randomly divided into groups to solve a question about a learning object together. All participants are given different terms and must decide collectively which is the correct solution (ibid.).

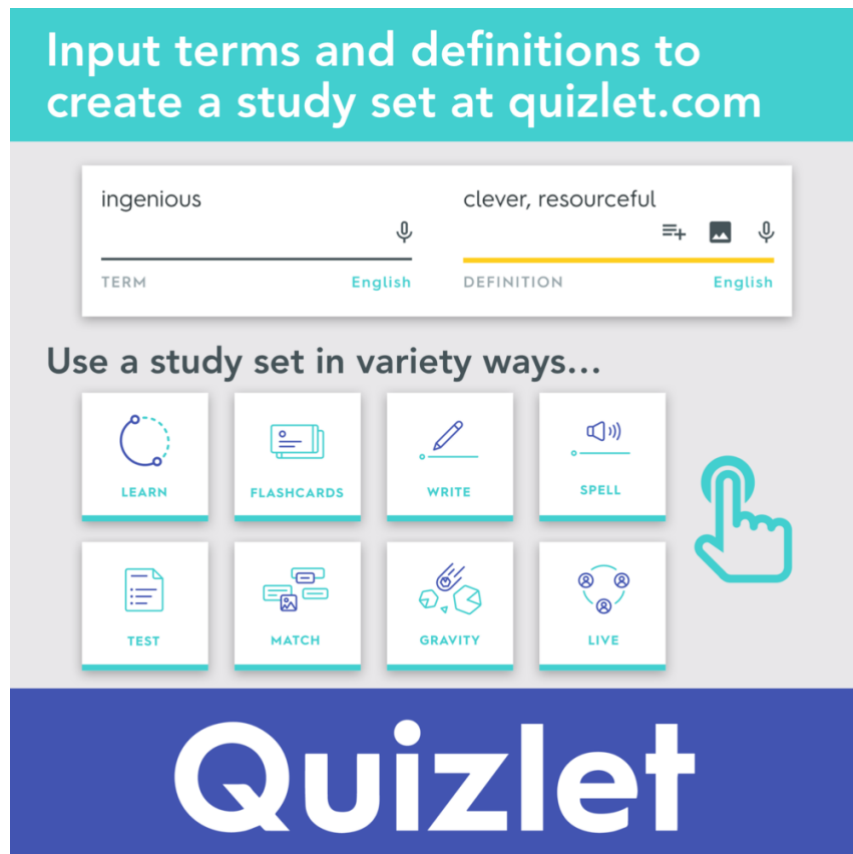


Figure 10: Possibilities of using Quizlet (Quizlet)

8.3.3 Presenting in Remote Teaching

In addition to the familiar option of uploading Microsoft PowerPoint presentations to an online platform such as Zoom and presenting a learning object to pupils, one can use the VideoScribe Anywhere application. Content can be transformed into an interesting explanatory video in no time. Without much effort, teachers and pupils can include cliparts

on a wide variety of topics in their presentations and insert texts that match the images. The texts and cliparts are painted by a hand in this app, which is the main feature of the programme to make the presentation more attractive. Furthermore, teachers and pupils can enhance the presentation with melodies and/ or voice recordings. Figure 11 shows an example of the application's writing and painting hand during a video (VideoScribe).

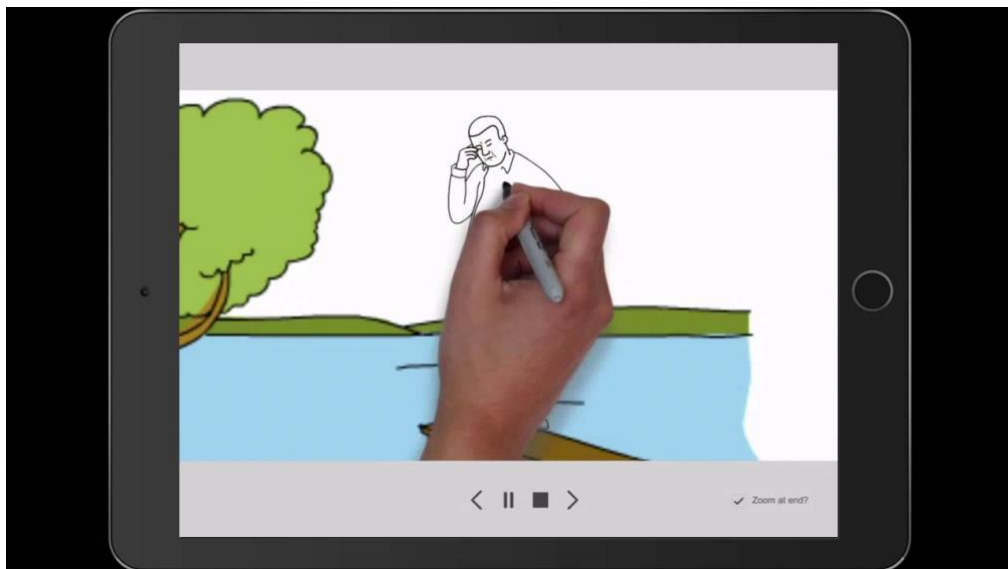


Figure 11: Exemplaric picture of the functions of VideoScribe Anywhere (VideoScribe)

8.3.4 Feedback in Remote Teaching

The Mentimeter app can be used to provide feedback to pupils in remote teaching, to obtain feedback on one's own teaching, or to reflect on a presentation presented by pupils. Feedback can be obtained in real time via a website or an application. To do this, the teacher or pupils create a slide in the program, which creates a link and a code. The URL is sent to the participants along with the code. The goal is to create a word cloud with different words at the end. Here it can be decided how many adjectives the pupils can enter to indicate liking or not liking a presentation, for instance. The more times a word is added to the input mask, the larger it appears in the word cloud. In real time, the person presenting, whether teacher or pupil, can share the creation of the word cloud with the pupils. Figure 12 demonstrates an example of a word cloud created using Mentimeter. Looking at figure, one can see that the word "visualization" was the most entered word and therefore appears largest in the word cloud (Mentimeter).

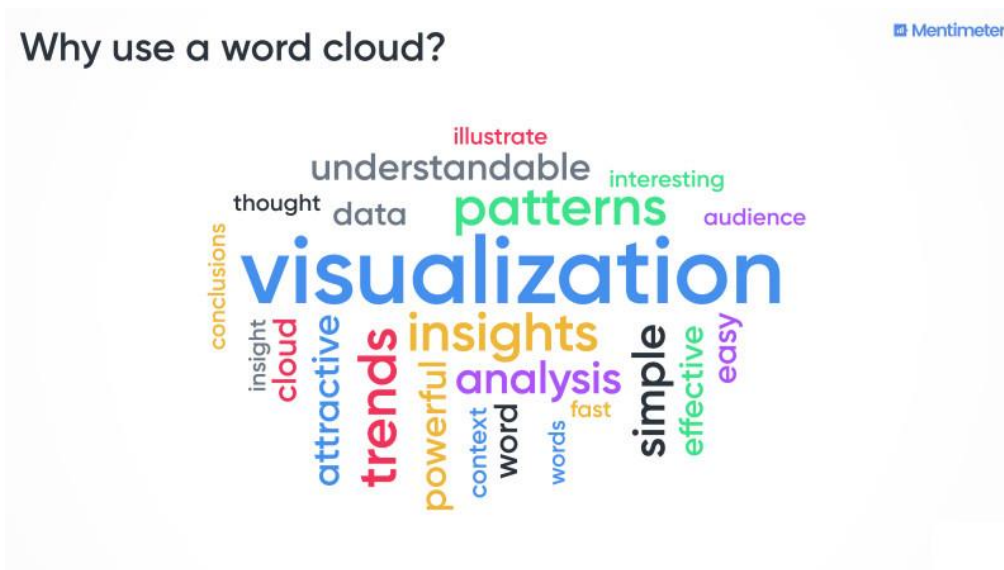


Figure 12: Exemplary word cloud of mentimeter (Mentimeter)

In addition to the creation of word clouds, the app is also suitable for the interactive design of polls, idea generation processes, quizzes and surveys (ibid.).

Apart from the four named apps in this chapter, there are a large number of other apps that can be integrated in the classroom. This can also be seen in the concept of the Pedagogy Wheel 4.1. For reasons of space, not all apps can be discussed, as this would go beyond the scope of this master's thesis.

At this point the theoretical part of this paper, which forms the basis for the empirical part, is concluded. The following chapter deals with the research design chosen within this thesis to find out what challenges, but also benefits, English teachers encountered during school closures

9 Empirical Part: Qualitative Survey

The entry into this topic area is started with the presentation of the research questions. The following chapter covers the qualitative part of this scientific work. It presents the research design and the methodology used. In addition to the data preparation, which includes the creation of the interview guide, the process of data collection and processing is presented. The procedures of conducting an expert interview, as well as the transcription rules can be added there. Subsequently, it is the data evaluation, in which the method of the qualitative content analysis after Mayring is introduced. The explanation of the considered quality criteria rounds this topic area off.

9.1 Research Questions

Based on the literature reviewed, it became clear that the period during the school closures was a tearing ordeal for both teachers and pupils. However, the question of how the situation was handled at the individual schools was rarely addressed.

Another aspect that has been left out or is due to insufficient data is the question of how emergency remote teaching works at individual schools. This raises the question of how emergency remote teaching worked and whether the teachers were able to cope well with the situation.

In the course of this scientific work, however, it also became clear that the Digitisation Pact for Schools also made a significant contribution to upgrading schools digitally and ensuring immediate assistance during the corona pandemic.

While writing this master's thesis, it also became clear that positive as well as negative outcomes resulted from the school closures and the associated emergency remote teaching. These will be investigated in the empirical part of the thesis.

On the basis of the preceding execution, the following research question is therefore formulated:

What challenges, but also opportunities, did English teachers in the region of Karlsruhe face during the spring 2020 school closures?

For a holistic view of this research subject, subordinate research questions are needed.

In order to answer the overarching research question, it is necessary to look at the situation as a whole. The digital equipment of schools and participation in the Digitisation Pact for Schools form the basis here.

It can also be shown subject-specifically, more precisely in the subject of English, which core competencies have shown improvement during the school lockdowns and which have deteriorated. How teachers have given their pupils feedback on their tasks during the school closures, will also be investigated.

Thus, the following subordinate research questions are added:

- How digitally enabled are schools in the region of Karlsruhe?
- Did the schools in the region of Karlsruhe write a media development plan to benefit from the Digitisation Pact for Schools?
- Was it possible for every pupil to participate in emergency remote teaching?
- How did English teachers experience the period of school closures?
- How was feedback provided to pupils during the school closures?
- How did English lessons take place during the school closures?
- Which core competencies of the English classroom improved, and which deteriorated, during the school closures?
- What were general challenges and benefits of the school closures?

The preceding chapters have highlighted the timeliness of this topic. To account for this complexity, it falls short, to attempt to empirically address any issues within the quantitative paradigm. For this reason, the qualitative research approach was chosen for this research project in order to conduct a comprehensive analysis of deeper structures.

Accordingly, the next sub-chapter will be devoted in detail to the qualitative research design, including the research method and the processes contained therein.

9.2 Qualitative Survey: Methodological Approach

Misoch describes qualitative research projects as a possibility to make statements about the structure and nature of the reality around us. In this thesis, explorative research is conducted, which means researching in a discovering manner in order to open up previously unknown fields and to clarify open questions of an issue (Misoch 2019, 1).

Qualitative research is subject to a less standardized research process with smaller samples, which makes it its task to bring the object under investigation to the fore. Overall, qualitative research has the main goal of generating hypotheses as well as theories (Bortz & Döring 2015, 32).

In order to conduct qualitative research, it requires the choice to decide on a survey method. Besides the method of interviews, there are group interviews, document analyses, and image and photo analyses. Since the mentioned methods, except the interview, do not play a role for this master thesis, they remain uncommented (ibid., 36).

Looking at the data collection method of the interview, it is divided into three different research possibilities: the unstructured interview, the fully structured interview, and the semi-structured interview. The goal of all interview forms is to interview experts for a research field about a subject matter; these are also called expert interviews. In the following, the qualitative interview forms are roughly outlined (Döring & Bortz 2016, 368).

In the unstructured interview, the interviewees have the opportunity to express themselves narratively and openly. Here, the interview takes place in a conversation. Furthermore, the interviewer directs the interviewee specifically to the topic under investigation (ibid., 369).

The fully structured interview, on the other hand, is classified as a quantitative research method. Characteristically for this research method, information is collected via a questionnaire. Based on this, the interviewee is restricted in his or her freedom of statement by the unambiguous answer options (ibid., 381).

