

# MASTEROPPGAVE

## Student-Centered Grammar Instruction in the Digital Era – an Investigation in Norwegian Lower Secondary Education

Marte Karen Hiorth Johnson

January 2023

Master i fremmedspråk i skolen - engelsk  
Fakultet for lærerutdanninger og språk  
Institutt for språk, litteratur og kultur

## Abstract

Research in language classrooms has revealed a need for more explicit grammar instruction and more student-centered teaching practices. This study compared the impact of three different approaches to TALL (technology assisted language learning) lesson design in a sequential explanatory mixed methods investigation. Improved levels of language accuracy were measured in a quasi-experiment conducted in three language groups in a Norwegian lower secondary school. A small-scale written survey examined the students' experiences of the lessons. The flipped classroom groups showed the greatest improvement in language accuracy, while the "TBLT /Focus on Form" groups showed the least improvement. The gamification lessons were the most popular in the survey group and were described as fun, motivating, and engaging. The findings suggest that some "traditional" teacher-centered elements of language teaching may have contributed to improved levels of language accuracy. In the groups studied, negative affective responses were sometimes part of a beneficial learning experience, and the most "fun" tasks did not result in higher scores than the more "boring" tasks. The findings are in line with previous research, which has concluded that explicit grammar instruction is beneficial for developing higher levels of language accuracy. The results are in line with Einum's (2019) conclusion that student-centered lesson design should include passive involvement, which means that the teacher adapts the lessons to the needs of the students and dedicates enough time to teacher-transmissive activities. This study was too limited to produce results that can be generalized to a larger population. Further research on L2 classroom practices should investigate the complex relationship between TALL lesson designs, language learning, affective response, and long-term effects.

## Acknowledgments

I want to thank everybody who has supported me in the challenging process of completing my master's degree while working as a teacher, studying, and trying to be a good mother.

I want to thank my supervisor, Karin Dahlberg Pettersen, who has shared her experience, encouraged me, and given me invaluable advice.

This thesis would not have been completed without the support of my family. First and foremost, my spouse, Jon, who has supported me and encouraged me through many difficult times. I am very grateful to all the grandparents who have cared for my son and supported us during this time. I want to give a special thank to my dad who sparked my interest in languages at an early age.

## Contents

<b>Abstract</b> .....	<b>2</b>
<b>Acknowledgments</b> .....	<b>3</b>
<b>List of figures</b> .....	<b>5</b>
<b>List of tables</b> .....	<b>5</b>
<b>Introduction</b> .....	<b>6</b>
1.1 <i>Background</i> .....	6
1.2 <i>Research question and aim</i> .....	7
1.3 <i>Thesis structure</i> .....	7
<b>2. Literature review and theory</b> .....	<b>8</b>
2.1 <i>Terms used for language instruction and English as a learner language</i> .....	8
2.2 <i>Grammar in language teaching</i> .....	9
2.2.1 <i>What is grammar? Descriptive and prescriptive grammar</i> .....	9
2.2.2 <i>Explicit versus implicit grammar instruction</i> .....	9
2.2.3 <i>A brief historical overview of approaches to language instruction</i> .....	10
2.3 <i>The use of technology in the L2 classroom</i> .....	14
2.3.1 <i>Terms</i> .....	14
2.3.2 <i>The effect of TALL in the L2 classroom</i> .....	14
2.3.3 <i>Technology in Norwegian classrooms</i> .....	15
2.3.4 <i>Approaches to student-centered TALL lesson design</i> .....	16
2.4 <i>Challenges in L2 classroom research</i> .....	20
<b>3 Method</b> .....	<b>22</b>
3.1 <i>The Research Context and Participants</i> .....	22
3.2 <i>Ethical Considerations</i> .....	22
3.3 <i>Research design and choice of method</i> .....	23
3.4 <i>The target structures</i> .....	25
3.5 <i>The TALL lessons in this study</i> .....	25
3.5.1 <i>TBLT and focus on form using cloud services to cooperate</i> .....	26
3.5.2 <i>Gamification with Quizlet Live and Kahoot</i> .....	27
3.5.3 <i>The flipped classroom and online grammar tasks</i> .....	27
3.6 <i>Data Collection and Data analysis</i> .....	28
3.6.1 <i>The pre-tests, post-tests and test-reliability</i> .....	28
3.6.2 <i>The Survey</i> .....	29
3.6.3 <i>Data analysis</i> .....	29
3.7 <i>Validity</i> .....	30
<b>4 Results</b> .....	<b>31</b>
4.1 <i>Participant flow</i> .....	31
4.2 <i>Quantitative analysis</i> .....	32
4.2.1 <i>Scoring the tests</i> .....	32
4.2.1 <i>The results of the pre-tests</i> .....	33
4.2.2 <i>The results of the post-tests</i> .....	33
4.3 <i>The results of the survey</i> .....	39
<b>5 Discussion</b> .....	<b>42</b>
5.1 <i>The flipped classroom approach</i> .....	42
5.2 <i>The gamification approach</i> .....	43

5.3 The “TBLT/ Focus on Form” approach.....	44
5.4 Affective Response.....	45
5.5 Student-centered versus teacher-centered lesson design.....	46
5.6 Limitations and implications.....	47
<b>6 Conclusion .....</b>	<b>49</b>
<b>References.....</b>	<b>52</b>
<b>Appendices.....</b>	<b>58</b>
<i>Appendix A: Consent form.....</i>	<i>58</i>
<i>Appendix B: Approval from NSD.....</i>	<i>60</i>
<i>Appendix C: Pre-tests and post-tests .....</i>	<i>62</i>
<i>Appendix D: The Survey.....</i>	<i>64</i>

### List of figures

Figure 1 Mean improvement .....	35
Figure 2 Percentage of students who improved significantly .....	36
Figure 3 Percentage of students who did not improve.....	37

### List of tables

Table 1: Outline of the experiment.....	24
Table 2: Participant flow in the first round of tests and lessons.....	32
Table 3: Participant flow in the second round of tests and lessons.....	32
Table 4: The results of the pre-tests.....	33
Table 5: The results of post-test 1 – “There is/are”.....	34
Table 6: The results of post-test 2 – “Present tense”.....	35
Table 7: Comparison of lesson designs.....	38
Table 8 The results of the survey – frequency of preferred lesson design.	39
Table 9: The findings in the survey – phrases.....	40

## Introduction

### 1.1 Background

The availability of technology in classrooms has developed rapidly over the last three decades and revolutionized the possibilities for teaching and learning activities in the English as a second language (ESL) classroom. Meta-analyses of research on the effect of technology-assisted language learning (TALL) versus no technology conditions in the classroom have concluded that there may be a positive effect of TALL conditions, at least in certain areas of language learning. However, this slight positive effect indicates that the beneficial effect largely depends on the pedagogical choices made by the teacher (Macaro et al., 2012, p. 24; Golonka et al., 2014, pp. 92-93).

Research on technology use in the L2 (second language) classroom in Norway shows that especially in secondary school, the teachers still employ technology in rather traditional and teacher-centered ways (Blikstad-Balas & Klette, 2020, pp. 6-15; Kongsgården & Krumsvik, 2016, p. 269), rather than taking advantage of the many new possibilities for creating student-centered and student-active learning that technology offers. These studies concluded that there is a need for more research on different approaches to TALL as well as educating teachers on using technology in effective ways.

In the latter part of the 20<sup>th</sup> century, explicit grammar instruction was considered less important in L2 teaching than activities such as using the language in meaningful communication situations and being exposed to authentic language use (Nassaji & Fotos, 2004, p. 126). Since the turn of the century, scholars have pointed to the value of explicit grammar instruction for achieving higher accuracy levels (Nassaji & Fotos, 2004, p. 126).

A recent investigation of the role of grammar teaching in secondary schools in Norway concluded that grammar teaching was scarce and unsystematic, and often rather traditional. The study concluded that an increased focus on grammar in language lessons would improve students' overall proficiency, and that there is a need to develop new approaches to grammar teaching that are more student-centered and student active (Askland, 2020, pp. 72, 93-94).

The Norwegian curriculum for the English subject states that the students must be able to use knowledge about word classes and syntax and follow language rules (The Norwegian Directorate of Education, 2020a, section "Competence aims after year 10"). This means that the teacher must provide some explicit grammar instructions in the L2 classroom. The Norwegian curriculum does not tell how grammar should be taught.

## **1.2 Research question and aim**

Research has revealed the need for more focus on explicit grammar teaching in L2 classrooms. Research on technology use in Norwegian secondary education has demonstrated a need for creating didactical practices that are student-centered, in which technology is used to promote student activity and engagement. This study aims to compare the effectiveness of different student-centered approaches to TALL lesson design when teaching grammar in the lower secondary L2 classroom.

This is the main research question of this study:

Q1: How do different approaches to student-centered TALL lesson design compare when it comes to their effect on the acquisition of target structures and language accuracy?

In order to supplement the data of the main research question, the secondary research question is:

Q2: Which TALL lesson design do students experience as most useful?

## **1.3 Thesis structure**

This thesis presents research on student-centered TALL lesson designs conducted in three language groups in a Norwegian lower secondary school in 2022. Chapter 2 presents the relevant theories and research on which this thesis is built. The first part of the literature review gives a brief historical overview of how grammar has been taught, and the main theories behind these approaches. The second part presents research on TALL lesson design and describes the three different didactical approaches to TALL lesson design that will be compared in this thesis. The third part of the literature review describes some challenges in classroom research. Chapter 3 presents the methods and procedures used in the data-collection process, including the choice of method, research design, language tests, and survey. Chapter 4 presents the results of the tests and the survey. In Chapter 5, the results are discussed, and the lesson designs are compared in light of the literature review. Chapter 6 summarizes the main conclusions of this thesis.

## 2. Literature review and theory

This chapter gives an overview of the theories and research that this thesis is built on. The first section (2.1) provides a brief overview of how the role of grammar instruction in L2 teaching has developed over the last 150 years, including some research on grammar teaching in Norwegian schools. The second section (2.2) presents research on the use of technology in the L2 classroom. The third section (2.3) describes some methodological challenges in classroom research.

### 2.1 Terms used for language instruction and English as a learner language

Several different terms are used to describe different ways of teaching language and planning learning activities: *teaching style*, *teaching method*, *approach*, and *teaching technique* (Cook, 2016, p. 258). Underlying any approach to language teaching, one will find some principles rooted in different views on what language is and how languages are learnt. Learning theories, approaches to language teaching and teaching styles are therefore often closely connected and the terms might, in some instances, overlap. In this literature review, the term “approach to lesson design” will be used to refer to different “teaching styles” to include the underlying theoretical views that influence the teaching style and choice of learning activities. The term “lesson design” is used to show that the choice of learning activities is made by a teacher in a classroom setting, which is a very different context than, for example, planning online learning activities for individual adult language learners.

A learner’s mother tongue is called L1, since it is the first language a child learns. Any subsequent language a person learns can be called a second language or a foreign language. In this paper, I mainly use the term “second language” (L2) or “English as a second language” (ESL) because, in the Norwegian school system, Norwegian is taught as the first language, and English is taught as the second language.

Language learning is sometimes divided into two different main areas: vocabulary learning (learning words) and grammar learning (learning the rules of the language). This paper has a focus on grammar. The terms “language structures” and “target structure” will be used to refer to the grammatical rules and forms the students are learning.



## 2.2 Grammar in language teaching

### 2.2.1 *What is grammar? Descriptive and prescriptive grammar*

In language teaching, it is common to distinguish between teaching vocabulary and teaching grammar. However, it is not always easy to distinguish the two, and it is even more complicated to define what grammar is. Grammar is about the rules, patterns and regularities of a language. But where do these rules exist? A linguist is concerned with describing how language is used. This is called “descriptive grammar” – describing language patterns among native speakers (Cook, 2016, p. 26). What can be termed “traditional grammar” is the prescriptive grammar we find in schoolbooks with rules for how the language should be used. A traditional school grammar might give the impression that there exists a universally correct set of grammar rules. However, a linguist would tell you that there exists a great variation within the language use of native speakers, and that even grammar books exhibit variations.

A language teacher needs to know what rules to teach, so within the school system, prescriptive grammar has an important function. In Norwegian schools, for most of the 20<sup>th</sup> century, the rules to be taught were those of the British language, in particular the rules of “Standard English Pronunciation” (Simensen, 2014, p. 9). Increased globalization has led to increased importance of English as a Lingua Franca in the world. This means that, today, it might be more important to be able to communicate well with people of many cultural and linguistic backgrounds, than to sound like a native speaker. This view is expressed in the Norwegian curriculum for the English subject (The Norwegian Directorate of Education 2020a, section “relevance and central values”).

The growing acceptance of English as a Lingua Franca, and the fading importance of “the Native Speaker Ideal” challenge our conceptions of what constitutes correct grammar. Ur (2011) explains that corpus research shows that certain forms, which have been defined as incorrect by pedagogical grammars, are widely used today by speakers without causing problems (p. 508). This challenges teachers and researchers to investigate and define what constitutes acceptable language use in international contexts and examine whether different language rules apply within native language contexts and international contexts.

### 2.2.2 *Explicit versus implicit grammar instruction*

In the 19<sup>th</sup> century, explicit grammar instruction was considered essential in language teaching. L2 lessons tended to focus on teaching grammar rules and practicing translation. The goal was to achieve accuracy on the sentence level, and there was little focus on reading

longer texts or practicing oral language use (Harmer, 2015, p. 56). This is referred to as the “grammar translation method”. It is also called the academic approach, since this way of teaching language is still in use in higher education (Cook, 2016, p. 263). It is often described as a traditional approach to language teaching (Long, 1997, section “Option 1: Focus on forms”).

For the last 150 years, the grammar translation method, or the traditional approach, has been challenged by approaches that focus on the importance of spoken language. These approaches are often influenced by the view that speech is the primary form of language since written language is derived from spoken language, and children acquire their first language before they learn to read and write, without explicit grammar instructions. This principle is called “the primacy of spoken language” (Cook, 2016, pp. 3-4).

Since the early 20<sup>th</sup> century, this view of language learning has influenced most approaches to language teaching, and in this period, spoken language has been the main focus, and teachers have been expected to avoid spending much time teaching grammar rules explicitly (Cook, 2016, p. 49). In many of these approaches, grammar is mostly taught implicitly or incidentally as the students practice oral language use.

The view that grammar should be acquired implicitly was strongly promoted by Krashen (1985) who argued that explicit teaching of grammar rules was not only unnecessary, but even could be detrimental to language acquisition. In his view, language rules are acquired unconsciously by the learner as one receives comprehensible input (listens to or reads language) (in Gass, 2013, pp. 131-132; Cook, 2016, p. 50). According to this view of language acquisition, theoretical knowledge of grammar rules does not result in the ability to speak the language.

### ***2.2.3 A brief historical overview of approaches to language instruction***

#### **2.2.3.1 Early 20<sup>th</sup> century - The Direct Method and behaviorist views**

Around the turn of the century, the “grammar translation method” was challenged by the “Direct Method” which focused on the spoken dialogue between teacher and student (Harmer, 2015, p. 56). This approach valued oral language use, and it was recommended that only the L2 should be used in the classroom.

From the 1920s and onward, behaviorist views of language learning influenced classroom practices. Language was seen as behavior, and learning was understood as “habit formation” (Mitchell et al., 2019, pp. 40-41). In the 1950s and 60s, learning activities were

often audiolingual drills of sentences. According to this view, theoretical knowledge of grammar does not result in the ability to speak the language. Rather it was considered important to first hear the language, then speak it, and only, later on, practice reading and writing (Harmer, 2015, pp. 56-57).

### **2.2.3.2 The communicative “revolution” in the 1970s and 80s.**

Both the “grammar translation method” and the audiolingual method had a sentence level focus. In the 1970s and 80s, the goal of language teaching shifted from a linguistic emphasis on being able to form correct sentences to a sociocultural focus on being able to use language for real-life purposes (Harmer, 2015, pp. 57).

Hymes invented the term “communicative competence”, which reflects the view that language learning should not only focus on the linguistic competence to form correct sentences; language is also about communicative competence, which is the ability to communicate appropriately in many different situations (in Brown, 2007, p. 219). Hymes (1972, pp. 277-278) explained that as children acquire language, they also acquire attitudes and values concerning appropriate language use. His message was that language is interconnected with social life, and language competence includes the ability to communicate appropriately in different social situations.

The idea of communicative competence was further developed by Swain and Canale who described communicative competence as four different subcategories: grammatical competence (the ability to construct sentences), discourse competence (the ability to put sentences together in a meaningful way), sociolinguistic competence (the knowledge of sociocultural rules) and strategic competence (strategies to compensate for breakdowns in communication) (in Brown, 2007, p. 220).

Communicative language teaching (CLT) dominated L2 classrooms in the latter part of the 20<sup>th</sup> century. The goal of CLT was to be able to communicate appropriately in different situations. The focus was often on oral language use. The CLT approach developed further in the 1980s and 90s and gave rise to task-based language learning (TBLT). Earlier teaching methods have been criticized for giving the students tasks that might be experienced as pointless and boring since they had no real-life purpose (Long, 1997, section “option 1: Focus on forms”). In TBLT, the students are given tasks that have a real-life purpose, like writing a letter to a friend or creating a travel brochure about a city. According to Ellis (2009, p. 223),

the task must require the students to use the language to achieve a clearly defined outcome, and there should be some kind of gap that can only be filled by using the language.

Michael Long (1997) promoted the approach “Focus on Form” within TBLT. In his approach, he acknowledged the need for students to receive some explicit grammar instruction. In his view, this instruction should happen incidentally as the need for more grammatical knowledge arises as students encounter comprehension or production problems within meaningful communication tasks. Focus on Form means that the focus on grammar happens within a meaning-based curriculum and meaning-based activities. He called the more traditional approach, where grammar instruction is a separate activity that is pre-planned in the curriculum, for “Focus on FormS”. The word “forms” refers to the grammatical elements of the language.

Incidental grammar teaching aims to support “noticing”, meaning that the students pay attention to a form in the input to store it more efficiently in memory (Long 1997, section “Option 3: Focus on Form”). He described this approach as “learner-centered” because the grammar instruction is adapted to the students’ abilities and needs as they arise, rather than being pre-planned independently of the student (Long, 1997, section “Option 3: Focus on Form”).

### **2.2.3.3 Communicative competence and grammar teaching in the 21<sup>st</sup> century**

Communicative language teaching has been criticized for having a narrow focus on oral activities and everyday situations, and thereby neglecting intercultural competence, written academic competence, and metalinguistic knowledge of the language (Schulz, 2006, p. 252; Lightbown, 2014, pp. 7-8, 18). Several researchers have concluded that in the era of CLT, explicit grammar teaching has been downplayed, and there has been a greater focus on meaningful communication. Explicit grammar teaching is important, however, to reach higher levels of language accuracy (Nassaji & Fotos, 2014; Lightbown, 2014).

Askland (2019), in her doctoral thesis, investigated the role of grammar instruction in Norwegian education. The teachers she interviewed said they considered grammar instruction important. However, her investigation concluded that explicit grammar teaching in L1 (Norwegian) and L2 (English) was found to be unsystematic and scarce, and in L2 it decreased with students’ age and proficiency (p. 77). She concluded that more focus on explicit grammar teaching would be beneficial for the students’ proficiency, and that there is a

need for teachers to develop student-centered approaches to teaching grammar (Askland, 2020, p. 94).

This trend towards valuing the importance of explicit grammar instruction is also expressed in the newly revised curriculum for the English subject in Norwegian primary and secondary schools. The competence aims for lower secondary education state that the students should be able to “use knowledge of word classes and syntax in working on one's own oral and written texts” and “follow rules for spelling, word inflection, syntax and text structure”. (The Norwegian Directorate of Education, 2020a, section: “Competence Aims After Year 10”).

Today, communicative competence in the L2 classroom is defined broadly. Both the CEFR (Common European Framework of Reference for Languages) and the Norwegian curriculum state that L2 education should contribute to promoting democratic citizenship and prepare the students to participate in work and education (Council of Europe, 2020, p. 27; The Norwegian Directorate of Education, 2020a, section “relevance and central values”). The Norwegian curriculum promotes the view that the English subject must prepare the students to communicate with people “both locally and globally, regardless of cultural or linguistic background” (The Norwegian Directorate of Education, 2020a, section “Relevance and Central Values”).

From this perspective, it might be considered less important to adhere perfectly to the prescriptive grammar found in schoolbooks, and it might be more acceptable for teachers and students to allow for more variation in language use (Ur, 2011, p. 508). This means that teachers cannot blindly assess students’ work according to “textbook rules”, rather, they must consider the communicative value of the text depending on the expected audience of the text.

This broad definition of CC includes being able to use English in education and work. Some formal settings require the writer to adhere to a set of formal rules. This challenges teachers to also acquaint students with formal norms for spoken and written language use, including which grammar rules they will be expected to adhere to.

Neither the researchers nor the curriculum gives clear answers to how grammar should be taught. Askland (2019) found that teachers in Norwegian lower secondary schools mostly taught grammar deductively, even if they believed inductive approaches to be better. They attributed this choice to time-pressure and student-preferences (p. 74). She advocated for more student-centered approaches to grammar teaching where the students actively discuss and reflect on grammar rules (2020, p. 74).

## **2.3 The use of technology in the L2 classroom**

The advent of technology in classrooms has revolutionized the possibilities for teaching and learning activities in L2 instruction, and today, any approach to L2 instruction must consider how to best employ technology in the classroom to promote language learning. This section presents current research on TALL (technology assisted language learning) and recommendations for TALL lesson design.

The first part presents the results of meta-analyses on research conducted in the first decade of the 21<sup>st</sup> century on TALL versus non-TALL conditions. The second part explains what recent research says about how technology is used in Norwegian classrooms. Last, some general principles and guidelines for planning TALL activities proposed in the last decade of research are presented, followed by a description of three different didactical approaches to student-centered TALL lesson designs.

### ***2.3.1 Terms***

These terms have been used to describe the use of technology for language learning: computer assisted language learning (CALL), mobile assisted language learning (MALL), technology supported foreign language learning, technology assisted language learning (TALL). In this paper, the latter is used, since students and teachers today use a mix of different technologies in the classroom, and the goal of this investigation is to look at different approaches to designing lessons rather than at the specific devices used. In this study, TALL refers to both teaching and learning activities in the classroom since these are interconnected.