Finally, there is the option of the semi-structured interview, which is characterized by a guideline culture. In this case, an interview guide is used, which on the one hand gives the

interviewer a structure and support during the interview, and on the other hand gives the interviewee the opportunity to express himself freely outside the questionnaire structure. This guarantees to explore the topic area holistically (Meuser 2009, 465).

The main focus in this thesis is on a semi-structured expert interview, which will be explained in more detail later on.

9.3 Data Preparation

The decision for a qualitative method for this thesis was made in favor of a semi-structured expert interview. In the further course of this chapter, this method will be examined in more detail, the criteria for the selection of experts will be explained, the operationalization of the guide construction will be explained, and the category system of the interview will be made explicit.

9.3.1 Expert Interviews

As the name of the method suggests, expert interviews involve asking experts about a certain subject. Experts are people who have specific knowledge about a certain issue (Bogner et al. 2014, 10).

The aim of this work is to obtain more in-depth knowledge of English teachers about their experiences during school closures.

Thus, the interview subjects act as experts in order to answer the research questions. The generation of information forms the core of an expert interview (ibid., 23).

The experts are selected from a group of people who have access to the research topic. Following on from this, it will be explained which requirements are linked to the experts in order to be considered as interview partners in this work.

9.3.2 Sampling of the Experts

In order to answer the research questions, a specific selection of experts is needed, who were chosen based on certain criteria. In order to obtain first-hand information on English teaching during the school closures, it was obvious to interview English teachers for this work.

English teachers who had already completed their teacher training before the corona pandemic has started, were selected. It was also important that the teachers had been in the teaching profession for a longer period of time. Another factor for expert status and interviewing was based on the teachers' English teaching load during the school closures, which was considered an access requirement.

In order to identify differences between individual schools in the region of Karlsruhe, it was necessary to recruit teachers from different lower secondary schools for the interviews. Six teachers from six different schools in the region of Karlsruhe were interviewed.

The age and especially the gender of the interviewees were not subject to selection mechanisms at any time - even though only one male teacher was interviewed.

For this empirical work it was necessary to consider suitable test instruments, as well as operationalization processes. In the further course of this chapter, the creation and operationalization of the interview guide will be discussed in more detail, which is of high importance for this work.

9.3.3 Creation and Operationalisation of the Interview Guide

The interview guide, which forms the basis of this work, is indispensable as an instrument for data collection and data analysis. It is important to divide the guide into topics, which serve the research subject holistically. The guide has two functions. It functions as a structure of the topic area to be researched, and as a supporting tool during the interview (Bogner 2014, 27).

On the one hand, the creation of the interview guide is intended to present the world of feelings, ideas and interests of the expert. It is important to ask questions that are as open as possible, but to stick to a goal-oriented structure. This includes main questions and subordinate questions. A distinction is made here that the main questions primarily guide the conversation, and the subordinate questions serve as a conversation stimulus in the event of inadequate answers. If all these factors are taken into account when creating an interview guide, the topic area to be researched is opened up holistically (ibid., 28).

During the interview, it is important to note not to necessarily follow one's guide chronologically, insofar as it is necessary. For this reason, the natural conversation situation between the interview partners could be disturbed. The goal is to use the interview guide dynamically, but all questions from the guide must be given attention during the interview (ibid., 31).

9.3.4 Categorisation of Content

In order to create a meaningful interview guide, content categories are needed that form the basic framework for the interview. The goal is to assign subordinate questions to the categories in order to primarily answer the research questions and to achieve clear results later on. In this master thesis five categories were formed, which consist of the following:

1. Digital equipment of the lower secondary schools
2. Perception of teachers
3. English lessons during the school closures
4. Core competencies of the English classroom during school closures
5. Challenges and benefits of the digital term 2020

For the sake of clarity, the questions for the guide are presented in relation to the categories in the table below.

Table 1: Categorisation and guideline questions for the expert interview (own representation)

1. Digital equipment of the lower secondary schools
<ul style="list-style-type: none"> • Digital equipment for learning <ul style="list-style-type: none"> - Does your school have digital equipment for learning and if so, what does it look like? • Participation in the Digitisation Pact for Schools <ul style="list-style-type: none"> - Has your school written a media development plan to benefit from the “DigitalPakt Schule”? • Pupils’ access to digital equipment <ul style="list-style-type: none"> - Did every pupil have access to digital equipment during the closures and access to Internet?

2. Teacher’s personal perceptions after the school closures
<ul style="list-style-type: none"> • Teacher’s perception of the school closures <ul style="list-style-type: none"> - What do you think of when you think of the school closures in spring 2020?
3. English lessons during the school closures
<ul style="list-style-type: none"> • Change of “locations” of the English Lessons <ul style="list-style-type: none"> - How did your English lessons take place? • Feedback <ul style="list-style-type: none"> - How did you give feedback to your pupils?
4. Core competencies of the English classroom
<ul style="list-style-type: none"> • Improvement of the key competencies of the English classroom <ul style="list-style-type: none"> - Which elements of English language teaching have improved most during remote teaching in your classes? • Deterioration of the key competencies of the English classroom <ul style="list-style-type: none"> - Which elements of English language teaching have suffered most during remote teaching in your classes?
5. General challenges and benefits of the 2020 digital term
<ul style="list-style-type: none"> • Positive outcomes of the school closures <ul style="list-style-type: none"> - Which positive outcomes of the school closures have you detected? • Negative outcomes of the school closures <ul style="list-style-type: none"> - Which negative outcomes of the school closures have you detected?

In total, nine questions were designed for the expert interview, which served to clarify the research questions. Since a qualitative content analysis according to Mayring was used as an evaluation in the context of the research, which also works category-supported, the categorization already served as a basis for the evaluation of the results.

However, before conducting a first interview, a pretest has to be conducted in order to check the meaningfulness in relation to the research questions. The approach is explained in more detail below.

9.3.5 Pretests

As already mentioned, the questions of a guided interview need to be checked before the first expert interview. For this purpose, mock interviews are scheduled in which the planned questions are tested for their meaningfulness. In the following, a pretest was conducted with two English teachers who have been classified as an expert for the research questions. This interview is only conducted in order to be able to sort out and adapt questions.

It often happens in the planning that questions are formulated too narrowly. In addition, one quickly notices in the interview, which topics are irrelevant or relevant for one's own research (Niebert & Gropengiesser 2014, 130).

After the interview guide was revised, a new pretest was conducted with another expert. This pretest confirmed the revision of the interview guide and included new questions that made a significant contribution to answering the research questions.

Accordingly, the expert interviews could follow. This included making appointments and arranging the location. The reason for this was the ongoing corona pandemic. Not all interviews were conducted in person. By means of video conferencing services, the expert interviews could also be conducted at a distance.

9.4 Collection of Data and Data Processing

Following on from the pretests and the processed questionnaire came the data collection, which included the expert interviews. It manifested that in each interview, the expert was greeted and first asked if a voice recording of the interview was okay for them. In all cases, consent was given. However, before proceeding with the content portion of the interview, socio-demographic data was first requested and small talk was made to develop a conversational base in which the expert felt comfortable.

The goal was to query the gender, age, and years in the profession of the English teachers.

As the interview progressed, the interview guide was strictly followed. Here, the expert's answers were not commented or evaluated at any time, so that the interviewee could freely narrate from his own experience. As soon as the interviewee had answered the question and

there were no further questions from the interviewer, the interview was continued with the next question.

At the end of the interview, the interviewee was asked for any additions or a final word to conclude the expert interview. Lastly, the acknowledgements and farewells followed, with the question of whether the teachers would like to be informed about the results of the exploratory study. The average duration of the interviews was 20 minutes.

The next step was to process the interview data, which were analyzed using a computer-based data and text analysis tool called "MAXQDA". This tool supports the transcription (writing down of the voice recording) of the interviews. It must be mentioned that this program proved to be problematic during transcription, which could be due to the English language. Nevertheless, it assisted in the transcription process.

During transcription, rules according to Dresing and Pohl (Dresing & Pohl 2017, 20) were adopted, which are enumerated below:

- it is transcribed verbatim,
- word blends are adapted to the written language,
- semi-sentences lacking completion are marked with the abort sign "/",
- pauses of about three seconds or more are marked with "(...)",
- incomprehensible words and phrases are marked with "(inc.)" (ibid., 20).

Although care was always taken to conduct the interview anonymously, it was possible that the name of the expert or pupils were mentioned. In the transcription, names are anonymized using "XXXX".

For ease of reading as well as a means of reference, interview numbers were used, as well as a separation of speaker sections.

In summary, it can be seen how the data collection of the semi-structured interview in this thesis proceeded. This included the selection of the experts, the operationalization of the interview guide, the categorization of the interview to answer the research questions, the

pretests, and the data collection and analysis. This was accompanied by the transcription and the observance of its rules.

In the next chapter, the quality criteria of qualitative research, which are highly relevant for this research work, will be discussed.

9.5 Determination of Reliability and Validity

For empirical research, quality criteria are of high importance in all respects. Mayring sees the quality criteria as a standard for the classification of results (Mayring 2016, 140).

In contrast to quantitative research, in which the quality criteria are clearly defined, they are difficult to integrate in qualitative research. Since there is greater freedom in qualitative research - which is also characterized by this - the established quality criteria of *reliability*, *validity*, and *objectivity* are often difficult to define. In the following, the quality criteria are roughly outlined.

Reliability refers to the measurement accuracy of each instrument. This involves looking at the measurements to see how the same results are collected in repeated measurements with the same instrument (Bortz & Döring 2015, 195).

Validity, on the other hand, checks whether it measures what it is supposed to measure, thus producing authentic results. At the same time, the quality criterion validity forms the basis for the usefulness of research methods (ibid., 199).

The last quality criterion, *objectivity*, looks at the objectivity of the investigator. The aim is to check whether a research result is independent of the researcher. Here, one looks at objectivity in the conduct, evaluation, and interpretation of the results (ibid., 200).

The causality between qualitative and quantitative research can be found in the quality criteria. Looking at this research work, it becomes clear that these can be found in the previous chapter. Nevertheless, following Steinke (Steinke 2013, 324-331), the three quality criteria shall be given a more explicit name. This is based on seven criteria, which are

outlined in the following table. The criteria include intersubjective comprehensibility, indication, empirical anchoring, limitation, reflected subjectivity, relevance, and coherence.

Table 2: Quality Criteria and their Function in this Research Work (own representation)

Criterion	Function
Intersubjective comprehensibility	This is about the transparency of the research object as well as the creation of a preliminary understanding. Included here are the semi-structured guided interviews, as well as the method of qualitative content analysis according to Philipp Mayring, and the documentation of the interview. Furthermore, the interview guide was adapted through pretests and sampling of the interviewees (Steinke 2013, 324). The rules of transcription were followed according to Dresing and Pohl (Dresing & Pohl 2017, 20).
Indication	The indication takes a closer look at the appropriateness of the subject matter. This involves qualitative research in the overall context with a focus on sampling strategies and transcription rules (Steinke 2013, 326). Since this research field is also a current field that has been little analyzed so far, the method of expert interviews was used, which served to answer the research questions.
Empirical Anchoring	The empirical anchoring takes the field to be researched into consideration, which, as already mentioned above, has been little researched. With the help of qualitative content analysis, it was possible to do justice to this (Steinke 2013, 327). Through the transparent interviews, on the one hand in the appendix, on the other hand in the text itself, the results are visible at any time.
Limitation	Limitation shows the limits of this research. Here, contrasting cases are contrasted and researched where there is a limitation in terms of generalizability (Steinke 2013, 328).
Reflected subjectivity	The detailed examination of the research topic resulted in a thematic sensitization. This comes to the fore above all in the relationship between the

	researcher and the person being interviewed (Steinke 2013, 329). In the case of three out of six interview partners, one can speak of a familiar relationship, and in the case of the remaining six, of an acquaintance. The extent to which the answers can be attributed to social desirability remains questionable, but as can be seen in the interviews, many statements correspond to the truth due to the way they are expressed, and the factor of anonymity helps the experts to express themselves freely.
Relevance	The criterion of relevance addresses the question of the extent to which the results contribute to the study's progress in knowledge in the research field (Steinke 2013, 329). Based on six expert interviews, it is not possible to speak of a representative research study, but the results could be taken as an incentive for further research. Thus, the collected results serve as an orientation of current events at lower secondary schools in the region of Karlsruhe.
Coherence	The last criterion, coherence, is the connection between the collected data and the interpretation (Steinke 2013, 331). This criterion will be given attention in the following chapter.

The core criteria mentioned in table 2 illuminate the quality criteria of the present work. Due to the limited scope of this research work, however, these could only be briefly discussed.

In the further course, the data evaluation will be discussed, which was carried out with the help of qualitative content analysis according to Philipp Mayring¹².

9.6 Evaluation of Data

Now that the data preparation and the method of data collection have been dealt with, the focus will be on the data analysis.

¹² Philipp Mayring is a German psychologist, sociologist and co-founder of qualitative content analysis. He is considered the most important reference when it comes to qualitative research (Philipp Mayring).

As already mentioned, the data analysis tool "MAXQDA" was used in combination with the method of qualitative content analysis according to Philipp Mayring, which is well known. By means of the data analysis tool one is supported in the transcription of the voice recordings, as well as in the subdivision into categories. The categories within the interviews reflect the statements of the measured elements and this to classify core results (Brosius et al. 2016, 153).

In the following, it will be made explicit how the qualitative content analysis was elaborated in different phases in this research.

First, significant text passages that contributed to answering the research questions were marked during the work with the already transcribed interviews. Then, the already formulated categories of the interview guide were summarized with the formation of new categories from the interviews. The purpose here is to integrate newly emerged themes, relevant to the work, into the structured content analysis. This phase is also called "coding". By coding, anchor examples are assigned to a category (Kuckartz 2016, 101).

Following this, the entire interview material is sifted in a second pass in order to assign them to the categories formed. Finally, the research questions can be answered from these summary texts.

10 Presentation of Results

The previous chapter was intended to describe the research design of the present work in more detail, as well as to take a closer look at the preparation for the expert interviews and the data analysis. Here, the methodology of qualitative content analysis was introduced and the category system necessary for the research work was pointed out.

The last step of this thesis is to present the results of the qualitative content analysis. This chapter is dedicated to this topic. With the evaluation of the qualitative content analysis according to Mayring, the results of each category are presented in the following. The paraphrased evidence from the interviews is given for the categories, and meaningful anchor examples are supplemented by the reference "Int.". In the presentation of the results, no value judgement is made, but a factual-documentary style is used.

The results of the following categories are presented below.

10.1 Digital Equipment of the Lower Secondary Schools

An essential part that gained new importance during the school closures was the digital equipment of the schools and the digital equipment of the pupils. On the one hand, it was important to find out how media-equipped the schools were and whether they had written a media development plan for participation in the Digitisation Pact for Schools. Secondly, it was asked whether all pupils had access to digital devices in order to be able to participate in emergency remote teaching and to maintain communication with the teachers and their fellow pupils.

First, a look is taken at the schools' media equipment. Three out of six schools reported that they had computer labs. Two of the schools were able to buy new equipment with the Corona Aid, including tablets and laptops, as Int. 1 explains:

Yes, we have. And actually, we were very early. We were told that our school would get 268.000€ for installing things. Then corona came (...) it stopped a bit because of the people who can do it. But now the other day we had a talk that we will now get digital boards for all classrooms and they will start in March and April and then there was also a planning of lots of tablets / in the lessons. But this was actually planned for next year or even later. But because of corona changed the whole system. But then there was the

“Sofortmaßnahme” – I don’t know if you heard about that, also for digital supplies and there we got 48.000€ and we took this money, to buy mainly tablets. Now we got more than 100 tablets. And so, we could give all of our teachers tablets so that they could train on it. And we know have six boxes to take it into the classroom / but this actually came to early. This plan had something different in mind. First, we wanted to have the white boards and the tablets, because for the tablets you need Wi-Fi. And we don’t have that (laughs). So, we now have to do that earlier than planned and we talked to our mayor and he would say yes to install the Wi-Fi now, even if it takes a quite of time (Int. 1).

Half of the teachers interviewed work at a school that was already very well equipped in terms of media before the corona crisis. This means that an interactive whiteboard is available in all classrooms, as well as beamers and document cameras. WiFi is available at two schools so far.

At one of the schools interviewed, pupils from grade eight onwards work exclusively with iPads, which benefited teachers and pupils during the school closures (Int. 2):

Yes, at our school every student¹³ from grade 8 onwards they have iPads, which they have to buy themselves. So, we are very well equipped at our school (Int. 2).

Looking at the media development plans, which are essential for a digital school landscape, five out of six schools have written one and have already received funding. One school has not written a media development plan because they moved into a completely new school building a few years ago, which was equipped with the latest digital devices by the municipality.

During the interviews, it became clear that all the teachers interviewed work at a school which, at the latest with the corona crisis, has set up its own data cloud. Here, teachers and pupils can exchange, upload and download files, as well as exchange information via a messenger. This is perceived as very positive by all teachers, as Int. 1 describes:

The other thing we installed before the closures was a school cloud named IServ, we bought that from a firm. The pupils can get into and as well as the teachers with their passwords / We can write e-mails easily, there is a messenger system in it - which does

¹³ "Student/s" is used by teachers as a synonym for the term "pupil/s", even if it is not the correct use of term.

not work so well, because they all use WhatsApp, but nevertheless there is a chance because there is a server, which is our server and that server stands downstairs in our school house. It is much more safe than using another platform. But of course, they use WhatsApp because that's much more easier. Then in this platform, where you as a teacher, can write into that program, which tasks the pupils have to, you can write them mails and see, whether they uploaded something or not. They can upload and download documents and photos. That was and is very helpful (Int. 1).

However, the digital equipment of the pupils proved to be problematic, even if it was only the case for a few pupils. For some pupils, participation in emergency remote teaching failed due to the internet and the lack of know-how in the use of digital devices, as Int. 1 describes:

One pupil told me that he had to go outside the house and there he got some Wi-Fi, but not indoor. Others said that they live together with their five siblings and it was too loud and they were all in the room and he said he was so irritated. We tried to give them laptops. We even showed them how it works. After a few days the families brought the technical devices back because they couldn't manage. They didn't know how to work with that. Not only the equipment is a problem, but also the handling. Because when you never had one – from where should you know how to use it? So, it did not help these pupils to lend them laptops. Therefore, we train and train now that they know how to work with it, should it happen again (Int. 1).

This is underpinned by Int. 6:

There was also one girl (...) I have to say / She comes from a very difficult family situation. They did not have access to the Internet. That was difficult because we couldn't arrange Internet for her, this is not in our repertoire of possibilities. We had / The teachers of her had to bring her the materials or she had to come to school to pick them up (Int. 6).

Overall, all schools show a high level of digital equipment, some of which was increased by the Corona Aid. Nevertheless, many pupils failed in handling the digital end devices and the online conference tools.

10.2 Teacher's Personal Perceptions after the School Closures

Another important part of the interviews were the teachers' personal perceptions. They were asked what they think of when they think of the school closures in the spring. All six teachers interviewed agreed that the period of school closures was a difficult and challenging time.

One teacher mentioned that especially pupils from socially disadvantaged families had a harder time learning than pupils from a privileged household:

The pupils where the family structure is difficult / not all families have Wi-Fi, not all families have computers. Hardly any families have printers. So that was difficult for them too. Some of them had to share the laptop of their mother, who was in home office, too, and they had to find time slots to share it. Pupils who come from a difficult family situation are even more a “looser” in this way of learning than the ones who have better family structures. The others are also not the winners here, but they have much more help from their parents and more understanding (Int. 1).

Another teacher signalled that the period of remote teaching had to deal with social loss within the class band, as well as coping with the new teaching situation:

Students getting lost. (...) Socially, emotionally (...) We were not well prepared. So, I think it's not the equipment, but rather how to use it. I think many teachers were not used to it. We were not prepared (Int. 5).

Furthermore, one teacher mentioned that society has a wrong image of "remote teaching". The teacher describes this as follows:

Also, the expectation from “remote teaching” was something completely different from what you would expect. We did not switch our presence classes into online classes / would not have been possible. Instead we used one hour per week to meet each other and just talk about the situation (Int. 6).

Teachers did not deliver one-to-one lessons in digital form, which is discussed in the next sub-chapter.

10.3 English Lessons during the School Closures

English lessons as known from face-to-face teaching, did not take place during emergency remote teaching. All six teachers said that they did not teach English during the school closures. Rather, all teachers gave the pupils written assignments to work on, as can be seen in the following interview:

(laughs) Yeah, they did not take place. So, we actually used the time of the closures for repeating, doing revision on vocab, on grammar and things like that. It's pretty tough introducing a new topic to students without seeing them, which was a big problem. (...) So, we did not have lessons – no we did not have lessons (Int. 5)!

However, in all schools, care was taken to ensure that the class could see each other at least once a week via video conferencing in order to maintain social contact and to inquire about each other's well-being, or to discuss assignments, as Int. 6 describes:

(laughs) To be honest (...) there were no lessons in the way you would expect it. We surely used Zoom, until it was prohibited and then we used Webex. But we only used them to stay in touch and see how the others are. We did not use it to introduce new content. Rather to check, ask for feedback and just chat a little (Int. 6).

The use of web-based online conferencing providers was also accompanied by problems of use, as Int. 4 explains:

I did also use conference systems but (laughs) it didn't work. Very few 10formers managed to log in, one had problems with the sound, the next couldn't show his face, the third one didn't manage at all (...) yeah, it didn't really work quite well (Int. 4).

This is also confirmed by Int. 3:

Teachers who had classes that did their exams, like class 9, they began with Zoom conferences regularly but I had class 8. We started to this, at the beginning we did not have lessons, but we used it to meet each other, not with a specific topic. That was once a week at a specific day and time. I think it was very frustrating because a lot of pupils said that it didn't work, they don't have the equipment, they don't like it – whatever. Maybe it was 20 to 30 % who took part of this kind of conferences. I think some pupils thought that they hadn't to do this, like it would be something extra what the teachers offer. We started with Zoom, then it was not allowed anymore, then we tried the Jitsi conferences (Int. 3).

One out of six teachers worked with a work plan, as this is the custom at their school. This proved to be beneficial at the beginning of the school closures as the pupils knew that they had to complete their work plan week by week as usual:

The advantage of our school was / because we work with a work schedule. At the beginning they were used to continue with their work schedule by doing one exercise after the other. So that helped in the first three weeks until Eastern. That was no problem at the beginning. We thought okay, they had something to do (Int. 3).

Feedback, which is an elementary tool in every lesson, was given to all teachers in written form. The school clouds were used for this and regular email providers were also used. One of the teachers interviewed also brought the assignments home to the pupils, as Int. 2 illustrates:

I wrote it down, because they had to send texts for example and then I corrected the texts and gave them feedback by that. Or when they sent me the photos, which was really great, because they created great collages / I saw them and just texted them back. I think they were really proud of that. That was really nice. Once I went to my students because I had a package of papers. I went to them at home. I saw some of them and it was really nice talking to them. I gave them some feedback and they gave me feedback. It was so nice to see them and to talk to them and to talk to their parents (Int. 2).

The teacher enjoyed the reunion with the pupils that resulted from the "bringing of work materials".

10.4 Core Competencies of the English Classroom during the School Closures

An important point in English lessons are the core competences of the subject, which include *listening, speaking, reading* and *writing*. Within the expert interview, the aim was to find out which competencies have improved and deteriorated during the school closures.

Two out of six teachers do not see any improvement in the core competencies of their pupils, as they describe as follows (Int. 3 & Int. 5):

Hmm (...) (laughs) I think this is a really difficult question and I'm not sure if anything has improved. I don't see any improvements (Int. 3).

No – I cannot talk about any improvement (...). I think (...) there was more or less no listening (...). Yes, there was reading, reading exercises and they did not communicate, too. No speaking. A little bit of writing (...) (Int. 5).

Three out of six teachers reported seeing improvements in writing skills (Int. 2, Int. 4 and Int. 6):

Most of the time it was really writing and during the Zoom meetings it was speaking. Very hard. (...) I think in year 9 it was writing and grammar. Grammar was the easiest because it is just right or wrong. They could do that on their own (Int. 2).

(...) improvements (...) I think probably it was most in the (...) for the ten formers maybe in practicing creative writing once more. Because those who were really eager who handed in their texts all the time, got a lot of feedback and for the ten formers also / very structured final exams. They worked on that, they handed it in to me. I gave feedback and said: Have a look at this grammar. But that was only for those who did it. The others did not really benefit from that (Int. 4).

(smiles) interesting question (...) It's hard to think of the improvements when the challenges are present until now. I think writing got better, because they got a lot of writing tasks during the school closures – but that's it. You can't believe what's missing (...) it's crazy. Reading maybe also, because that was something they had to do, too (Int. 6).

One teacher mentions using online dictionaries to listen to vocabulary acoustically to practise pronunciation (Int. 1):

What has improved? Maybe that they kind of / I told them for example when you have new words and I told them to listen to an online dictionary to hear the pronunciation. That helped them to be not so far away to use the Internet and listen to the word. But that's it. Nothing else has improved (Int. 1).