### ***2.3.2 The effect of TALL in the L2 classroom***

Since computer technology entered classrooms in the late 20<sup>th</sup> century, numerous studies have investigated the learning effect of technology in the L2 classroom. Several meta-analyses of research on TALL conducted in the first decade of the 21<sup>th</sup> century found that, in general, the positive effect of TALL conditions was either statistically insignificant or rather small (Golonka, et al., 2012, p. 88; Grugorovic et al., 2013, p. 191; Macaro et al., 2012, p. 24). These meta-analyses concluded that although the overall effect was small, a greater beneficial effect could be detected related to certain skills or conditions, and further research is needed to investigate such variations (Grugorovic et al., 2013, p. 191; Golonka et al., 2012, p. 92; Macaro et al., 2012, p. 24). For example, Golonka et al. (2012, p. 88) found evidence of a positive effect of technology on the acquisition of pronunciation, and that the use of chat in

the classroom improved productive language use. Macaro et al. (2012, p. 24) concluded that the benefits of CALL conditions were most evident in the development of speaking and pronunciation skills.

Macaro et al. (2012, p. 1-2, 26) stated that since the childhood of educational technology there has been a prevalence of CALL versus non-CALL studies, and the limited evidence of a general positive learning effect of technology in the L2 classroom highlights the importance of research on learning outcomes related to specific technologies, learning activities and language skills, in particular, more narrowly targeted studies focusing on what technology to use and why (Macaro et al., 2012 pp. 1-2, 26).

### ***2.3.3 Technology in Norwegian classrooms***

In 2006, Norway became one of the first countries in the world to include digital skills for learning purposes within the national curricula in compulsory education (Olofsson et al., 2021, p. 322). Investigations in Norwegian classrooms in the following decade, revealed that classroom practices lagged behind, and there was a need for teachers and students to be educated on how to most efficiently employ technology for language learning (Johnson et al., 2013, p. 19).

An investigation conducted in 2014-2015 in L1 classrooms in Norwegian lower secondary schools (Blikstad-Balas & Klette, 2020) revealed that many teachers used technology mainly to present the teacher's pre-prepared content, such as a Powerpoint or similar presentation. The students mostly used technology for individual writing in Word (p. 15). They concluded that although technology offers many new possibilities for learning activities, the teachers' use of technology showed a rather narrow repertoire of learning activities, and their use of technology was considered "traditional" as they did not use technology in new and innovative ways (pp. 6-15).

Kongsgården and Krumsvik (2016) reached similar conclusions in their research on the use of tablets (iPads) in Norwegian primary and lower secondary schools. Although personal tablets in schools offer great possibilities for promoting students' participation in planning, implementation, and assessment for learning, the teachers in lower secondary education did not make use of these possibilities to a great extent. Both teachers' and students' experiences of the learning effect of iPads in primary schools were more positive than in secondary schools (p. 269). Their research pointed to the need for developing new didactic methods and educating teachers on the use of technology for creating student active

learning activities (p. 269). They recommended that learning activities should include using cloud services to promote interaction between students, teachers and materials (p. 269).

A recent case study of teachers in a primary school in Norway (Bugge et al., 2022) indicated that teachers' education and competence in using technology in the classroom have improved over the last decade. The teachers interviewed felt that they had professional digital competence and routines for using technology in the classroom. They reported that it is a constant challenge to stay up to date on new technologies, and that their leaders supported them in this kind of professional development (pp. 4-6).

One important finding in this study, was that, due to technology in the classroom, the role of the teacher has changed. In the 20<sup>th</sup> century, the teacher was expected to provide the students with knowledge. Today, the teacher is more of a facilitator in the classroom, "creating structures and opportunities for learning" (Bugge et al., 2022, pp. 7, 10).

#### ***2.3.4 Approaches to student-centered TALL lesson design***

Technology offers new possibilities for interactions between teacher and students, and for learning activities where the students work more independently. Several studies of classroom practices (Blikstad-Balas & Klette, 2020; Einum, 2019; Bergendahl et al., 2018; Kongsgården & Krumsvik, 2016) have pointed to the importance of using technology to create student-active and student-centered learning activities rather "traditional transmissive teacher-centered instruction" to promote student engagement.

Student-centered learning is a broad term that is most often associated with learning activities that require students to participate actively and interact. Other possible elements in student-centered learning activities can be that they are adapted to the needs of the students, they promote autonomy and real-life skills, and students are involved in making pedagogical decisions (Bremner, 2021, p. 174). Bugge et al. (2022, p. 10) stated that student-centered learning has the potential to promote student agency, self-efficacy, and shift the role of the teacher from being the center of attention with all the responsibility, to a facilitator that "creates structures and opportunities for learning" and supports students in achieving their goals (p. 10). Student-active lesson design can also promote relationships and increase interaction in the classroom both between the students, and between students and the teacher.

In this thesis, "student-centered" lesson design is used to reflect that the lesson plan focuses on learning activities where the students are active and are given opportunities to



interact directly with learning material, and the teacher is more of a facilitator than the center of attention.

The mentioned studies proposed several possible elements and principles for improving TALL lesson design. Response technology can be used to enhance interaction between teacher and students and promote engagement and collaboration. Cloud services can make learning processes more transparent and make it easier to create tasks where the students cooperate to create a product. An internet makes it more feasible to work with real-life texts for real-life purposes, which can make learning activities meaningful and more connected to the real world outside the school (Einum, 2019, pp. 39, 103; Kongsgården & Krumsvik, 2016, p. 269; Blikstad-Balas & Klette, 2020, pp. 61, 64). In the following section, I will present three TALL approaches to student-centered lesson design that have been investigated and recommended in classroom research on TALL.

#### **2.3.4.1 Digital games and gamification**

One of the major new possibilities offered by digital technology is to employ digital games and facilitate the use of “gaming elements” in language learning. Computers and mobile devices give students and teachers access to numerous games that can be used in language learning. Positive features of digital games in language teaching are: games can create meaningful experiences, opportunities for interaction, provide instant feedback, and activities can be fun and motivating (Sykes, 2017, p. 222). This research area has grown significantly in the last decade, and teachers should consider using games or gaming elements in the language classroom (Reinhardt & Sykes, 2014, p. 1.).<sup>1</sup>

Digital games in language learning can be divided in two groups: Digital games designed for (language) learning purposes, and digital games intended for entertainment (commercial off-the-shelf games) (Cornillie et al., 2012, p. 246).

In the schools I have worked, these apps designed for classroom use are commonly used in L2 lessons: the quiz app Kahoot, the “Flash card” app Quizlet, which also offers some language learning games, and Duolingo, which offers language learning exercises and has several gaming elements like scores, quests, and prizes.

Digital games made for entertainment often require the students to read and chat in English, and this can be a fun and entertaining way of practicing language skills. One

---

<sup>1</sup> I wrote about this topic in the paper “Digital Tools in the L2 classroom – The Effectiveness of Quizlet Live versus Quizlet Learn” (2020)

particular type of game that requires the players to interact and communicate is “massively multiplayer online role-playing games”. The most popular of these is World of Warcraft, with 10 million players worldwide (Cornillie et al., 2012, p. 244). The use of these kinds of games in the L2 classroom has been widely researched. The focus has, however, often been on the affordances of games and their motivating properties, and few studies have measured the actual effects on language learning (Cornillie et al., 2012, p. 245).

One important approach to TALL lesson design is to use “gamification” of language lessons. Gamification is to integrate gaming elements into non-game situations (Johnson et al., 2013, p. 9). One example of this is to end a lesson with a digital quiz like Kahoot about the new content the learners have worked with that lesson. In my school, the L2 teachers have experienced that this motivates the students, especially when they give the winners small, affordable prizes like stickers.

#### **2.3.4.2 The flipped classroom**

The flipped classroom approach to lesson design has been developed based on new possibilities offered by technology. In traditional lesson design, the teacher starts a lesson by presenting and explaining new content to the students. The students then do tasks, often at home, to practice the new content. In the flipped learning approach, the students watch videos about the new content at home, then they do tasks and practice this content in class. The role of the teacher is to provide the videos, and to guide and support the students in executing the tasks (Hsieh et al., 2017; Hung, 2015). This is an example of how technology makes it possible to create student-centered learning activities in which the teacher is more of a facilitator and mentor that supports the students in engaging actively with the content, rather than a lecturer.

Hung (2015) investigated the impact of the flipped classroom approach on English language learners’ participation, learning attitudes and academic performance. The research was conducted over eight weeks with 75 students at a Taiwanese university. The interviewed students reported that they spent more time and effort on this course than on other courses due to the flipped classroom design. They found it easier to review the content, since they had access to the video instructions (p. 92). Both the qualitative and quantitative findings supported the conclusion that the flipped classroom approach prompts students to engage more with the learning material, and that it better meets the individual students’ needs (p. 92).

The mentioned study was conducted in a university setting, as is the majority of studies on flipped classrooms (Turan & Adag-Cimen, 2020, p. 597; Ponce et al., 2022 p. 675). Ponce et al. (2022) noted that the number of studies in non-university contexts is declining, and a possible explanation is that flipped learning requires a certain level of self-determination among the students, which children might not yet have (2022, p. 10). These findings raise the question of whether students in lower secondary school are mature enough to succeed in flipped learning. According to this review, more research is needed on the effect of flipped learning on young learners, and possible principles for making it work more efficiently with young learners.

The most reported challenge in the flipped classroom approach was “extra work-load”, according to Turan and Akdag-Cimen (2022, p. 599), which is in accordance with the results of Hung’s study (2015) which reported it as a positive outcome that the students spent more time on the flipped classroom course than other courses (p. 92). In Norway today, there is an ongoing discussion whether young students should have homework at all. This view of homework might create some challenges in the implementation of flipped learning.

#### **2.3.4.3 TBLT and TALL– real-life purposes and real-life texts**

For the last decades, the importance of giving students tasks that have a real-life purpose has been an important principle in L2 teaching. This principle has its roots in communicative language teaching (CLT) and task-based language teaching (TBLT). TBLT was developed in reaction to teacher-dominated and form-oriented L2 classroom practices (Tavakoli et al., 2019, p. 2). The goal of TBLT is to give the students meaningful tasks with a real-life purpose to make language teaching more practical and support them in developing real-life skills that are needed outside the classroom. Before computers, access to information in the classroom was often limited to the teacher’s knowledge, textbooks, and the school library. Technology gives students access to all kinds of information, including real-life texts like news, blogs, and discussion fora. Information technology makes it a lot easier to design TBLT lessons, since the students can search for information, read real-life texts, and even publish and share information online.

Technology makes it easier to create professional-looking products such as videos and graphical content, which makes it easier to come up with meaningful tasks such as making a video commercial for a product or destination, a podcast, or a brochure. User-friendly software and apps can make these tasks fun and engaging, and the students might experience

a sense of mastery as they present a product that they have created themselves rather than handing in written answers to a list of language tasks.