Looking at the deterioration of core competencies in English, all teachers agree that speaking and listening have suffered the most due to the school closures, as Int. 5 and Int. 6 illustrate:

Speaking, of course, and listening. (...). I also have the 6th grade at the moment and there is a bit content missing. I think vocabulary was not the problem, because this is something you can do pretty well on your own. It's more like (...) the time that we need for talking. The normal classroom phrases, how to behave in an English lesson is something we still work on. This is something that the six formers normally now. I think this a big deal or (...) "English only" in English lessons is a big problem and I think maybe that's a bit because of the time gap (Int. 5).

Especially speaking! There was hardly any chance to speak in English and for an 8th grad, which has a basic vocabulary after three years of having English, a lot got lost / they had no connections to it. Listening as well. I once tried a listening via a web conference and it didn't work – because some had no voice, the others could not log in (...) this is just not made for remote teaching (Int. 6).

10.5 General Benefits and Challenges of the Digital Term 2020

Looking at the general benefits and challenges of the school closures in spring 2020, there are many different aspects which are addressed here. First the opportunities are discussed and finally the challenges.

One advantage that four out of six teachers mentioned is the forced exposure to and use of new media, as Int. 4 explains:

In general (...) Positive is probably students and also teachers had to learn fast how to use this digital media (...) things we all made a lot of progress in that time. That's also something I use more of now. If I teach the class and they want some additional information I say "No problem I sent it to you via e-mail or I put in our English folder and you just can get it from there." Sometimes I also tell them to hand in their texts with this tool and then I can give them feedback. So, I don't have all this paper work. That's something positive (Int. 4).

Furthermore, three teachers indicated that self-organisation has improved among some of the pupils, as indicated by Int. 6:

What also became clear is that for some the remote teaching really worked well in terms of self-organization. This was only seen in families with a strong educational background (Int. 6).

One teacher sees the better view of her pupils as an advantage (Int. 2):

I think when you have 30 students in one group you do not really know what this person does but when they really work hard and send you all the exercises and tasks, you see how much effort they put in it and you get a new feeling for the student. You get a better view of your student you get them to know better (Int. 2).

One naming was for pupils with psychological problems who benefit from school closures, as mentioned by a teacher in Int. 4:

The only thing from the positive one in the 10th grade I had one student who never / he had psychological problems who didn't come to school very often, but is very good in English. And I think this way of teaching was the better one, because he got the tasks and he answered them and he didn't have to ask someone else what did we do. For him it was positive, but for the rest I wouldn't say so (Int. 4).

A teacher's recognition of the importance of a good class community and atmosphere within a class also seemed beneficial (Int. 5):

The chances I can see are that we now know even more than before how important it is to have a good vibe in the classroom or how important it is to be able to ask each other "how do you feel today?" "how was your weekend?" "Do you need any help?" "Do you have any problems?" Things like that (Int. 5).

Looking at the challenges of school closures in spring 2020, all six experts agree that above all the loss of contact with pupils is the biggest challenge of school closures. Four anchor examples illustrate the scenario:

What suffered the most is that you lose the contact. You invest a lot of time to build a relationship to each child. Every day's work was destroyed. When they came back – of course everybody was so happy – but we were so far away suddenly. We missed so much. We lost so much time with each other. It takes a long time to rebuild that. That's the thing I lost most (Int. 1).

Let's start with the negative things because I can (laughs) / Because the social aspect / don't meeting others, they don't meet peers and they don't meet pupils in their age. That was a real problem, more than maybe that the thing that they don't learn so much in this time (Int. 3).

Yeah, challenges. I think I already mentioned them more or less. Talking to someone, face to face, is so different. It was really hard to not know about the situation they are in, so how are their families. There were students we had more or less no contact to, for weeks (...) (Int. 5).

We could not see our students for such a long time. We as teachers (...) really missed that and the students, too. In that situation we particularly saw, how important it is to have a good relationship to each other, especially to ones who come from a difficult family situation (...) they needed our contact the most (Int. 6).

Two teachers mentioned that the loss of content is a challenge, as English teaching is an intrinsic and building class. The fact that it has proved difficult to present new content online has not improved this problem as Int. 4 illustrates:

What I would like to add, that it was difficult, for new content like grammar part / that didn't really work well. Introducing new grammar, new topics. Practicing the things that they already learnt was easier. Completely new topics were so difficult for them, so we didn't do it (Int.4).

Self-directed learning as well as structuring their own day was identified by two teachers as a challenge during school closures, as they mentioned in the interview (Int. 1 & Int. 3):

They can't organize themselves, and they said so! They slept until 12 and then it was quickly 3 pm and they hadn't done anything, and then there was nobody to tell them what to do (Int. 1).

It wasn't really clear when they have to start, when they have to do the work schedule, what is going to happen if they don't do it. This goes in hand with self-directed learning which did not work at all. Well the thing is, that our pupils should know how to learn alone, because we are always there. When they are at home with the same exercises, they begin to struggle because we teachers are not there to support (Int. 3).

A final issue mentioned by one teacher as a challenge is the problem of corona deniers. This is about parents who deny the coronavirus and do not accept that their children have to wear a mask at school and have to follow the distance and hygiene measures. A teacher gives an insight into Int. 6:

Another challenge are parents, who do not believe that the virus exists and want their children not to wear a mask. What do you do with them? (laughs) We have three pupils who aren't coming to class since the school closures / they are learning from home. They get their exercises through our school cloud and the teachers correct it. Once a week they have to get in contact with the teachers (Int. 6).

11 Discussion of the Results

In the previous chapter, the results of the expert interviews were presented. No judgement was expressed in the process. In the discussion of the results, the results will now be processed interpretatively. As far as possible, the results will be discussed in relation to the theory in order to find parallels and contradictions. At the same time, the research questions will be answered at the end of each sub-chapter on the basis of the results.

The coronavirus has paralyzed public life in almost all countries of the world during its outbreak and spread. This most recently bore consequence in the closure of schools. The reason for this was to contain the virus. The fact that this step represented a major challenge for schools was clear from the decision of the federal government and the states. Digital instruction was expected, even if teachers and pupils had never done it before. The rapid shift from face-to-face to emergency remote teaching confronted teachers and pupils with new methods and the compulsion to engage with and use new media. The reality in the schools was different, as could be made visible through the expert interviews.

In the following, the overarching research question is answered with its subordinate research questions, which are presented again for overview:

What challenges, but also opportunities, did English teachers in the region of Karlsruhe face during the spring 2020 school closures?

Thus, the following subordinate research questions are added:

- How digitally enabled are schools in the region of Karlsruhe?
- Did the schools in the region of Karlsruhe write a media development plan to benefit from the Digitisation Pact for Schools?
- Was it possible for every pupil to participate in emergency remote teaching?
- How did English teachers experience the period of school closures?
- How was feedback provided to pupils during the school closures?
- How did English lessons take place during the school closures?
- Which core competencies of the English classroom improved, and which deteriorated, during the school closures?

- What were general challenges and benefits of the school closures?

11.1 Digital Equipment of the Lower Secondary Schools

In general, all schools are well-equipped in terms of digital equipment, even before the school closures. Five out of six schools have written a media development plan in order to benefit from the Digitisation Pact for Schools.

Looking at the digital equipment of the pupils, which was of great importance during the school closure, it becomes clear that in four out of six schools not all pupils had access to digital devices and also the Internet. Although it was possible to borrow technical devices from the school or the state media center, the idea did not work if the pupils did not know how the devices worked or if there was no Internet available at home. For this reason, many pupils returned the terminal devices after days. This presents a problem in terms of educational equity. Classes, as they were during the school closures, posed a great challenge for pupils from less privileged households. For financial reasons, some pupils lack the digital devices and Internet access to participate in emergency remote teaching at all. This represents an educational disadvantage. Even though the Digitisation Pact for Schools with the expansion of its emergency measure provides 500 million euros for the purchase of digital end devices for pupils who do not have technical end devices, the measure is not seen as a success if Internet access cannot be guaranteed. This should be strengthened by the municipalities so as not to further increase educational inequality, but to be able to guarantee all pupils equal participation in the classroom (Digitalpakt Schule). Despite the offer of the Digitalisation Pact for School, as of March, only 0.6% of the funds have been drawn down by all schools in Baden-Württemberg. This shows that so far, few schools in Baden-Württemberg have recognised the value of the Digitalisation Pact for Schools (ZDF).

The schools surveyed were also successful in using a school-owned cloud to ensure communication between teachers and pupils during school closures. Other useful features consist of being able to upload and download documents and images, to share assignments as a teacher, and to allow pupils to upload their completed assignments for review. This is also confirmed by Wacker et al. who did research on the benefits of remote teaching during the school closures. Here, in terms of digital learning, most mentions fall on school clouds, which are recognized as very beneficial by respondents (Wacker et al. 2020, 88).

In summary, it can be said that the schools in the Karlsruhe region are very well positioned digitally and all, except for one school that is already technically well equipped, have written a media development plan. Initially, all pupils were able to participate in digital instruction, but the home environment, which in some cases did not have Internet or WiFi, and the lack of know-how in using it represented a major hurdle.

11.2 Teacher's Personal Perceptions after the School Closures

Within the context of this research, English teachers' own experiences and emotions during the school closings represent an important component.

All of the English teachers interviewed agreed that it was a challenging and uncertain time that no one had anticipated. Teachers as well as pupils were thrown in at the deep end and confronted with a situation that had never been present before. This was also confirmed by Ilka Hoffmann in her research in April 2020. Teachers felt very overwhelmed by the new situation. New conceptions of lessons had to be created quickly without receiving any help from the outside world. The lack of experience in dealing with remote teaching posed a great challenge to teachers. Concepts were desired from one day to the next, which were simply not feasible. (Hoffmann 2020, 97).

All in all, it can be said that all teachers regarded this time of school closures as a challenging and difficult one that brought with it various problems.

11.3 English Lessons during the School Closures

The question about the implementation of English lessons during emergency remote teaching was answered the same way by all interviewed teachers: there were no lessons. The idea of moving lessons to a digital platform did not take place in any of the schools interviewed, as this was not possible. Pupils were given assignments to work on (via email or cloud), which they could upload to the school cloud for correction, or had to email it to the teacher. Online conferencing tools were also used once a week, but only to check on each other's well-being and not lose social contact altogether.

Using the platforms posed a problem for many pupils, who did not know how it worked, had technical problems, or did not show up for "class" in the first place. Eckard Klieme also sees the term "distance learning" as a term that is misunderstood by society and advises that it should not be used, since in most schools there was no comparable teaching as there was in the face-to-face time (Klieme 2020, 118).

Teachers also mentioned that it was not possible to present new instructional content to pupils during school closures. Therefore, the focus was on repetition or writing assignments.

Feedback during school closures was provided by all teachers exclusively in written form via email or school cloud and personal phone calls, if necessary. This method of feedback was also confirmed by Köller et al. in their research. Due to the pandemic-related situation, it was one of the few ways to contact pupils and give them feedback on their performance (Köller et al. 2020, 168).

One teacher mentioned that she once personally brought assignment packets home to her pupils and was able to give feedback to her pupils in this process.

Overall, it can be stated that all teachers chose the written-digital way for learning and giving feedback to their pupils, as well as personal phone calls. All teachers did not transfer their lessons in one-to-one digital lessons.

11.4 Core Competencies of the English Classroom during the School Closures

The core competencies of listening, speaking, reading, and writing are an important part of English language teaching. In the course of this work, it was necessary to find out to what extent the core competencies were promoted or deteriorated during the school closures. This sub-chapter is dedicated to answering this question. Since the research question refers exclusively to the core competencies of English teaching, no literature on this topic could be found, which is why reference is made exclusively to the results of the expert interviews. First, a look will be taken at possible improvement of the core competencies.

Two of the English teachers interviewed stated that they did not see any improvement in the competencies in their pupils, the last of which was due to the lessons not taking place as well as the loss of social contact.

Three teachers mentioned that pupils would assign improvement, if any, in the core competency of "writing", because the pupils were required to complete only writing assignments during the school closures.

One teacher mentioned that the use of online dictionaries is an advantage because when learning new vocabulary, the pronunciation can be listened to and pupils can continue to learn vocabulary while being exposed to the Internet.

It must be said that all teachers struggled a lot on the topic of improvements and had to "search" for improvements.

Looking at the core competencies that have suffered the most during emergency remote teaching, all teachers agree: speaking. Due to the omitted lessons and the exclusively written school assignments, there was hardly any possibility to deepen speaking with each other. There were phases of exchange in English in partner or group work, as well as in the weekly online conferences, but this did not help deepen the core competence.

The core skill of "listening" also suffered during the school closures, according to four teachers. It was hardly possible to do listening exercises with the pupils. In a few cases, YouTube videos were sent to the pupils, but whether these were actually watched is still a mystery to the teachers today, as there was a lack of transparency in this regard.

In summary, teachers struggled greatly in improving core competencies as they had to search for them. It became clear that there was more of a deterioration in the core competencies of teaching English during the school closures, which can be attributed to the school closures.

After all, three out of six teachers stated that they could see a slight improvement in writing skills, and also that the graduating classes could benefit from the many written assignments regarding their English exams.

Clearly, the deterioration of oral parts in English classes appeared to be negative. By working exclusively on written tasks, there were hardly any opportunities to do justice to the core competence speaking, which is what foreign language teaching is all about. Also, in listening, four teachers felt a strong deterioration of skills, which was due to the poor implementation of listening comprehension and the intransparency of insight into pupils' behavior at home.

11.5 General Benefits and Challenges of the Digital Term 2020

The final major question, and more importantly, the main research question of this master's thesis is dedicated to the overall benefits and challenges of school closures in the spring of 2020.

First, the benefits of the school closures will be broken down, and then the challenges of the school closures will be addressed.

Probably the biggest improvement that has been seen during the school closures is the exposure to and use of new media on the part of teachers and also pupils. This was confirmed by four experts in the interviews. Due to the rapid change to emergency remote teaching, both sides had to quickly learn to cope with new tools in order to continue to stay in contact with each other and also to exchange tasks in this way. Wacker et al. confirm the finding in their research, in which engagement with and use of digital media are also perceived as positive (Wacker et al. 2020, 87).

Three teachers also feel that some of their pupils had a better organization of their daily routine. They were able to structure their day on their own and to organize their tasks well. On the other hand, it could be clearly seen that these pupils come from a socially strong family where the parents have a focused view on their children. The situation of family background plays a significant role in the corona pandemic, as educational researcher Stephan Huber has also evaluated in his research. The lack of support from parents significantly leads to poorer educational success compared to pupils who are supported by their parents (Huber & Helm 2020, 50).

Furthermore, one teacher mentioned that the school closure can give teachers a better view of their pupils because they can see exactly how hard or not a pupil is working.

Another point raised by a teacher is the advantage she sees for pupils with psychological problems. She mentioned that she had a pupil in class who hardly came to class because he has a mental illness. It was a hurdle for him to come to school. However, he enjoyed the English classes. For him, emergency remote teaching was an immense advantage because he could work from home in quiet.

Another benefit that one teacher saw in the school closures was the realization by teachers and pupils of the importance of having a good class atmosphere as well as strong cohesion within a class and school. After the school closings, people are more attentive to the well-being of their counterparts and value their time together much more.

Finally, the challenges of school closures that teachers felt are presented.

Significant for all teachers seems to be the problem of losing contact with their pupils. Some teachers reported that they had not received any feedback from some pupils for weeks and that they had also lost contact with them from time to time. This is accompanied by the fact that the pupils were no longer tangible and the hard-earned teacher-pupil relationship disappeared very quickly. This statement is also agreed with by Wacker et al. (Wacker et al. 2020, 88), as well as Michael Wrase (Wrase 2020, 108), who in their research saw the lack of social contact as a major challenge of school closures.

Another challenge was the massive loss of content instruction that occurred during school closings. It was not possible for teachers to change their lessons into 1:1 digital instruction. Due to the limited possibility of time to use online conferencing, the time was used for checking the well-being of the pupils. Also, the fact that not all pupils made it to the online conference (technical problems, comprehension problems, and no-shows) made it impossible for teachers to deliver new learning content. In this case, Eckhard Klieme advises teachers to present new learning content via explanatory videos (Klieme 2020, 123). What remains questionable here is the consideration of the effort for the teachers and the technical possibility for the pupils to watch the explanatory videos, which Klieme does not consider

in his recommendation. The theory sounds almost tempting, yet the reality reflects something else, as the findings show.

Self-directed learning during school closures presents another challenge. As mentioned earlier, some of the pupils who were supported by parents during school closures had no problems with self-directed learning. However, this was problematic for pupils from educationally disadvantaged families. Teachers reported that many pupils slept until 12 o'clock noon and found it difficult to structure their day when no one told them what to do. This also highlights the importance of the teacher's presence with pupils to continually guide and encourage them. Self-directed learning requires learning strategies that must be practiced and consolidated with the pupils beforehand so that they can then take them for granted (Fischer et al. 2020, 144). Since this was not the case in the schools surveyed, pupils cannot be expected to know how to learn in a self-directed manner. What is clear, is that this must now be deepened in the attendance periods, in order to be able to guarantee self-directed learning during another lockdown.

A final interesting point picks up on the statement of a teacher who cites the challenge of corona deniers. At the school of the teacher interviewed, there are parents who are convinced that the coronavirus does not exist. As a result, they also do not want their children to wear nose-to-mouth coverings and to follow hygiene and spacing rules. For this reason, these pupils continue to be in emergency remote teaching classes and are not allowed to come to face-to-face classes. The decision to exclude the pupils from face-to-face classes is correct, as they pose a significant risk to the other pupils and the teaching staff. The only problem is if the pupils also believe in the conspiracy theories and thus become radicalized and want to communicate this to their fellow pupils. Finally, these pupils, who are in compulsory education, have to be offered parallel lessons, which reflects an additional task for the teachers.

It is clear that the challenges of school closures outweigh the benefits. Although some teachers see the increased use of new media, better organisation of pupils, a better view of pupils, the benefit for pupils with psychological problems, and the realisation of the importance of a good classroom atmosphere as positive, the challenges weigh heavily.

Above all, the loss of social contact represents the biggest problem of the school closures. Furthermore, it was hardly possible to present new content to the pupils, which caused stagnation. In addition, many teachers saw a problem in the self-directed learning of the pupils, which was accompanied by the intransparency of the pupils' working methods. A last and also notable challenge is posed by parents who deny the coronavirus and thus deny their children access to presence classes.

12 Limitations of this Research

The results analysed showed how the corona crisis changed teaching and school life in lower secondary schools in the region of Karlsruhe. However, this research operates within a defined framework, which is subject to limitations. These limitations will be explained in more detail in this chapter.

In order to gain first-hand insights, the method of expert interviews within the field of qualitative research was chosen. Here, expert interviews could be generated from own contacts with whom partly a familiar relationship existed. For this reason, it cannot be ruled out, even if unconsciously, that the experts' answers were idealised.

In this work, only English teachers were used as experts, who were able to make accurate statements for their subject and share their findings with the researcher. This means that only a small proportion of lower secondary teachers were able to give an insight into their world. Teachers with other subjects were left out of this work.

Due to the time constraints of this work, a total of six expert interviews could be conducted, which is why it is not possible to generalise the statements. Nevertheless, it represents a small insight into the lifeworld of English teachers in the region of Karlsruhe. With regard to the quality criteria of reliability and validity, it can be said that the standardisation of the interview guidelines and the transparency of all research steps met the quality criteria.

The topic of this research work is very topical and has been little researched so far. It may seem that the small number of expert interviews has little significance, but the first findings in this field are emerging.

13 Conclusion and Outlook

This Master's thesis deals with the challenges and benefits of school closures in the 2020 digital school year that English teachers have faced. Its importance is due to the fact that it offers the possibility of avoiding already identified challenges and seizing benefits in the event of another nationwide school closure.

The aim of this Master's thesis was to find out, through expert interviews, what challenges and benefits English teachers faced during emergency remote teaching. The following results refer to subordinate research questions, that were necessary to be able to answer the primary research question holistically, and to be able to better classify the results in the overall concept.

The corona pandemic has clearly shown how important it is to teach in a contemporary way and to integrate digital media into teaching. During the school closures, many teachers faced a major challenge in preparing lessons digitally, because they never used it with their pupils.

For this reason, it was of great importance in this master's thesis to take up the history of media didactics, to describe the current situation around the coronavirus and to present already collected findings of the school situation in Germany.

Furthermore, the Digitisation Pact for Schools represents the basis for the digitalisation of German schools, which is why it should not be disregarded in view of this thesis and the corona pandemic.

In an age that is constantly surrounded by new technologies, it was indispensable to mention the competence expectations for pupils in the 21st century.

In order to be able to teach digitally at all, there is a need for didactic concepts that deal with emergency remote teaching. Several guidelines were presented that can be of great help to teachers in the transition to emergency remote teaching. A small selection of proven apps that can be integrated very well into remote teaching was therefore also presented.

From the empirical study conducted, it emerged that all the schools surveyed have extensive technical equipment, at the latest after the approval of the corona emergency aid from the federal government, in order to also lend equipment to pupils who do not have access to technical end devices. The use of clouds for digital work is also already benefiting all the schools surveyed. With the help of various providers, it was possible to ensure that work material was exchanged via the platforms during the school closures and that contact between pupils and teachers was maintained as far as possible. In addition, five of six schools wrote a media development plan in order to benefit from the Digitisation Pact for Schools

With regard to the digital equipment of the pupils, there are clear differences between the schools. While in four out of six schools all pupils had access to a technical device and the internet, this was not the case in two of the schools surveyed. This represents an educational inequality in emergency remote teaching, which poses an even greater challenge to pupils from socially disadvantaged families compared to pupils from educationally advantaged families. The lack of know-how in the use of technical devices such as laptops or tablets, as well as the lack of access to the internet, precludes full participation in emergency remote teaching. This is reflected in the pupils' frustration, which is reflected in their withdrawal from lessons.

In terms of their own perceptions of the school closures, all teachers reported that it was a challenging, uncertain and labor-intensive time. These feelings resulted from the rapid decisions of the federal and state governments, which closed schools from one day to the next.

The new concept of emergency remote teaching which did not yet exist in Baden-Württemberg's schools, left the teachers to organise the lessons on their own. For this reason, it also became clear in all the interviews that lessons as they are known in the traditional sense, did not take place. The pupils received their assignments via email or the school's own cloud, which they had to hand in by a set date. Online conferencing services were also not used for English lessons, but to keep in touch with the pupils and to check on everyone's well-being. This goes hand in hand with the feedback, which was also only given in written digital form, as well as by phone.

As a further result, the core competencies of English teaching proved to be the decisive "losers" in remote teaching. All the teachers interviewed agreed that the speaking and listening competencies in particular suffered badly from the school closures. This is due to the pure writing work of the pupils.

The teachers saw improvements in the core competencies of writing, if at all. This is also due to the purely written task formats that the pupils had to master. It must be mentioned here that the teachers had to "search" for benefits and two of the interviewed English teachers did not see any improvements due to the school closures.

As part of the survey, it was also necessary to make the general challenges and benefits of emergency remote teaching visible. Here it became clear that the challenges outweighed the benefits. Above all, the loss of social contact between teachers and pupils was the biggest problem. In addition, the introduction of new subject areas was difficult to implement. Furthermore, not all pupils were able to learn in a self-directed way. This was partly because they had not learned it before, or because they did not find a structure when learning at home. Another challenge was posed by parents who deny the coronavirus and thus deny their children's access to face-to-face lessons.

With regard to the benefits that have arisen from the school closures, the focus is on dealing with new media. Those who had not worked with new media before, had to tackle with them by the time of the school closures at the latest. This was essential to maintain contact with the pupils and to share tasks.

Furthermore, a teacher also gained a new, better view of her pupils, since she was able to see exactly who had worked on what and how much work the pupils had put into the tasks.

A noteworthy insight is also shown for pupils with psychological problems who do not like to come to school, but do show interest in English lessons. They thrive in the form of emergency remote teaching, as they can study undisturbed and alone from home without being absent from school.

Not unimportant also seems to be a teacher's realisation of how important a good class atmosphere is, as well as having a good teacher-pupil relationship, in order to continue to

enjoy an intact learning atmosphere as much as possible, especially in emergency remote teaching.

As the research topic is still a very topical issue, it was not possible to compare all research contents with a current state of research, but there were many similarities with already collected findings.

The objective of the present study was to determine, on the basis of expert interviews, which challenges and benefits resulted from the school closures at lower secondary schools in the region of Karlsruhe. Based on the aspects mentioned above, it can be concluded that the challenges outweigh the benefits.

It remains to be said that there is still a lot of work ahead of the schools in the region of Karlsruhe, but also in the other states of Germany. Even if the first contact with technical end devices came at the latest now, it came too late. Digitisation in Germany's schools is not at a comparable level when compared to other countries, as the PISA study of 2018 has already demonstrated. At the latest since the corona crisis, the use of digital end devices should have taken on a new significance in order to be better prepared for the current lockdown, which is associated with emergency remote teaching.

In addition, the digital equipment of the pupils as well as the essential access to the internet from home must be equally guaranteed for all pupils, in order to be able to participate in emergency remote teaching. This also includes training in online platforms and the use of technical end devices.