Tavakoli et al. (2019) found that TALL mediated TBLT had a positive effect on L2 reading motivation among undergraduate students in two freshman classes at an Iranian university (p. 16). They noted that this is in accordance with the results of other studies on TALL mediated TBLT, which report a positive effect on motivation due to the interactive nature of the tasks and the learning processes. Because the learning process is interactive, it makes it easier to adapt the tasks to the needs and interests of the students. It also promotes learner autonomy and learner agency in language learning (p. 14).

## **2.4 Challenges in L2 classroom research**

The main challenge when conducting quantitative research in the classroom is that many factors influence learning- and testing processes, and it is impossible to map all of them. Several factors may be invisible to the researcher, such as the students' previous experiences that influence the learning process, thoughts and emotions, and social relationships with other students. Some researchers claim that it is impossible to conduct quantitative research on language learning in the classroom in a way that produces results that can be generalized to a larger population (Nassaji, 2015, p. 129).

This is particularly true for research conducted with young learners, as confirmed by Macaro et al. (2012) in their systematic review of research on CALL in primary and secondary education. They concluded that most studies did not produce results that could be generalized to a larger population (p. 26). This fact is also mirrored in the fact that the majority of studies on language learning are conducted in higher education (Grgurovic et al., 2013, p. 184), possibly because this setting offers greater control over variables. The same study noted a particular lack of studies of advanced learners in primary and secondary education (p. 191). One possible reason may be that it more complicated to accurately measure the learning progress of advanced learners than beginners.

According to Macaro et al. (2012, p. 23), it is most common to conduct mixed methods studies when investigating language learning in primary and secondary classrooms, and qualitative and quantitative methods are equally common (Macaro 2012, p. 23).

Nassaji (2015, p. 129) explained that qualitative studies are increasing due to the understanding that language learning in the classroom is a complex process, and it is not easy to obtain reliable data. He argued that qualitative research is needed to discover the complex cognitive processes behind language learning in the classroom.

A qualitative approach is useful to explore a new topic or gain an understanding of processes where the existing theories do not apply. However, to test an existing theory or explanation, a quantitative approach is best suited (Creswell 2014, p. 20). TALL is no longer a novel area of investigation. Today, a large body of qualitative research describes and explores many different approaches to TALL lesson design. However, there exist few quantitative studies comparing different TALL approaches and their effect on linguistic development.

## 3 Method

This thesis used a mixed-methods approach to investigate three different approaches to TALL lesson design and compare their effect on language learning in the lower secondary L2 classroom. This chapter describes choice of methods, research design, and the data-collection process.

First, the research context and participants are presented. Second, follows a discussion of ethical considerations. Third, the research design and choice of methods are described, followed by a description of the target structures and the TALL lessons. Last, the data collection process is described, along with a short explanation of how the data was analyzed.

### 3.1 The Research Context and Participants

The tests and learning activities were conducted in three Norwegian ninth-grade English classes over a period of 10 weeks in 2022. Students in ninth-grade are around 14 years old. There were 71 potential participants in these groups. The students and parents received oral and written information about the study, and the parents of 79 % (56 out of 71) of the students signed a written consent form (Appendix 1). All the students present in class at the time participated in the learning activities and tests, but only the results of the students who had given written consent were included in the study.

Since this study was conducted in a public school, it likely includes students of different socioeconomic background, thus the participants can, to some degree, be considered representative of Norwegian ninth-grade students. However, they live in the same geographic area, so biases related to geography are not controlled for.

### 3.2 Ethical Considerations

The subjects of this study were minors and were selected for the study because they are participating in compulsory education. This is a particularly vulnerable group since they are too young to give valid consent, they are obliged to be present in the classroom, and the researcher is their teacher and an authority in their life. When there is a considerable power imbalance between the researcher and the participants, it is problematic to ensure that participation is fully informed and voluntary (Brown & Coombe, 2015, p. 179).

This study, including the consent forms and written information (Appendix A), was evaluated and approved by The Norwegian Center for Research Data (NSD) (Appendix B) before starting the data collection process. Permission was granted by the headmaster of the school. The participants and their parents received oral and written information about the study, and the students were only included in the study if their parents had signed the consent form (Appendix A). No data or information was collected that was considered sensitive or very personal. The only information collected was the translated sentences on the pre-tests and post-tests (Appendix C) and the answers to the written survey completed by a group of six students (Appendix D). The questions concerned their opinions about the grammar lessons and how grammar should be taught. The tests were marked with names to connect the pre and post-test and anonymized before analyzing the results. The final results of the testing process are presented as data on a group level, not on an individual level.

The most sensitive data collected were the individual statements written in the survey, since this group was rather small, and the data collected was their personal opinions. The findings of the survey are presented in Table 9 (section 4.3). It was considered that the topic was not very personal, the utterances were of a rather general character about a not very personal topic, and that anonymity was ensured.

Since the data collection was conducted on paper, in class, by their English teacher, the students were informed that the teacher would know their names at the point of data collection, and would be able to see their results, but that anonymity would be ensured in the presentation of results, and that the test scores would not influence their grade in this subject. Steps were taken to ensure anonymity in the analysis process, and in the presentation of the findings.

### **3.3 Research design and choice of method**

This thesis aimed to compare different TALL lesson designs and their effect on the acquisition of target structures in the L2 classroom in lower secondary school. The study was initially planned as a quantitative investigation of the direct effect of different TALL lesson designs on the development of language accuracy. However, in the end, a mixed-methods approach was chosen.

The investigation used an explanatory sequential mixed methods design, which means that qualitative data was collected to help explain the initial results of the quantitative research (Creswell, 2014, p. 224). It was conducted by initially using a quantitative approach, in which the lesson designs' impact on language learning was measured with a traditional "pre-test,

intervention, post-test” design. Since the main goal was to compare the different lessons designs, rather than to find out exactly how much each student improved, a control group was not necessary. Since some students were not present in the grammar lessons in the first round of tests, these were assigned to an “ad hoc” control group. Since the selection was not random, it did not qualify as a reliable control group, still, it was considered valuable to measure the difference in improvement between the students who participated in the lessons and the ones who did not.

The quantitative investigation was supplied by a short, mostly qualitative, written survey about the experience of the lessons, conducted in a smaller group of students. It was considered important to give the students a “voice” – a chance to express their thoughts about the lesson designs, because in a classroom setting, the teacher must consider how the students experience the lessons, and it could be unethical to recommend a lesson design without considering how students might experience it. The survey supplemented the quantitative data with some qualitative data about the experience of the students.

The investigation was conducted in three ninth-grade language groups (classes). Three different approaches to lesson design were tested. The lesson designs are described in section 3.5. Each group had one lesson about the target structures “it is, there is, and there are”, and one lesson about the use of the simple present tense and the present continuous (“I speak” versus “I am speaking”). The target structures are presented in section 3.4. To be able to compare the impact on language learning of the different lesson designs, each group experienced two different types of grammar lessons and a pre-test and a post-test a week before and after each lesson. Students not in the lesson were assigned to a control group. The outline of the experiment is presented in Table 1:

Table 1: Outline of experiment

<b>Target structures</b>	<b>Group A</b>	<b>Group B</b>	<b>Group C</b>	<b>Control group</b>
<b>It is, there is /are</b>	Gamification	TBLT / Focus on Form	Flipped classroom	Not present in lesson
<b>Simple present / present continuous</b>	TBLT / Focus on Form	Flipped classroom	Gamification	Not present in lesson



In this experiment, the participants were assigned to different lesson designs depending on which class they belonged to. A proper experiment must have randomly selected participants from the given population. This study qualifies as a “quasi-experiment” because the researcher depended on naturally formed groups, which do not qualify as a random selection (Creswell, 2014, p. 168).

After the lessons and tests, a short, written survey was conducted in a group of six students about which lesson design they preferred and how they preferred that grammar was taught (Appendix D). The students in the survey group were semi-randomly selected from the participant list to include one male and one female from each group, and to ensure that students with different levels of language skills were included.

### **3.4 The target structures**

It is a challenge to choose target structures suitable for testing and teaching in secondary education, because most students are on a level where common language structures are no longer unfamiliar. Some language structures might be difficult to test in such simple ways that produce valid results. Some language structures might require several grammar lessons before significant improvement in language accuracy is detectable on short tests.

The first set of structures studied was “There is, there are, and it is”. These can often be translated to the Norwegian structure “Det er”. The second set of target structures was the present tense: the simple present as in “I speak” and the present continuous as in “I am speaking”. In Norwegian, the present continuous is not commonly used, it is expressed in several different ways (which will not be explained here), which includes using the simple present tense. These structures were chosen because the English language differentiates between these structures in sentences in which the Norwegian language would use only structure or structures that are quite different from the English language. This makes it challenging for Norwegian speakers to choose the correct form.

### **3.5 The TALL lessons in this study**

This study aimed to investigate how to best use technology when teaching grammar in the L2 classroom. Three approaches to TALL lesson design were chosen from research on TALL based on two criteria: the approach makes use of some features of technology in the classroom in innovative ways, and it is student-centered. To be “student-centered” can mean

that it is adapted to the needs of the students, it promotes learner engagement, learner agency, student activity, and it shifts the role of the teacher to become more of a facilitator that supports the students rather than the center of attention (as explained in section 2.3.4). The following section describes how the grammar lessons in the quasi-experiment were conducted.

### ***3.5.1 TBLT and focus on form using cloud services to cooperate***

The first approach to be tested was what is referred to as TBLT (task-based language learning) and Focus on Form. In this approach, the students receive a task that has a real-life purpose. Grammar is taught “incidentally” as the need arises. Cooperative language production has been proved to contribute to language learning and improved language accuracy, especially with advanced learners (Swain, 1998, pp. 79-80). The task given to the students included cooperative writing and talking. The main features of technology that were employed in this lesson were: an internet connection which makes it possible for students to search for texts that serve real-life purposes and show authentic language use; cloud services that facilitate cooperation, sharing, and cooperative writing; and software and apps that facilitate the production of multimedia products.

In the TBLT language lessons, the students were given a task to complete in groups of three. In the lesson about “It is, there is/are”, the task was to make an online poster about India to be presented to the other groups (in small groups to avoid the added stress of talking to the whole class). The class had previously read several texts about India and watched a movie from India. This task would, most likely, require the students to naturally use the target structures to describe the country and culture. During the lesson, the teacher intervened with a small presentation for the class about the use of the target structures, and as they were working on the poster, the teacher reminded them to be aware of these structures.

In the language lesson about the present tense, the task was to write a text in groups of three about the use of English in Norwegian society, and how the role of English is developing in Norway. After completing the task, they explained the content of their text briefly to another group.

### ***3.5.2 Gamification with Quizlet Live and Kahoot***

Technology gives access to and facilitates the use of games in language teaching. Games can be motivating and fun. Gamification is to use elements typically found in games to enhance learning.

In the “gamified” language lessons, the students first watched a video about the target structures, and then they played two different games. Firstly, they played Quizlet Live, which is a digital game played in teams of three or four. On their screen, they received a sentence where the target structure was missing, then they had to choose the correct phrase to fill the gap among several options. In Quizlet Live, only one team member receives the correct option on their screen. If they make a mistake, they lose all their points. The first group to reach 12 points wins. The rounds typically last 2-4 minutes. They played several rounds, the teacher noted the scores, and the winners received a small prize.

The teacher encouraged the students to work as a team and support each other in understanding the rules and choosing the correct answer so that the students who understood the rules well supported the other students in developing their skills. This kind of activity encourages what Swain calls “metatalk” (Swain, 1998, p. 79), discussing the language forms and structures, which she found beneficial for acquiring language accuracy.

The lesson ended with a quiz using Kahoot, in which the students participated individually. The questions and alternative answers appear on the screen, and the students are to press the correct answer on their personal devices. The three participants who score the most points appear on the “podium” after the quiz.

### ***3.5.3 The flipped classroom and online grammar tasks***

In the flipped classroom lessons, the students were given a video about the language structure to be watched at home before class. If they had not watched the video at home, they watched it in the lesson. In class, they practiced the language structures by doing grammar tasks online. The tasks were rather traditional, drill-like grammar tasks where they were asked to use the target forms to complete sentences. They worked in both the Quizlet Learn application and with tasks on the website “English-hilfen.de”. The tasks were corrected automatically online, so the students got instant feedback about whether they used the target structures correctly or not. The teacher supported the students as needed, by offering explanations individually. The students assessed their own work by filling out a form and writing a comment about to what degree they had mastered the task.

### 3.6 Data Collection and Data analysis

This study aimed to compare the effect on language learning of three different TALL lesson designs. The data collected for this comparison were the written answers to two sets of pre-tests and post-tests (Appendix C), and a written survey conducted in a smaller group of students.

#### *3.6.1 The pre-tests, post-tests and test-reliability*

The purpose of the pre and post-tests was to assess to which degree the students used the target structures correctly. To be able to measure the level of accuracy quantitatively, the tests consisted of 7-8 sentences in Norwegian which the students were asked to translate into English (Appendix C). To master language structures on a high level, includes being able to use them correctly when speaking and writing freely. However, to avoid ambiguous or inaccurate results, the students were not given open-ended questions.

Good research should use reliable measures. Creswell and Guetterman (2021) list three threats to the reliability of measurements: unclear or ambiguous items or instruments, variations in procedures of test administration, and participants who do not do their best (being tired, nervous, or other reasons) (p. 188).

In reducing the likelihood of “ambiguity”, the tests were made as simple as possible, with short, simple instructions and high frequency words, in particular verbs, so that a narrow vocabulary would not limit the use of target structures. To ensure the reliability of the test administration, the same teacher conducted the testing and scoring process in all groups.

The tests had to have several sentences to measure whether the students used the language structures correctly most of the time or only sometimes. Longer, more complex tests could serve to produce more reliable results. The reliability threat that is most difficult to prevent in the classroom, however, is that the participants do not show their actual competence on the test due to for example tiredness or distractions. Young students may have a limited attention span, so the tests were made rather short, to make sure the students would be able to complete them in less than 20 minutes. In ensuring test-retest reliability, the pre- and post-tests were made as similar as possible, but without repeating the same sentences.

### ***3.6.2 The Survey***

To complement the quantitative results, a written survey was conducted in a group of six students, two from each language group. The goal was to supplement the quantitative data about improvement in language accuracy with information about how the students experienced the lesson designs. The main research question was: “Which lesson design do the students find most useful?”.

The survey (Appendix D) was intended to be short and simple, as it was considered secondary to the main research question and experiment. The survey consisted of four questions. The questions were open-ended and written in Norwegian to allow the students to express their thoughts and opinions freely and to focus on what they found most important to express. They were asked which of the two lessons was most beneficial for learning and why, and in which lesson they felt most comfortable and why. They were asked to give their opinion on each lesson, and to explain how they think grammar should be taught. Before they answered the survey, the teacher explained the questions.

### ***3.6.3 Data analysis***

The data collected in this study were the results of the pre-tests and post-tests in the quasi-experiment, and the written answers to the survey. The tests were scored, and the scores of each test were given in percentage points of the maximum score (this is further described in section 4.2.1). The results of the tests were analyzed quantitatively, using descriptive statistical measures. The main goal was to compare the three different lesson designs by comparing the scores of each group. These were the measures used: mean improvement per student, number of students who did not show any improvement, and number of students who improved significantly. Students who scored 80% or higher on the pre-test were excluded since it was considered that their learning process of the target structures had already happened and could not be studied. The results of the tests are presented in sections 4.2.1 and 4.2.2.

The data from the survey were analyzed both quantitatively and qualitatively. The answers to two closed questions were counted (Table 8). The answers to open questions were paraphrased for simplicity and placed in different categories in a table, according to their content (Table 9). Phrases with similar meanings were paraphrased as the same phrase, and frequency was noted. The findings of the survey are presented in section 4.3. In section 5, the results and findings are further discussed and compared in light of the literature review.

### 3.7 Validity

As discussed in section 2.4, it is challenging to conduct research effectively in normal, real-life L2 classrooms since many factors are either invisible or too complex to investigate in reliable ways. Validity in an experiment means that the measured outcome is due to the treatment and not other factors (Creswell, 2014, p. 174). In this experiment, test reliability was central to ensure the validity of the results. Section 3.6.1 explains what steps were taken to ensure test-reliability.

One challenge in this investigation was to ensure construct validity in the experiment, meaning that the interventions actually represented the concepts to be tested, in this case, different “approaches to TALL lesson design”. The concept of “approach to TALL lesson design” is rather complex. This study only measured the effect of six different grammar lessons, representing three different approaches to TALL lesson design. A detailed description of the lessons is given in section 3.5. In this investigation, construct validity could not be fully achieved since each approach was represented by only two lessons. This means that the results of this comparison of approaches to lesson design must be replicated and further investigated to be able to conclude which approach is most effective. Each approach should be represented by several different lessons and relevant learning activities to ensure construct validity.

This study is limited to a small, not randomly selected, population and only a few factors are controlled for. Many factors remain uninvestigated and not controlled for. This means that this study will not produce conclusions that can be generalized to a larger population. However, it can be argued that a quantitative approach still has an important function in indicating possible links between different learning activities and outcomes. This study aims to do this, even if the results will only be able to suggest possible patterns in the data analyzed, which would need to be further investigated and replicated to generate valid results.

## 4 Results

The aim of this study was to compare three different approaches to TALL lesson design and their effect on the acquisition of target structures and language accuracy. This section presents the results and findings of the data collection process conducted in an explanatory sequential mixed methods design that consisted of a classic “pre-test, lesson, post-test” quasi-experiment, and a supplementary written survey. First, the flow of participants in the testing process is described (Tables 2 and 3), then the results and findings are presented. The test results are used to make a quantitative comparison between the lesson designs (Tables 5-7, Figures 1-3). The findings of the survey are presented in Tables 8 and 9. The results and findings presented in this section are further discussed in section 5, in light of the literature review.

### 4.1 Participant flow

The study included 56 students, out of 71, whose parents signed the consent form. All students present participated in two pre-tests, two post-tests, and two grammar lessons. The students who were not present in the language lesson were assigned to a control group to measure whether participation in the grammar lesson resulted in greater improvement than just completing the pre-test and post-test.

In the first round of pre-test, lesson, and post-test, 54 students were present and completed the tests. Five of these students were not present in the lesson and were assigned to the control group. Thirteen students scored 80 percent or higher on the pre-test, which meant that they already mastered the target structures quite well, thus, they were excluded from the analysis, because their learning process of that structure had already happened and could not be studied. The remaining 36 students were in the three experimental groups that received the grammar lessons. There were between 11 and 13 students in each group.

In the second round of tests and lessons, out of the 56 students who had consented, 44 were present on both tests. Only one student was not present in the language lesson. This was not enough to make a control group, so this student was excluded. 14 of the 44 students were excluded due to high scores on the pre-test. The scores of the remaining 29 students were analyzed. This included between 8 and 11 students in each group. The participant flow is illustrated in Tables 2 and 3 below.

Table 2 – Participant flow in the first round of tests and lessons

	Consent	Number of students present on both tests	Number of students excluded due to high level on pre-test	Number of students in control group	Number of students in analysis and results
<b>Group A</b>	20	19	4	3	12
<b>Group B</b>	16	16	2	1	13
<b>Group C</b>	20	18	6	1	11
<b>total</b>	<b>56</b>	<b>53</b>	<b>12</b>	<b>5</b>	<b>36</b>

Table 3 – Participant flow in the second round of tests and lessons.

	Consent	Number of students present on both tests	Number of students excluded due to high level on pre-test	Number of students in control group	Number of students in analysis and results
<b>Group A</b>	20	17	6	0	11
<b>Group B</b>	16	11	3	0	8
<b>Group C</b>	20	16	5	1	10
<b>total</b>	<b>56</b>	<b>44</b>	<b>14</b>	<b>1</b>	<b>29</b>

## 4.2 Quantitative analysis

### 4.2.1 Scoring the tests

The tests (Appendix C) were scored by counting the number of translated sentences in which the target structures were used correctly. To be able to write “it is” was considered “the starting point”, so these sentences were not included in the score, just checked to confirm that the student used “it is” correctly. If the student used only “there is” or “there are” in all the sentences, the student did not score any points. The score was given in percentage points of the maximum score. Twenty percentage points equaled one correct language structure (there is or there are), given that they had used “it is” correctly.

Similarly, on the tests about the present tense, using the simple present tense was considered the starting point, and these sentences were not included in the score, just used to check that the student did, in fact, differentiate between the simple present tense and the



present continuous. If the student did not use the simple present tense at all, the student did not get any points for using the present continuous. On these tests, the 3<sup>rd</sup> person “s”, as in “he walks”, was not a target structure, and did not influence the scores. Progress was measured in how many percentage points each student improved from the pre-test to the post-test.

#### *4.2.1 The results of the pre-tests*

The mean scores on the two pre-tests are shown in Table 4. Students who scored 80 percent or higher on the pre-tests were excluded from further analysis, as it was considered that they had already mastered the target structures quite well before the lessons.

Table 4 The results of the pre-tests

	<b>Group A</b>	<b>Group B</b>	<b>Group C</b>	<b>Control group</b>	<b>Total A,B,C</b>
Mean score on pre-test 1 (there is / are)	10%	29%	13%	12%	18%
Mean score on pre-test 2 (present continuous)	33%	30%	35%	-	33%
(Scores are given in percentage points of the maximum score on the test)					

On average, the groups scored better on the second pre-test concerning the use of the present continuous, than on the first pre-test about “there is /there are”. One of the groups achieved higher mean scores than the other groups on the first pre-test. On the second pre-test, the groups showed more similar results. On the first pre-test, the control group had similar scores to groups A and C, but significantly lower scores than group B. However, since they are representative of two of the groups, the results of the control group can serve to give us some information about the effect of the lessons, even if the scores deviate from that of group B and the average of the whole group. On the second post-test, there was no control group since most students were present in the lesson, and it was considered unethical to exclude students from the teaching.

#### *4.2.2 The results of the post-tests*

Significant improvement was set to an improvement of more than twenty percentage points from the pre-test to the post-test. After excluding the students who scored 80 percent or

above on the pre-tests, the remaining tests were analyzed to find these data: improvement in percentage points per student, each group's mean improvement, number of students that did not show any improvement in the post-test, and number of students that showed significant improvement in the post-test. The number of students was counted as the percentage of the whole group.