Schools should also have learned from the issues of emergency remote teaching in order to be able to offer another form of teaching in the event of further school closures, which came true as at December 16th, 2020, in all parts of Germany. It is understandable that the first school closure was a challenge for all persons involved and that it was not possible to develop a concept for a new teaching situation off the cuff. However, now, nine months after the first school closures, concepts should be available on how to move from simply distributing tasks to online teaching. This is necessary in order not to leave even more gaps for the pupils, but to be able to continue with the teaching content. What is needed here is further training and exchange with colleagues who have a lot of experience in this matter.

In this way, it could be ensured in the future that further school closures do not represent an obstacle for the schools, but that a seamless transition to emergency remote teaching is not seen as a challenge. This also includes the shift from the term emergency remote teaching to distance learning.

Future studies on this topic should focus on the loss of pupils in terms of school content, as well as the loss of social contact. Currently, Germany's schools are facing school closures again. It would be interesting to find out how schools proceed in the event of a second school closure - have they learned from their mistakes, or does the “teaching” take place as in the first lockdown?

This research paper only gives a small insight into the challenges and benefits of school closures in the region of Karlsruhe in spring 2020. A larger study could be conducted here, meaning to extend the city and also the research questions.

In conclusion it can be said that the school closures have been very challenging for all persons involved. Nevertheless, one should also see chances in the crisis for new possibilities, which here result in new ways of learning. Instead of transferring familiar patterns into a digital setting, teachers should get to know new technical possibilities and design one's lessons in a contemporary way in order to keep up with the times.

It must be said urgently that politics plays a crucial role for emergency remote teaching. Even though they make the decisions for the country, they do not know what Germany's schools look like during the pandemic. Teachers' voices should be heard, and politicians and school personnel have to work hand in hand to emerge stronger from the crisis.

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List of Abbreviations

4 C's:	key skills of creativity, collaboration, communication and critical thinking
ibid.:	ibidem
IT:	Information technology
OECD:	Organisation for Economic Co-operation and Development
P21:	Partnership for 21 st Century Skills
PISA:	Programme for International Student Assessment
SAMR-Model:	Substitution-Augmentation-Modification-Redefinition-Model
SARS-CoV-2:	Severe acute respiratory syndrome coronavirus type 2
URL:	Uniform resource locator
WHO:	World Health Organization

Appendix

Interview 1 - 6

Interview abbreviations

I:	Interviewer
R:	Respondent
(...)	Pause from about 3 seconds
/	Half- sentences that lack completion
XXXX	Anonymised name
(inc.)	Incomprehensible words and phrases
****	Vulgar language

Description of the respondent

The interviewed English teacher is 59 years old and has worked in the teaching profession for 25 years. During the school closures she taught a 5th grade. She teaches at a lower secondary school in Pforzheim and has also the function of a deputy headmaster.

Interview 1

I: Thank you for participating in my study and your time.

R: You're welcome!

I: Does your school have digital equipment for learning and if so, what does it look like?

R: Actually, we mainly have these computer rooms for whole classes, where 18 pupils can have class in and one for 27 pupils. The other thing we installed before the closures was a

school cloud named IServ, we bought that from a firm. The pupils can get into and as well as the teachers with their passwords / We can write e-mails easily, there is a messenger system in it - which does not work so well, because they all use WhatsApp, but nevertheless there is a chance because there is a server, which is our server and that server stands downstairs in our school house. It is much more safe than using another platform. But of course, they use WhatsApp because that's much more easier. Then in this platform, where you as a teacher, can write into that program, which tasks the pupils have to, you can write them mails and see, whether they uploaded something or not. They can upload and download documents and photos. That was and is very helpful. We have intensified this and trained with them after the first closure, when we realized that this tool for all their tasks, which we hadn't worked before so much. Because when you are in class, you don't need that so much. So, we learned that this is useful and before they went in summer holidays (...) then we went into these computer rooms, let's say twice a week / extra lessons / besides we were only allowed to teach the main subjects. So, we did some extra lessons in computer, because we had more time because of the missing time of the other subjects. Because we didn't know how it would go on after the summer holidays. So now it is very helpful, because when now child is in the quarantine, then they have to do the learning at home and we as teachers can do that with that tool. We upload the tasks and can offer distance learning, whilst the others are here in presence. And you can even say when it's open and when it closes, so they have a time until when they can hand in their tasks. It is a very helpful tool and we are very happy that we have that.

I: Great! Has your school written a media development plan to benefit from the “DigitalPakt Schule”?

R: Yes, we have. And actually, we were very early. We were told that our school would get 268.000€ for installing things. Then Corona came (...) it stopped a bit because of the people who can do it. But now the other day we had a talk that we will now get digital boards for all classrooms and they will start in March and April and then there was also a planning of lots of tablets / in the lessons. But this was actually planned for next year or even later. But because of Corona changed the whole system. But then there was the “Sofortmaßnahme” – I don't know if you heard about that, also for digital supplies and there we got 48.000€ and we took this money, to buy mainly tablets. Now we got more than 100 tablets. And so, we could give all of our teachers tablets so that they could train on it. And we know have six

boxes to take it into the classroom / but this actually came to early. This plan had something different in mind. First, we wanted to have the white boards and the tablets, because for the tablets you need Wi-Fi. And we don't have that (laughs). So, we now have to do that earlier than planned and we talked to our mayor and he would say yes to install the Wi-Fi now, even if it takes a quite of time. I suppose beginning of the next year / perhaps in March or so. And then we can use the tablets in the classroom. We bought them with the thought, that when we have to close again, that we could give some of the tablets to some of the children who haven't anything at home or who can only work on their phones, which we think is too small and too stressy, whereas the children even think that this is not stressful. So that was the reason why we started early with the tablets. Let's see how it will work.

I: Did every pupil have access to digital equipment and Internet?

R: No, they haven't. We had quite a few pupils. Mainly pupils from migrated families. They live in small rooms, small flats somewhere at the outer parts of villages / they often had no Wi-Fi and some of them did not have a tablet or anything. They only had their mobiles. One pupil told me that he had to go outside the house and there he got some Wi-Fi, but not indoor. Others said that they live together with their five siblings and it was too loud and they were all in the room and he said he was so irritated. We tried to give them laptops. We even showed them how it works. After a few days the families brought the technical devices back because they couldn't manage. They didn't know how to work with that. Not only the equipment is a problem, but also the handling. Because when you never had one – from where should you know how to use it? So, it did not help these pupils to lend them laptops. Therefore, we train and train now that they know how to work with it, should it happen again.

I: Okay. What do you think of, when you think of the school closures in spring?

R: Hmm (...) I think it was a very difficult time. The thing that everybody had to stay at home / and we had to give them work and they had to work from home / and we somehow did not know how to do that because we did not train on that before in this big way. So, we had (...) / I can only speak of our school. We worked really a lot. I suppose more than normally. Because you were at home and you thought, you had the time and sat in front of the computer all day. You corrected the tasks, you phoned the children, you gave tasks / then

we started to try out the web conferences / we started it first with Zoom and then with WebEx to get into contact with them. Which was quite nice to see them, to talk to them. It was rather contact to them than content. It was very important. Lots of teachers started to turn videos to explain content for their students and for them and make special things and special sheets. I think the teachers worked really hard and (...) not so well organized than usually. They said so, that it was a very exhausting time, the same from the students. That they needed that teachers as well as their classmates. Learning in a group with human beings is definitely totally different. I think it was interesting to experience it. But I never think, that this is a good way of teaching. It helps now and later. I think we are now not so afraid of using technical devices anymore. We might take bits of it. But what everybody feels is that we need the children, we have to be together and they need us to give them structure to help them organize their day. They can't organize themselves, and they said so! They slept until 12 and then it was quickly 3 pm and they hadn't done anything, and then there was nobody to tell them what to do. The pupils where the family structure is difficult / not all families have Wi-Fi, not all families have computers. Hardly any families have printers. So that was difficult for them too. Some of them had to share the laptop of their mother, who was in home office, too, and they had to find time slots to share it. Pupils who come from a difficult family situation are even more a "looser" in this way of learning than the ones who have better family structures. The others are also not the winners here, but they have much more help from their parents and more understanding. And this is lost, when you only learn with the computer

I: How did your English lessons take place?

R: I had a 5th form at that time. This was not easy! They hardly know enough English. I had to write and talk in English / I had to write e-mails to them because they were too young for our iServ platform. I tried to make them in colors to motivate them. But we mainly kept continuing with the book and we have that vocabulary trainer that goes with the book. I also sent them the solutions that they correct themselves. Then sometimes I asked them so send me photos of the tasks. Sometimes I asked them to write a little text so I could have a bit contact to them and give them feedback. Half of them managed, to send it to me back. For some even this was too difficult, from others I did not hear anything. I sometimes phoned them when they did not react at all. You can not go there to help.

We used conference tools as well. We did it once a week after they met their class teachers. But we did not do content. It was mainly about talking to each other and have contact. We also played “vocabulary king” because they knew it from class and that was quite funny in the WebEx and it went quite well. I think they liked it somehow, because it was a ritual. But I didn’t do any lessons. 45 minutes and I talk English, and then they have to look in the book (...) this would not have worked out.

I: You already mentioned it a bit, but how did you give feedback during the school closures?

R: Mainly via e-mail. A few I phoned and told them on the telephone. And of course, in the conferences I gave a little feedback, but not too much. Because it’s very hard that they do not lose the motivation in such a time and nobody knew how long it would go. I didn’t do any tests – it wasn’t allowed anyway. You kind of give positive feedback, but nothing stressy because you have to motivate them and it was stress for all of us.

I: Alright. Let’s talk about the key competencies. Which elements of English language teaching have improved most during remote teaching in your classes?

R: (...) puh. What has improved? Maybe that they kind of / I told them for example when you have new words and I told them to listen to an online dictionary to hear the pronunciation. That helped them to be not so far away to use the Internet and listen to the word. But that’s it. Nothing else has improved.

I: Which elements of English language teaching have suffered most during remote teaching?

R: I think communication in particular – so speaking. Speaking is lost. Maths for example hasn’t suffered because you don’t need to talk. But I wonder how you can learn English only with a computer? You then need video conferences on a regular basis, not only once a week. And now with the masks – it’s horrible.

What suffered the most is that you lose the contact. You invest a lot of time to build a relationship to each child. Every day’s work was destroyed. When they came back – of course everybody was so happy – but we were so far away suddenly. We missed so much.

We lost so much time with each other. It takes a long time to rebuild that. That's the thing I lost most.

I: Absolutely. What positive and negative outcomes do you see in the school closures?

R: Positive was maybe that the children had to organize themselves, even though it did not work for everyone, but for some it did. And therefore, our platform was a big help. This also builds up self-response. Perhaps they also helped them to write more on a computer, which they need later and they lose their fear of using a computer.

I can't see much more, that there are more positive outcomes from the school closures. Now I do more speaking than usual because I think of when we close again, we can do the grammar parts then so I use the time in class to speak.

I: That was so interesting. Thank you so much for your time and your insights!

R: Yeah, you're welcome.

Description of the respondent

The interviewed English teacher is 36 years old and has worked in the teaching profession for 9 years. During the school closures she taught a 5th and 9th grade. She teaches at a lower secondary school of the northern parts of Karlsruhe.

Interview 2

I: Thank you for participating in my study and your time.

R: No problem.

I: Does your school have digital equipment for learning, and if so, what does it look like?

R: Yes, at our school every student from grade 8 onwards they have iPads, which they have to buy themselves. So, we are very well equipped at our school. But students from year 5 to 7, they don't have any iPads for school. That was a problem with some students.

I: Has your school written a media development plan to benefit from the "DigitalPakt Schule"?

R: Yes, we have. But I wasn't involved in that.

I: Did every pupil have access to digital equipment and Internet?

R: Yes, they did. Some of them only used their mobiles, but that was fine. And when they weren't in the zoom meetings, we called the parents and talked to them. It was not the internet connection why the students were not there.

I: What do you think of when you think of the school closures in spring?

R: Uhm, it was quite challenging. I taught year 5 and year 9 in English and it was alright for year 9 because they already spoke English. I had an iTunesU course where I uploaded exercises, but in year 5 it was quite challenging because we weren't connected at all with

each other. So, I had to write plans for them, e-mails to the parents / that was challenging to get all parents, because some of them do not even speak German / then to get in contact with them was quite challenging. But we introduced a messenger which is called “schul.cloud” and we installed this for all students, which was very complicated but we succeeded and now we can communicate via “schul.cloud” which is pretty handy.

I: Alright. How did your English lessons take place?