By conducting a pre-test and a post-test a week before and after each lesson, progress was measured individually. Conducting each lesson design in two different groups and with two different sets of target structures made it possible to consider whether the lesson design was an independent factor in improved levels of accuracy. Basic statistical measures were used to compare the improvement in language accuracy in the groups studied. No advanced statistical measures were used, since this study was too small to produce reliable statistical data that could be generalized to a larger population,

The results of the post-tests are shown in Tables 5 and 6. The scores demonstrated that, on average, the students who had participated in a grammar lesson improved more from the pre-test than the control group in the first round of tests and lessons (The tests about “there is/are”). The control group also showed the highest percentage of students who did not improve between the pre-test and the post-test. These two measures may indicate that all the three different grammar lessons contributed to improved language accuracy.

Table 5: The results of post-test 1 – “There is/are”

	Group A Gamification	Group B TBLT / FF	Group C Flipped classroom	Control group No lesson
Mean score	38%	51%	62%	20%
Mean improvement	28%	22%	49%	16%
Students that did not improve	33%	46%	18%	60%
Students that improved significantly	42%	31%	82%	40%
Note: scores shown in percentage points of maximum score. Students with high score on the pre-test are excluded, as explained in section 3.				

Table 6: The results of post-test 2 – “the present tense”

	Group A TBLT / FF	Group B Flipped classroom	Group C Gamification	Control group No lesson
Mean score	41%	49%	44%	-
Mean improvement	8%	19%	13%	-
Percentage of students that did not improve	46%	38%	50%	-
Percentage of students that improved significantly	27%	63%	30%	-
Note: scores are shown in percentage points of maximum score. Students with high score on the pre-test are excluded, as explained in section 3.				

The comparison of mean improvement in each group, depending on lesson design, is illustrated in Figure 1. On average, the students showed the greatest improvement in the post-tests after the flipped classroom lessons, and the least improvement after the TBLT lessons. The mean improvement after the gamification lessons fell in between the results of the other groups. After the first round of lessons and tests, the control group showed, on average, less improvement than the other groups.

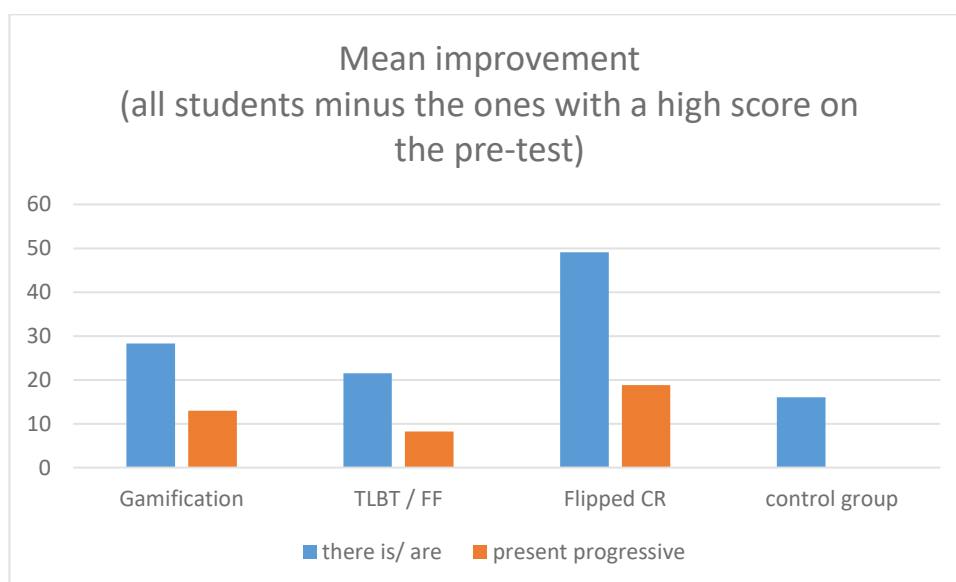


Figure 1 Mean improvement

The average of a group can give a distorted picture of the general level of a group if some students have very high or low scores. To get a more detailed picture of the overall improvement of the group, two other measures were also used: the percentage of students in a

group that showed significant improvement, and the percentage of students in a group who showed no improvement. Significant improvement was set to an increase in score of more than twenty percentage points.

Figure 2 shows the percentage of students in each group who showed significant improvement in the post-test. In the gamification groups, there were slightly more students who improved significantly, than in the TBLT group. It is worth noting that these groups did not significantly outnumber the control group on this measure. In the flipped classroom groups, about twice as many students showed significant improvement compared with the other groups, which could be considered a significantly higher level of improvement.

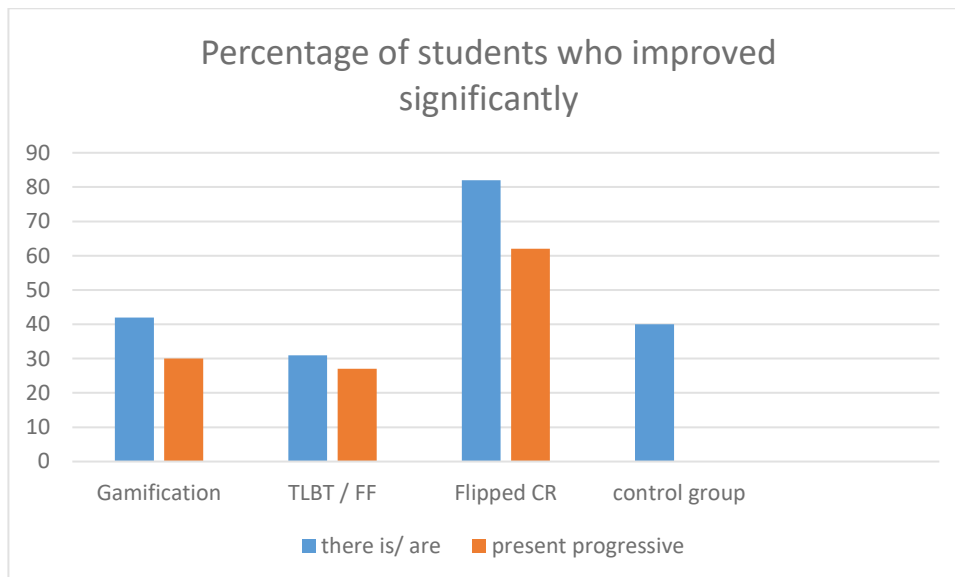


Figure 2 Percentage of students who improved significantly

The last measure analyzed was how many students in each group did not show any improvement in the post-tests. The results are illustrated in Figure 3.

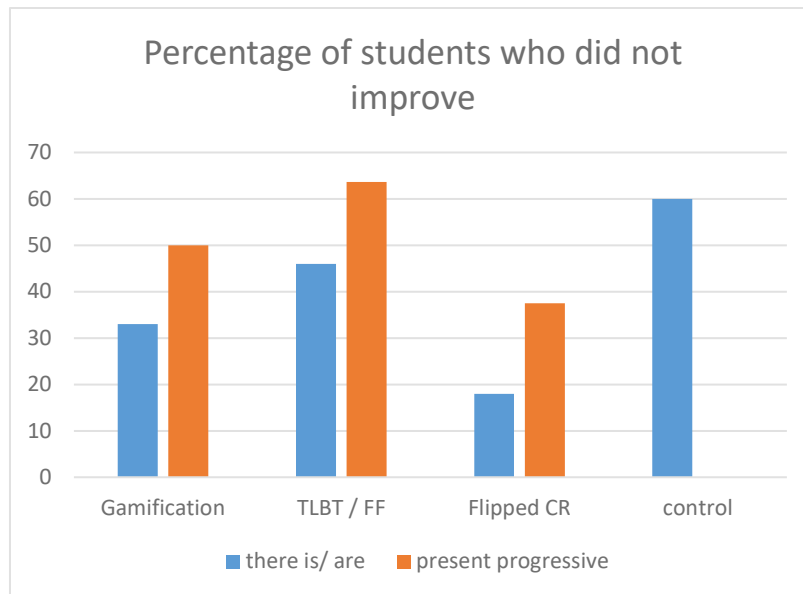


Figure 3 Percentage of students who did not improve

Also on this measure, the flipped classroom groups showed the greatest improvement, with the least number of students that did not show any improvement. In the first round, the control group had the highest number of students that did not improve, which showed that the grammar lessons did somewhat benefit the learning processes in each group. The TBLT groups showed the least improvement, as more than 45 percent of the students did not show any improvement. In the last round, more than 60 percent of the students did not show any improvement.

Though all the groups outperformed the control group on “mean improvement per student”, the control group scored better than the TBLT group on one measure – the percentage of students that improved significantly. The gamification group scored just slightly better than the control group on this measure. On this measure, the flipped classroom scored about twice as much as the other groups, as 82% of the students showed significant improvement. In the second round, there was no control group, but the results were similar. The flipped classroom group outperformed the other groups, with 63 percent of the students improving more than twenty percentage points, which was about twice as much as the other groups.

In Table 7, the three lesson designs are compared, according to which lesson design yielded the best results, the lowest results, and the results in between the two other lesson designs. Table 7 shows that the flipped classroom groups outperformed the other groups on all measures. The “TBLT / Focus on Form” groups improved less than the other lesson design

groups on all measures. The gamification groups scored in between the two other groups on all measures.

Table 7 Comparison of the lesson designs

	<b>Lowest score</b>	<b>Medium score</b>	<b>Best score</b>
Mean improvement - “There is/are”	TBLT /FF	Gamification	Flipped classroom
Mean improvement - “present continuous”	TBLT /FF	Gamification	Flipped classroom
Percentage of students that improved significantly – “There is/are”	TBLT /FF	Gamification	Flipped classroom
Percentage of students that improved significantly – “present continuous”	TBLT /FF	Gamification	Flipped classroom
Percentage of students that did not improve – “There is/are”	TBLT /FF	Gamification	Flipped classroom
Percentage of students that did not improve – “present continuous”	TBLT /FF	Gamification	Flipped classroom

These results indicate that the most significant improvement in language accuracy was found in the flipped classroom groups. The improvement in the gamification and TBLT groups can be considered less significant since, on some of the measurements, the scores were comparable to the scores of the control group. In addition, in the second round, 50 percent or more of the students did not show improvement in the gamification and TBLT groups. In both the first and the second TBLT groups, more than 45 percent of the students did not show progress at all. Any school lesson should ideally benefit all the students, so a lesson that seems to benefit only about half of the students present, might not be considered very effective.

To conclude the quantitative comparison of test results, the students showed the greatest improvement in the post-test after participating in the flipped classroom lessons. They improved least when they participated in the “TBLT / Focus on Form” lesson. The gamification groups scored on average more than the control group, but the improvement was considered less significant than the flipped classroom results, as the number of students that showed significant improvement was comparable to the control group.

### 4.3 The results of the survey

A short survey was conducted in a group of six students to gain some insight into how the students experienced the lesson designs. This was done to supplement the quantitative data about improved language accuracy with some additional information, which could contribute to a more nuanced interpretation of the results. Each student had participated in two different lessons. The students were asked in which grammar lesson they learnt the most, and in which lesson they felt most comfortable.

The answers to the survey (Appendix 4) were coded and analyzed in two different ways. The answers to the two closed questions were counted as shown in Table 8. The answers to the open questions were collected by paraphrasing them in short phrases that contained the main message of each phrase the student had written. The phrases were organized in a table, and phrases with similar meanings were marked with frequency, for example: “games are fun” and “playing language learning games is fun” were written as “games are fun” frequency II”. The results of the two closed questions are shown in Table 8.

Table 8 The results of the survey – frequency of preferred lesson design

	TBLT/ Focus on Form	Flipped classroom	Gamification
Learnt most	2	2	2
Felt most comfortable	1	1	4

In the focus group, the three lesson designs scored equally well on the question “which lesson did you learn most from”. However, the gamification lesson was the most popular, as students felt more comfortable with games. This group is too small to produce valid results that can be generalized to a larger population. It is interesting to note, however, that all the students who had experienced the gamification lesson enjoyed this more than the other lesson designs. And furthermore, that different students perceived the learning outcome of each lesson differently.

The survey responses were analyzed by collecting the words and phrases the students used to describe their experiences of the different lessons, and, if necessary, paraphrasing them to group similar messages. The results are shown as lists of phrases in Table 9. Phrases in bold were repeated by several respondents.

Table 9. Findings in the survey – phrases

	<b>TBLT / Focus on Form</b>	<b>Gamification</b>	<b>Flipped classroom</b>	<b>General recommendation for grammar teaching</b>
<b>Positive</b>	More fun with a meaningful task where we also learn about a topic rather than traditional grammar tasks	<b>Fun I learnt more with games Motivating</b> Helps me engage Fun with team games	<b>I learnt a lot from watching the grammar video The video made it easier to understand</b>	<b>To cooperate in groups is fun / we help each other and learn from each other</b>
<b>Negative</b>	Boring  A bit difficult to understand the grammar teaching	Games are fun, but I need the teacher to spend more time on explanations	Grammar tasks are not always so logical since they are out of context	
<b>Other / mixed</b>	I learnt most from the written task (TBLT) even though it was harder to work with a written task than other tasks.	Fun to play games in between other tasks	I learnt most from the flipped classroom, even if it was boring	<b>I need to write things down to learn them. The teacher must take the time to explain well first. Grammar teaching should be a mix of different activities.</b> I prefer working with grammar in written tasks on paper. The teacher must explain on the black board first, not just on a screen

The survey group seemed to agree that the gamification lesson was what they found most fun and comfortable. This is mentioned both by students who found that they learnt most and least from the gamification lesson. The words used to describe the TBLT lesson are “tough” and “boring”. These words were mentioned both by students who said they learnt most and least from this lesson. Some say that they need to have fun or like the lesson to participate and learn well. Others said that they learnt more from the lesson they found toughest or most boring.

When it comes to the question about how they think grammar should be taught, four statements were repeated by several students. The first was that it is very important that the teacher takes the time needed to explain the grammar rules in front of the class first. The other was that many students say they really need to write things down themselves to learn. This may refer both to the need to write down rules and a need for tasks that require written



answers rather than only “point and click” answers. Some even mentioned that they prefer a black board and pen and paper approach to grammar teaching. Thirdly, some mentioned the advantages of group work and cooperation. The last statement was that they think grammar teaching should be a mix of all the activities they experienced, not just one of the lesson designs.

## 5 Discussion

Research on TALL has revealed a need for developing effective, student-centered didactical approaches to employing technology in the classroom (see section 2.3). Studies of L2 teaching practices have recommended including more explicit grammar instruction (Nassaji & Fotos, 2004). This study aimed to answer the following two research questions:

Q1: How do different approaches to student-centered TALL lesson design compare when it comes to their effect on the acquisition of target structures and language accuracy?

Q2: Which TALL lesson design do the students experience as most useful?

To do so, the study compared three different student-centered approaches to TALL lesson design to see which contributed the most to the acquisition of target structures and improved language accuracy. The effect on language learning was measured in a classic “pre-test, lesson, post-test” quasi-experiment. A supplementary, small-scale written survey of a selection of students provided both quantitative and qualitative data, providing some insight into which lesson designs the students experienced as preferable. The following section discusses the results presented in section 4 and compares the lesson designs in light of the literature reviewed in section 2.

### 5.1 The flipped classroom approach

In the groups studied, the flipped classroom lessons yielded the highest scores of improvement in language accuracy in the post-tests. This approach outperformed the other lessons on all measures. This approach can be termed “student-centered” as technology is used to promote student engagement, transparency, to give the students the possibility to engage directly with the learning material and receive instant automatic feedback. Several of the students in the survey group reported that they found the video with grammar instructions beneficial for language learning. They saw the same video as in the gamification groups.

On the other hand, the flipped classroom lessons could be described as the most traditional lessons in this comparison, because the students worked individually with no elements of cooperation or sharing, and the grammar tasks were traditional “drill-type” tasks rather than tasks with a more meaningful, real-life purpose.

Even though the flipped learning lessons seemed most effective in improving language accuracy, some students described these lessons as boring and difficult to engage in. Others

explained that the lesson felt boring or hard, but that they still found it beneficial for learning. Few students in the survey said they felt more comfortable in the flipped classroom lesson than in the other lesson they participated in, or that this lesson was the lesson they learned the most in. This means that the results of the experiment and the findings in the survey diverged, as flipped learning yielded the best results in the tests, but few students in the survey group rated it as better than the other lessons they experienced.

The results of the tests represent a larger population than the findings of the survey. The responses in the survey might describe more of an emotional or psychological dimension of the learning process than the purely linguistic reality. Both dimensions are important when considering the effect of a lesson design. This study was not extensive or rigid enough to prove that one approach is better than the other. However, the results suggest that in the groups studied, the flipped classroom was an effective approach to teaching grammar and improving accuracy levels.

Previous research has questioned whether flipped learning is effective in lower secondary school, since young students might not have the self-discipline needed to work effectively in this way (Ponce et al., 2022, p. 10). The results of the present study suggest that effective use of flipped learning may be possible in the lower secondary L2 classroom. Previous research has suggested that flipped learning is effective because it pushes the students to work harder. This has been described both as a positive and a negative trait of flipped learning (Hung, 2015, p. 92; Turan & Akdag-Cimen, 2022, p. 599). Hung reported that some university students experienced this as a positive trait. The negative affective responses among some students in the present study might reflect that some younger students might feel less motivated and enthusiastic about the increased workload, even when it is beneficial for learning.

## **5.2 The gamification approach**

The lesson design that was clearly the most popular in the survey group was the gamification approach. It was described as fun and motivating. Games that require teamwork were mentioned as something that contributed to learning, engagement, and well-being in class. The gamification group watched the same video as the flipped classroom group. The difference was that in the gamification lesson, there were several “non-linguistic” elements that could possibly serve to motivate the students to engage: the element of competition, prizes for the winners, and elements to make it fun. The findings in the survey group suggest that these elements contributed to well-being and motivation.

In the groups studied, however, these factors did not contribute to improved accuracy levels to the same degree as the flipped classroom lessons. The groups received the same video instructions and spent part of the lesson working on the same Quizlet flashcards list (but in two different learning modes). However, it seems that the “drill-like” tasks of the flipped classroom had a greater effect on accuracy levels than the games played in the gamified lessons. Even though the flipped classroom lesson was rather “traditional”, the grammar tasks were “drill-type” tasks, and there were no special elements in the lesson to promote motivation, the flipped classroom lessons still outperformed the gamification lessons on all measures of improvement.

### **5.3 The “TBLT/ Focus on Form” approach**

The “TBLT / Focus on Form” approach, where grammar was taught “incidentally” while the students worked on a task with a real-life purpose, yielded the lowest scores of improved accuracy levels. The results in this group were comparable to the control group in the first round. In the second round, 64 % of the students did not show any progress in the post-test. Any school lesson should ideally benefit all the students present, so a lesson where the majority of students seemed to not benefit from the lesson may not be considered very effective. These scores did not show that the TBLT lessons contributed significantly to higher levels of accuracy.

Language learning is complicated and takes time. In this study, progress was measured after only one lesson, which might not be enough for some students to integrate new knowledge. This study did not conduct a delayed post-test, which could have given more valid results. Some students may take longer to integrate new learning, and this could have been revealed on a delayed post-test. A delayed post-test could also have shown which lessons contributed mostly to “long-term learning” – meaning that they still remember what they learnt after some time.

In the TBLT lessons, explicit grammar instruction was downplayed, and more time was spent on meaning-focused tasks rather than grammar-focused tasks. The results of this study might reflect the fact that producing meaningful content and working on language accuracy at the same time, requires more time. The survey group expressed a need for more time for explicit grammar instruction before the learning activities in all the grammar lessons.

It is possible that the TBLT lessons resulted in the lowest improvement of accuracy levels, simply because less time was dedicated to an explicit focus on grammar compared to the other lessons. This conclusion is also supported by the fact that the lessons that yielded the

highest scores, the flipped classroom lessons, were the lessons with the most explicit focus on grammar.

This conclusion is in line with Ellis (2019) who concluded that, within TBLT, there is a need for a greater focus on explicit grammar instruction. Some target structures might be particularly challenging and might require more time and focus for the students to be able to reach higher levels of accuracy (pp. 470-471).

This does not mean that TBLT is not a valid approach to language teaching, just that the teacher must be aware of the needs of the students and dedicate enough time for explicit grammar instructions as needed. These results might also reflect a challenge that has been noted in the Focus on Form approach, and in language production in general, that it can be challenging to simultaneously focus on correct grammar use and meaningful communication about complex topics (Gass, 2013, p. 407). In some stages of language learning it might be that the learner is not able to fully focus on both at the same time.

#### **5.4 Affective Response**

For decades, explicit grammar instruction has been downplayed in L2 classroom practices (Nassaji & Fotos, 2004). One reason that is sometimes mentioned is that grammar focused tasks and instructions can be experienced as meaningless and even boring (Long, 1997). Emotions in language learning were initially not a focus in this investigation. However, the discrepancies between the preferred lesson design in the survey group and the lesson design that resulted in the best scores in the tests should be discussed in light of the affective responses described by the survey group.

Students in the survey group described the gamification approach as “fun” and “comfortable”, whereas adjectives that were used to describe the TBLT lessons and the flipped classroom lessons were “boring” and “hard”. This was described both as something negative that hindered learning, but it was also described as being part of a beneficial learning process. Any teacher will recognize this dilemma when planning lessons, that acquiring new knowledge can be hard work and may evoke emotions of frustration and boredom.

The results of this study indicate that “the most fun” approach did not necessarily contribute more to learning than a more “boring” approach. The “traditional”, “drill-type” tasks in the flipped classroom seemed to contribute more to improved accuracy levels than the fun activities in the gamified lesson. These findings might indicate that difficult emotions are sometimes part of a beneficial learning process, as the flipped classroom was described as

boring, demanding and less comfortable than the gamification lessons, still, it yielded the best results, both on average score per student and on percentage of students that showed significant improvement.

Several students in the survey group requested variation in how grammar is taught. A possible explanation for this wish could be that they felt a need to alternate between fun and easy tasks, which elicit positive emotions, and more demanding tasks, that may cause emotions such as frustration and boredom. The relationship between emotions and learning is complex. Past research has focused on how to reduce negative emotions in L2. Newer research investigates more complex models for understanding affective responses in L2 learning and the role of both positive and negative emotions (Shao et al., 2020).