R: First of all, for each week I tried to split it because it was year 9 and year 5 and that was different. So, year 5 – I am still the class teacher of them – we said we concentrate on the main subjects, English, German and Maths and then each week we had another subject on which we concentrated. So, they had a lot of exercises in the main subjects. We also introduced “Zoom” to them. Each week we had a zoom meeting in English, Maths and German and also the whole class. In year 5 I split the class into three groups and then they had a certain time where they had to be online. First of all, at the beginning of the week they got their week plans. There they got to know which exercises they had to do and they knew which exercises had to be done until the zoom lessons which was on Thursdays. On Thursday we talked about these exercises and we also talked about problems they had, so in the beginning it was okay but with the time it really got challenging, because the students did not want to do all of the exercises so I had to change the tasks. For example, I gave them a picture of the book mascot and then they had to cut it out and have to bring him to different places and take photos of him, or they had to write something in the simple past where they brought the mascot. So, I tried to create tasks that were more interesting to the students. I also told them to get in contact with their appointment calendar partner. Do you know what this is or should I explain this?

I: No, I don't. Could you explain it to me?

R: So, they have a partner and they have to talk with the partner via social messenger or schul.cloud, so that they not just had to do writing tasks. And then in the Zoom lessons we only talked. There was no writing at all. We talked. It was always 45 minutes and every student had to talk a lot, which was good, because I split the class into three groups. What else? When they had new texts for example, I recorded the texts from the book, so they knew the pronunciation and I sent them the media, or data, so they knew how to pronounce the

words. I think that was that. And in year 9 I didn't send any plans to parents because we had this course, where I always uploaded their exercises and I can see who did the exercises and who not because they had to upload it. And when they uploaded it, I checked them I corrected them and I sent them back to them. We also had lessons via Zoom in the beginning, it was also 10 people at one time and it was also talking, talking, talking. We talked a lot

I: Very interesting. How did you give feedback to your pupils?

R: I wrote it down, because they had to send texts for example and then I corrected the texts and gave them feedback by that. Or when they sent me the photos, which was really great, because they created great collages, I saw them and just texted them back. I think they were really proud of that. That was really nice. Once I went to my students because I had a package of papers. I went to them at home. I saw some of them and it was really nice talking to them. I gave them some feedback and they gave me feedback. It was so nice to see them and to talk to them and to talk to their parents.

I: You already mentioned it a bit. Which elements of English language teaching have improved most during remote teaching?

R: (laughs) Definitely not talking and speaking for year 5. Because at the end I really realized that they hardly understand English anymore. It was very challenging for them and is for them. What has improved? Let me think. Most of the time it was really writing and during the Zoom meetings it was speaking. Very hard. (...) I think in year 9 it was writing and grammar. Grammar was the easiest because it is just right or wrong. They could do that on their own.

I: Which elements of English language teaching have suffered most during remote teaching?

R: Listening and speaking. It wasn't the problem in year 9 / when we had the Zoom meetings, then you could talk in English and they understood and they knew what they had to do. But in year 5 they only spoke English for a couple of months (...) just got used to it and sure they did not speak English at home, so it was quite hard getting back to that. And they still have difficulties learning vocabulary and getting back to school.

I: Great. We are already at our last question. What are positive and negative outcomes of the school closures in general?

R: When you are not in a whole group you get to know students differently / I think when you have 30 students in one group you do not really know what this person does but when they really work hard and send you all the exercises and tasks, you see how much effort they put in it and you get a new feeling for the student. You get a better view of your student you get them to know better. The best part was when we only 15 students in one room you could really concentrate on the 15 students / that was great. This was after school closures. Self-organization was also a point, because they really had to organize themselves / that could have been improved, but only for some of them, others were really lost.

I: Great. Do you have anything to add?

R: If school has to close again what I am not expecting, I look forward to it positively.

I: Good to hear that. Thank you for participating in my study.

R: You are welcome.

Description of the respondent

The interviewed English teacher is 45 years old and has worked in the teaching profession for 19 years. During the school closures she taught an 8th grade. She teaches at a lower secondary school of the eastern parts of Karlsruhe.

Interview 3

I: Thank you for participating in my study and your time.

R: My pleasure!

I: Does your school have digital equipment for learning, and if so, what does it look like?

R: For teachers we have PC's in each classroom, and we also have beamers and a whiteboard. And (...) Since summer holiday we have new equipment. We also have cameras which you can use to record your lesson and to show it to the students at home. From the "DigitalPakt Schule" we have received 60 new laptops (...) which can be borrowed by the students, if necessary.

I: You mentioned the "DigitalPakt Schule", has your school written a media development plan, before the pandemic started?

R: Actually, we didn't. We were already well equipped, because we moved in a new building with lots of technical equipment in each room. The city paid for all of that. We profited now from the new measures that came along with the pandemic.

I: Did every pupil have access to digital equipment and Internet?

R: Well they said so. Because we asked about this issue during the first lockdown and they said yes, they have everything. Some just used their mobile phones, some used tablets and some others also used laptops or computers.

I: What do you think of, when you think of the school closures in spring?

R: Well we have not prepared for something like that. The whole school, all the teachers and the students never have thought about something like that. So that was really like a shock at the beginning. The advantage of our school was / because we work with a work schedule. At the beginning they were used to continue with their work schedule by doing one exercise after the other. So that helped in the first three weeks until Eastern. That was no problem at the beginning. We thought okay, they had something to do. But then we recognized that this is not the best thing, because it was only written stuff.

I: How did your English lessons take place?

R: At the beginning it was just exercises on the work schedule. As we noticed that lockdown is going to continue after Easter holiday, we have to do something. We did not really get help what we can do, so we just talked teacher by teacher like: What are you doing? Teachers who had classes that did their exams, like class 9, they began with Zoom conferences regularly but I had class 8. We started to this, at the beginning we did not have lessons, but we used it to meet each other, not with a specific topic. That was once a week at specific day and time. I think it was very frustrating because a lot of pupils said that it didn't work, they don't have the equipment, they don't like it – whatever. Maybe it was 20 to 30 % who took part of this kind of conferences. I think some pupils thought that they hadn't to do this, like it would be something extra what the teachers offer. We started with Zoom, then it was not allowed anymore, then we tried the Jitsi conferences. As I realized that not all are interested in it, I gave them exercises for speaking so that they could practice with a partner that they could choose, so that they could do a dialogue. Then I gave them appointment and said “Let's meet at that time and then you just present the dialogue to me”. Then we were a group of two or three, which with some of them worked very well. They just presented it and I listened to it. Sometimes I did the part of the dialogue partner / That's what I did with the English lessons.

I: Alright, great. How did you give feedback to your pupils during the school closures?

R: That was a bit difficult (laughs). Because I also gave them for example exercises like writing a short essay or shorties. I also have to mention that our schoolcloud you can get in via an app called “Nextcloud” and they could get all the documents, which we put it / did not work so good with all of the pupils. I said for example for the shorties, read it, write it

and then hand it back. That was difficult because some of them photographed it some of them took documents I couldn't really open, so I have to say that this did not work so well with me. We also had a WhatsApp chat, where I gave them feedback or via e-mail. I know that it's not officially allowed (laughs) but we managed with that, because it was the easiest way to communicate with the pupils. At the beginning our headmaster said "communicate – however" and my second teacher decided to communicate via WhatsApp because everybody has this app. So, we did this and it worked very well. Only one pupil was not in the group, so we had to write him an e-mail. The communication worked well because all of them got this app. They didn't really do the exercises all the time but you could see if they read your message. With some I also telephoned, because some did not give any feedback and you did not hear anything from them. Then I asked them how they are, what they are doing and get in contact.

I: So which elements of English language Teaching have improved most during remote teaching in your classes?

R: Hmm (...) (laughs) I think this is a really difficult question and I'm not sure if anything has improved. I don't see any improvements.

I: That's also an answer. So which elements of English language teaching have suffered most during remote teaching in your classes?

R: Speaking of course, and also listening. For example, I did some listening exercises as well, sending them a mp3. Some could open it, some not. I could not really find out what the problem was. Some are in bad conditions, like they do not have good devices and so on – or is it just because they do not want to do it?

I: Okay. Then we head to the last question. What are positive and negative outcomes of the school closures?

R: Let's start with the negative things because I can (laughs) / Because the social aspect / don't meeting others, they don't meet peers and they don't meet pupils in their age. That was a real problem, more than maybe that the thing that they don't learn so much in this time. Negative was also that they did not have clear rules at our school. It wasn't really clear when

they have to start, when they have to do the work schedule, what is going to happen if they don't do it. This goes in hand with self-directed learning which did not work at all. Well the thing is, that our pupils should know how to learn alone, but we are always there. When they are at home with the same exercises they begin to struggle, because we teachers are not there to support.

Positive is that we teachers and pupils had to be creative in some way. I think this is the most positive outcome. I learned a lot during this time. About new media, how you can do a video conference and so on. And some pupils did the same and had the same experiences because they tried. I don't know if you remember, but XXXX for example was student with who I could try things out. I texted her in WhatsApp and asked "XXXX can you open the Zoom page and try to do it with me?" And she did it with me. I think pupils like her learned a lot in that time, too. But some, I would not say that it was positive for them.

I: Great, that's it. Thank you very much for your time and your participation!

R: You're welcome. It was great to talk to someone about the school closures.

Description of the respondent

The interviewed English teacher is 45 years old and has worked in the teaching profession for 18 years. During the school closures she taught a 9th and 10th grade. She teaches at a lower secondary school in Pforzheim.

Interview 4

I: Thank you for participating in my study and your time.

R: You are welcome

I: Does your school have digital equipment for learning, and if so, what does it look like?

R: We have the computer rooms here, two! We have now these tablets but they are not in use yet. That just started. Then the classrooms like biology and chemistry have smartboards, but not in the normal classes. And then we have this media sort of “trolleys” (laughs) or whatever, with a beamer and speakers but we do not have internet in the classrooms right now.

I: Has your school written a media development plan to benefit from the “DigitalPakt Schule”?

R: I guess they have, but I do not exactly know, what it looks like, but I’m sure they have. They got quite money from this “DigitalPakt” for all these materials

I: Alright. Did every pupil have access to digital equipment and Internet?

R: Not all had. We then asked them sort of half way through who had problems and then they had the possibility to get one from the “Medienzentrum”, so they could have one to use. The problem was that some don’t have Internet access, or they just have access through their smartphones and then they have to pay. That problem is not really solved.

I: Okay. What do you think of when you think of the school closures in spring?

R: HORRIBLE! (laughs) (...) In a way / Of course we sent some tasks for them to do / Last year I had 10 formers and 9th grade. For the 10 formers it was not such a problem because they were so close to the exams and they got additional material and yeah most of them worked on them, some didn't. I think it didn't make the big effect because it was so close before their final exams anyway. But for the 9 formers I found it quite difficult. Quite a few never answered. You had to phone calls, you had to ask again and again. They said they had difficulties sort of to get into the system. They sort of / They were just overwhelmed with the things they had to do in all the different subjects and I think that's not what it really was, but I think some students were just too lazy to do it because they didn't have the structure of the normal school day.

I: Alright. So, how did your English lessons take place?

R: I sent them tasks that they had to work on. Then they had to take a photo of their written results, sent them into me with our school cloud, in the "Aufgabenmodul" that we have. Then it sort of pops up in my account and I see who already has answered and then I gave them feedback for creative writing. I corrected the texts and for other things I just sent in the solutions, so that they could check themselves. All the creative parts, I corrected them for the pupils and sent it back to them. I did also use conference systems but (laughs) it didn't work. Very few 10formers managed to log in, one had problems with the sound, the next couldn't show his face, the third one didn't manage at all (...) yeah, it didn't really work quite well. And then I did it a second time and then it was decided from the "Kultusministerium" that we are not allowed to use Zoom anymore. So, the whole thing sort of broke down because this connection was not supported anymore. It was not the best way.

I: You already mentioned it a bit, but how did you give feedback to your pupils?

R: I gave feedback with correcting these creative writing tasks. Then I sometimes I just gave a little feedback with this "Aufgabenmodul" sort of saying "Thank you for doing all your tasks – you did really well. Please have a look and correct all your mistakes". Short feedback / We had the system that every teacher would call a certain amount of students in each class, how they are doing in general. Then I also talked about them with English, how they are doing what they find difficult. So, I had some personal calls. For all those who hardly or

never handed in papers I called them on the phone and talked to them, but it didn't really make a big difference.

I: Okay. If you think of the key competencies – Which elements of English language teaching have improved most during remote teaching in your classes?

R: (...) improvements (...) I think probably it was most in the (...) for the ten formers maybe in practicing creative writing once more. Because those who were really eager who handed in their texts all the time, got a lot of feedback and for the ten formers also / very structured final exams. They worked on that, they handed it in to me. I gave feedback and said: Have a look at this grammar. But that was only for those who did it. The others did not really benefit from that. I also used little clips about certain topics / dangerous ways to school, poverty, America. They should just watch this little video and write their opinion about that. So that they also had some contact with listening to English and not only writing. After lockdown ended some were in the oral exam. There we had really good discussions about these topics. Probably also because they knew it's on the exam, so they watched it again. But some wrote really good comments, also during the lockdown. And they were interested in this topic so they did not find it very difficult to write about this topic, because they were attached to it.

I: That brings me to the next question, so which elements of English language teaching have suffered the most during school closures?

R: All the oral parts. I would say the interaction with the students suffered also, because we lost contact to some and that was not so good. Speaking was also a problem, because we mainly could focus on writing tasks. What I would like to add, that it was difficult, for new content like grammar part / that didn't really work well. Introducing new grammar, new topics. Practicing the things that they already learnt was easier. Completely new topics were so difficult for them, so we didn't do it.

I: Let's head to the last questions. What are positive and negative outcomes of the school closures in general in your opinion?

R: In general (...) Positive is probably students and also teachers had to learn fast how to use this digital media (...) things we all made a lot of progress in that time. That's also

something I use more of now. If I teach the class and they want some additional information I say “No problem I sent it to you via e-mail or I put in our English folder and you just can get it from there.” Sometimes I also tell them to hand in their texts with this tool and then I can give them feedback. So, I don’t have all this paper work. That’s something positive.

What I really missed was the interaction with the students, sitting all at home. Not knowing what they are doing, is a negative aspect. I actually can’t think of much positive things (laughs). The only thing from the positive one in the 10th grade I had one student who never / he had psychological problems who didn’t come to school very often, but is very good in English. And I think this way of teaching was the better one, because he got the tasks and he answered them and he didn’t have to ask someone else what did we do. For him it was positive, but for the rest I wouldn’t say so. Negative / no interaction with the pupils. You don’t see if they have problems, you have to wait until they ask. You still don’t know what the problem is, are they just too lazy or do they not understand it. I think the missing structure was something that was really hard for them. Probably self-directed learning was missing, even if we have this “Lernbüro”, where they work on their work schedule but the biggest problem was that they were sitting at home and nobody told them “Please get down to do something”. There were some where the parents were really focused, but others not (...). Later they said they just couldn’t really be bothered to start. Also, they said that it was so hard for them after a while to work on package after package.

I: Do you have anything to add?

R: (...) no, not really. I think I mentioned everything I wanted to say.

I: Alright then thank you for participating! It was a really interesting interview.

R: You are welcome.

Description of the respondent

The interviewed English teacher is 38 years old and has worked in the teaching profession for 11 years. During the school closures she taught a 5th grade. She teaches at a lower secondary school of the western parts of Pforzheim.

Interview 5

I: Thank you for participating in my study and your time.

R: You're welcome.

I: Alright, so does your school have digital equipment for learning and if so, what does it look like?

R: Uhm, yes, we have digital equipment for learning. We have digital equipment at school, so we have I guess two rooms (...) I think they have 28 PC's, which are of course connected to the internet. And we also have iPads for all our teachers now. We also have iPads we can borrow to students, which do not have any devices at home and /. So, I don't know if this is digital equipment, but I would like to mention it anyway, we are working with a platform (...) which basically includes all the tools we need everyday. From schedule to digital exercises, video calls, e-mail and messaging of course, things like that. We have, I think, two or three whiteboards but that's it. For now. They will come one day. I think in January or February, we will have whiteboards in all of our classrooms.

I: Alright, so maybe this has something to do with my next question. Has your school written a media development plan to benefit from the "DigitalPakt Schule"?

R: Yes, it has.

I: So, do you know, if the whiteboards come from that money?

R: Yes, I'm quite sure actually.

I: Alright. So, during the school closures, did every pupil have access to digital equipment and internet?

R: I can only talk for my students. All of my students in the end had technical equipment, so at least one device. But after a while some returned them, because they had no internet. So even the knowledge about having the internet or not, was not given. It was a bit complicated actually. But I would say for about 90 % of my class it was no problem. Internet access yes, technical devices yes. Most of them have no printers which is a problem.

I: Alright. What do you think of when you think of the school closures in spring?

R: Students getting lost. (...) Socially, emotionally (...) We were not well prepared. So, I think it's not the equipment, but rather how to use it. I think many teachers were not used to it. We were not prepared.

I: How did your English lessons take place?

R: (laughs) Yeah, they did not take place. So, we actually used the time of the closures for repeating, doing revision on vocab, on grammar and things like that. It's pretty tough introducing a new topic to students without seeing them, which was a big problem. (...) So, we did not have lessons – no we did not have lessons! We tried to communicate in written form with e-mails and we used the messenger of our cloud, but yeah (...) I know that we will talk about the skills as well, so this is a really big problem. But when they are older, like 9th or 10th grade, I think it's not a problem to have video calls and make them talk, but the young ones would just / they are shy in class, so they are shy on the internet as well.

I: How did you give feedback to your pupils during the school closures?

R: In written form only. Because the few video calls or telephone calls we used for like social and emotional topics. So yes, feedback in written form. Yes, like you know from school: you write something and your teachers checks your results and your solutions and give your advice on what you can work on and things like that. Having a closer look at this and this topic.

I: Okay, then let's talk about the key competencies. Which elements of English language teaching have improved most during remote teaching in your classes?

R: No – I cannot talk about any improvement (...). I think (...) there was more or less no listening (...). Yes, there was reading, reading exercises and they did not communicate, too. No speaking. A little bit of writing (...). So maybe I have to mention that during the closure I was a teacher of a 5th grade and this was the only class I had to teach English. So, we tried to work on learning the time for example. Difficult.

I: Which elements have suffered most during remote teaching in your classes?

R: Speaking, of course, and listening. (...). I also have the 6th grade at the moment and there is a bit content missing. I think vocabulary was not the problem, because this is something you can do pretty well on your own. It's more like (...) the time that we need for talking. The normal classroom phrases, how to behave in an English lesson is something we still we work on. This is something that the six formers normally now. I think this a big deal or (...) "English only" in English lessons is a big problem and I think maybe that's a bit because of the time gap.

I: Let's talk about the chances and challenges in general. You can decide with what you would like to start

R: Yeah, challenges. I think I already mentioned them more or less. Talking to someone, face to face, is so different. It was really hard to not know about the situation they are in, so how are their families. There were students we had more or less no contact to, for weeks (...) Yeah so having the equipment but not really know what you can do with it, how can I use it? What are the benefits? I think we know all of that now much better but we did not know well in the beginning. Yes, I think of course there are chances (...) so it feels kind of strange to talk about it because now it seems it's all about technical stuff but it actually isn't. The chances I can see are that we now know even more than before how important it is to have a good vibe in the classroom or how important it is to be able to ask each other "how do you feel today?" "how was your weekend?" "Do you need any help?" "Do you have any problems?" Things like that. Now we are aware of that and I think now we have no interruptions in the school day or in the school week. There is nothing but lessons. No going

for a walk in the woods or visiting a museum or something like that. So, we have a lot more time to work on social aspects as well which I think is a chance (...). Of course, there are some more, but that's all I can think of at the moment.

I: Do you have anything to add?

R: (breathes) So for us teachers it would be so much easier if our (...) if the communities were able to ensure that all students have the same opportunities in using the internet, using or having technical devices. That would be lovely. I think in theory we are more or less there, but they reality is very different from that.

I: Alright, great! Thank you so much for the insight.

R: You are very welcome!

Description of the respondent

The interviewed English teacher is 43 years old and has worked in the teaching profession for 15 years. During the school closures he taught a 9th grade. He teaches at a lower secondary school in Karlsruhe and is also deputy headmaster.

Interview 6

I: Thank you for participating in my study and your time.

R: You're welcome.

I: Alright, so does your school have digital equipment for learning and if so, what does it look like?

R: Yes, we have. We have smartboards in each classroom, as well as (...) beamers and visualizers. We also have Wi-Fi in the whole school area, but it isn't open for the students. Whenever we (...) work with the internet, they get a one-time password to log in to the Internet. This kind of systems / It helps us to guarantee security for the use of internet. We also have a class set of iPads, which can be lend for classes.

I: Alright. Has your school written a media development plan to benefit from the "DigitalPakt Schule"?

R: Yes, we have. From that money we have got all the new equipment I mentioned before. Now, because of Corona, we had the opportunity to write another plan, which works (...) quite faster and so we got additional tablets and laptops, to ensure that we have enough for our students.

I: Alright. So, during the school closures, did every pupil have access to digital equipment and internet?

R: Quite all of them. There were a few who hadn't a laptop, computer or a tablet. We lend them to the students for the time of school closures. There was also one girl (...) I have to

say / She comes from a very difficult family situation. They did not have access to the Internet. That was difficult because we couldn't arrange Internet for her, this is not in our repertoire of possibilities. We had / The teachers of her had to bring her the materials or she had to come to school to pick them up.

I: Great. What do you think of when you think of the school closures in spring?

R: It was a very exhausting time, to be honest. Even if we were quite good installed before the pandemic arose, we were not prepared for a situation like this. (...) It's hard to find the right words / When I think of that time, I get goosebumps. We did not know how long this situation will last and especially how we will teach our students. We already have installed a school-intern server, which we used, called school.cloud / I think it's pretty famous now. And this tool kind of helped us to get through the weeks. But what I can tell you is, that we teachers were also kind of lost. There was no help from the outside. It was expected that we would create concepts from one day to the next. This was an illusion (...). I hope this is not going to happen again, because / It would be horrible for the students – and the teachers, as well.

I: How did your English lessons take place?

R: (laughs) To be honest (...) there were no lessons in the way you would expect it. We surely used Zoom, until it was prohibited and then we used Webex. But we only used them to stay in touch and see how the others are. We did not use it to introduce new content. Rather to check, ask for feedback and just chat a little. You can imagine that in that time it was hard to introduce any kind of new topic to the students. So, we basically gave them exercises, uploaded everything in our school.cloud, so that they could download it and upload then their answers. It was basically feeding them with exercises and we corrected it.

I: How did you give feedback to your pupils during the school closures?

R: This was also special. Mainly in written form via school.cloud or messenger. Sometimes during the web conferences and some I also called (...) because I haven't heard from them since a long time.

I: Okay, let's talk about the key competencies. Which elements of English language teaching have improved most during remote teaching in your classes?

R: (smiles) interesting question (...) It's hard to think of the improvements when the challenges are present until now. I think writing got better, because they got a lot of writing tasks during the school closures – but that's it. You can't believe what's missing (...) it's crazy. Reading maybe also, because that was something they had to do, too. But if they did it? (...) I don't know.

I: I see. Which elements have suffered most during remote teaching in your classes?

R: Especially speaking! There was hardly any chance to speak in English and for an 8th grad, which has a basic vocabulary after 3 years of having English, a lot got lost / they had no connections to it. Listening as well. I once tried a listening via a web conference and it didn't work – because some had no voice, the others could not log in (...) this is just not made for remote teaching. What I can tell you in general, is that we really work on content from the last year, because so much got lost and we need to rework and repeat it.

I: Let's talk about the chances and challenges in general. You can decide with what you would like to start.

R: I think the strong usage of our school.cloud is one improvement. It helped to strengthen it and integrate it into the daily school business. We use it everyday since Corona. Also, the confrontation with new media is a positive point – everybody had to train on that and our teachers also use it more since then. What also became clear is that for some the remote teaching really worked well in terms of self-organization. This was only seen in families with a strong educational background. On the other hand, a lot of students had problems with the structure of their day. Because there was no one who told them what they have to do, some students really started doing nothing / If your parents aren't looking after you, you lose. Another challenge was the remote teaching itself, when not everybody has access to technical devices or Internet and you first get no help from the community.

Also, the expectation from “remote teaching” was something completely different from what you would expect. We did not switch our presence classes into online classes / would not have been possible. Instead we used one hour per week to meet each other and just talk about the situation. (...) this was also hard / We could not see our students for such a long time. We as teachers (...) really missed that and the students, too. In that situation we particularly saw, how important it is to have a good relationship to each other, especially to ones who come from a difficult family situation (...) they needed our contact the most. Another challenge are parents, who do not believe that the virus exists and want their children not to wear a mask. What do you do with them? (laughs) We have three pupils who aren’t coming to class since the school closures / they are learning from home. They get their exercises through our school cloud and the teachers correct it. Once a week they have to get in contact with the teachers.

I: Okay, that’s crazy! Do you have anything to add?

R: Hmm (...) it was a really tough time and we kind of managed it. But since we are back in school, we kept on doing classes like before. Surely, we use more technical devices but I cannot think of switching the whole classes into online classes, if the schools should close again. We only managed everything because we have a strong team and good relationship to the students and also to the parents.

I: Alright, great! Thank you so much for the insight.

R: No problem.

Statement of Authorship

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Karlsruhe, December 24th, 2020

Shirin Ud-Din