The findings in this investigation suggest that further research on TALL should investigate the affective responses to different TALL lesson designs, and, in particular, what role negative emotions play in the learning process. This investigation had a very short time span. Further investigations should map the long-term effect of different TALL lesson designs, including factors related to affective response.

### **5.5 Student-centered versus teacher-centered lesson design**

This study compared three student-centered lesson designs. It was a goal to create student-active lessons. Since each lesson lasted only 45 minutes, not much time was dedicated to teacher-led instructions. The students in the survey group expressed a need for more time dedicated to explicit teacher-led instructions about the target structures and time to write the rules down before any subsequent activities. These responses might reflect that one lesson is not enough time to work on a target structure, and that the teacher should balance the time spent on teacher-led instruction and student-active tasks to best fit the needs of the students.

These statements might imply that they preferred a rather “deductive” approach to grammar teaching. In this study, both the gamification approach and the TBLT approach were quite inductive in that the students were given tasks that they needed to figure out by reflecting on the target forms, rather than being told explicitly how to solve the task beforehand. It seemed that some students found the “inductive” approach a bit frustrating, as several students in the survey group requested more time for explicit instructions. There can be several explanations for this.

It might be that they are used to a more deductive teaching style and not used to being faced with problems they have not been told how to solve. The Norwegian “Core

Curriculum” states that “competence” in a subject includes being able to “master challenges and solve tasks in known and unknown settings and situations” (The Norwegian Directorate of Education, 2020b, section “2.2 Competence in the subjects”). This means that the learning activities at some point should be inductive. To face challenges without being given a clear solution can make one feel insecure and frustrated. An inductive approach might need to include preparing the students for dealing with the emotional challenges of facing new situations and not knowing for sure how to solve a problem.

Askland (2019) concluded that many teachers taught grammar deductively, even if they believed an inductive approach to be better (p. 74). This fact might reflect some of the challenges and dilemmas in the inductive approach. Some of the teachers pointed to the time aspect, that they considered the inductive approach more time-consuming. Some of the teachers also reported that their students preferred an inductive approach (p. 74).

In this comparison of lesson designs, some “teacher-centered” elements seemed to have a positive effect on the acquisition of language structures. Einum (2019), in his doctoral research on student-centered use of response technology, reached similar conclusions and stated that student-centering does not always mean that the students are active. He explained that student involvement is central in student-centering, and that this involvement can also be passive, meaning that the teacher, by being flexible and agile enough to react to the needs of the students, can promote passive involvement in the more teacher-centered activities (section “Part II”- “Article 1”- “Results and Discussions”).

In conclusion, as explained in section 2.3, research on TALL has revealed that technology use enables a shift in the classroom from teacher-centered instruction to activities where the students are more active and work more independently from the teacher. Some researchers have requested the development of more student-centered approaches to TALL. The findings in this investigation seem to reveal some challenges in student-centered L2 lesson design: to find the right balance between explicit, teacher-led grammar instruction and more independent, student-active learning activities.

## **5.6 Limitations and implications**

This investigation was conducted in three language groups, and the effect on language learning was measured after only one grammar lesson. It did not measure the long-term effect on language learning and emotional factors. The control group was rather small and not selected randomly. This means that there may be biases in this control group. This study was

not extensive enough to produce results that are generalizable to a larger population. However, it is interesting to describe patterns in the data analyzed to point to issues that are worthy of further investigation.

It is worth noting that the flipped classroom groups showed greater improvement in the language accuracy than the other groups. The gamification lessons seemed to evoke positive affective responses. The incidental grammar teaching in the TBLT lessons did not seem extensive enough to support the students in improving their use of the target structures significantly. These findings are worthy of further investigation to gain a deeper understanding of the effect of different approaches to TALL lesson design.



## 6 Conclusion

This study compared three different student-centered approaches to TALL lesson design by using a mixed methods approach. Three ninth-grade language groups experienced two different grammar lessons each, and the impact on learning outcomes was measured in a language test before and after each lesson. A small-scale survey supplemented the quantitative data with some qualitative data about the experiences of the students.

In the groups studied, the flipped classroom lessons yielded the greatest improvement in language accuracy. The gamification approach was the most popular in the survey group and was described as fun and motivating. The students showed the least improvement after the “TBLT/Focus on Form” lessons. The results suggest that, in the groups studied, flipped learning was the most effective lesson design for improving accuracy in using target structures.

The findings in the survey and the experiment diverged and revealed some interesting dilemmas to consider when planning language lessons. The lessons which resulted in the highest levels of accuracy were not necessarily the lessons the students experienced as most beneficial for learning or most comfortable. Even though the flipped learning lessons resulted in higher levels of language accuracy, the lessons were not rated as very effective in the survey group. Some described these lessons as “hard” or “boring”.

In the survey, these adjectives were used both to describe lessons the respondent found beneficial for learning and lessons the respondent did not experience as beneficial. The survey revealed a different dimension than a purely linguistic one; it gave some insight into the students’ emotional experiences. Both dimensions should be considered when planning lessons.

The survey results suggested that the emotional dimension of language learning can be particularly challenging when using an inductive approach. The teacher might need to prepare the students to master the emotional challenges of working independently and being given tasks they do not immediately know how to solve. This issue is important to consider, because the newly revised Norwegian curriculum highlights that competence means being able to use knowledge in new and unfamiliar settings (The Norwegian Directorate of Education, 2020b, section “2.2 Competence in the subjects”).

The “TBLT / Focus on Form” lessons yielded the lowest levels of improvement, possibly because, in this experiment, these lessons had the least focus on explicit grammar instruction and grammar-focused tasks. The students in the survey expressed a general need,

in all the different lessons, for more time dedicated to explicit grammar instructions and writing down grammar rules. These findings seem to mirror the results of other investigations on L2 classroom practices which have revealed a need for a greater focus on explicit grammar teaching in L2 classrooms (Nassaji & Fotos, 2004; Askland, 2019).

Games and “gaming elements” are currently more accessible in the classroom due to technology, and gamification makes innovative use of several features of technology for language learning. The survey revealed that the students enjoyed the gamified lessons more than the other lessons. The gamification lessons yielded medium levels of improvement in the tests. Even if the flipped classroom seemed more effective in the groups studied, the findings in the survey indicate that gamification of the L2 classroom may have the potential to contribute to wellbeing and motivation in class.

As explained in section 2.3, research on TALL has revealed a need for more innovative and student-centered approaches to TALL lesson design. The students in the survey group in this investigation, however, seemed to also value the more traditional elements in grammar lessons, in particular, that the teacher dedicates enough time to presenting and explaining the target structures before they start working on tasks, and that the students write down the rules before solving other tasks. The lesson design that yielded the highest levels of language accuracy combined some of the affordances of technology with several traditional elements.

To conclude, the main goal of this study was to reveal which approach to student-centered TALL lesson design was the most effective in improving accuracy levels in the use of target structures. The quantitative results suggested that the flipped classroom approach was the most effective language lesson in the groups studied. The qualitative results, however, mirrored a dilemma in the choice of learning activities: whether to prioritize hard work and effective learning, or to create tasks that contribute more to motivation and well-being in class. Some students in the survey requested variation in how grammar is taught. This request could indicate that the students felt a need to alternate between demanding and effective tasks and tasks that feel more fun and comfortable.

This investigation found that in student-centered lesson design it may be a challenge to find the right balance between student-active tasks and teacher-transmissive instruction. This is in line with Einum’s (2019, p. 11) conclusion that student-centering does not mean that the students are always active, it means that the teacher uses the affordances of technology to enhance interaction with the students, and as a result, better adapts the content of the lessons to the student’s needs.

In the present study, the most effective language lessons were not the lessons the students rated as most beneficial for learning or most comfortable. These findings suggest that further research on approaches to TALL lesson design should investigate the complex relationship between learning activities, language learning, and affective responses.

## References

- Askland, S. (2019). Teacher cognitions and the status of grammar teaching in Norwegian secondary schools. A study of grammar teaching practices in the school subjects Norwegian, English and Spanish [doctoral dissertation]. Universitetet i Agder.
- Askland, S. (2020). They have a Eureka moment – there’s a rule! The role of grammar teaching in English as a second language in Norway. *Journal of Second Language Teaching and Research*, 8. 72-102
- Blikstad-Balas, M., & Klette, K. (2020). Still a long way to go – Narrow and transmissive use of technology in the classroom. *Nordic Journal of Digital Literacy*, 15(1), 55-68, <https://doi.org/10.18261/issn.1891-943x-2020-01-05>
- Bremner, N. (2021). The multiple meanings of “student-centred” or “learner-centred” education, and the case for a more flexible approach to defining it. *Comparative Education*, 57(2), 159-186. <https://doi.org/10.1080/03050068.2020.1805863>
- Brown, H. D. (2007). *Principles of language learning and teaching*. Pearson Education.
- Brown, J. D., & Coombe, C. (Eds) (2015). *The Cambridge guide to research in language teaching and learning*. Cambridge University Press.
- Bugge, H., Helgevold, N., Johler, M., & Krumsvik, R. (2022). Teachers’ perceptions of their role and classroom management practices in a technology rich primary school classroom. *Frontiers in Education*, 7. DOI: 10.3389/educ.2022.841385
- Cook, V. (2016). *Second language learning and language teaching* (5th ed.). Oxford University Press.

Cornillie, F., Thorne, S. L., & Desmet, P. (2012). Digital games for language learning: From hype to insight? *ReCALL Journal*, 24(3), 243-256.

Council of Europe. (2020). Common European framework of reference for languages: Learning, teaching, assessment – Companion volume. Council of Europe Publishing. [www.coe.int/lang-cefr](http://www.coe.int/lang-cefr).

Creswell, J. W. (2014). *Research design*. (4<sup>th</sup> ed). Sage.

Creswell, J. W. & Guetterman, T. C. (2021). *Educational research – planning, conducting, and evaluating quantitative and qualitative research*. Pearson Education Limited.

Einum, E. (2019). Response technology and student-centring of language education. NTNU grafisk senter. <https://ntnuopen.ntnu.no/ntnu-xmlui/handle/11250/2635594>

Ellis, R. (2009). Task-based language teaching: sorting out the misunderstandings. *International Journal of Applied Linguistics*, 19(3), 221-246

Ellis, R. (2019). Towards a modular language curriculum for using tasks. *Language Teaching Research*, 23(4), 454-475. DOI: 10.1177/1362168818765315

Gass, S. M. (with Behney, J., & Plonsky, L.) (2013). *Second language acquisition – an introductory course*. Routledge.

Golonka, E., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2012). Technologies for foreign language learning: a review of technology types and their effectiveness. *Computer Assisted Language Learning*, 27(1), 70-105. <https://doi.org/10.1080/09588221.2012.700315>

- Grgurovic, M., Chapelle, C. A., & Shelley, M. C. (2013). A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL* 25(2), 165-198. <http://dx.doi.org.ezproxy.ub.gu.se/10.1017/S0958344013000013>
- Harmer, J. (2015). *The practice of English language teaching* (5<sup>th</sup> ed). Pearson Education.
- Hsieh, J. S. C., Wu, W. V., & Marek, M. W. (2017). Using the flipped classroom to enhance EFL learning. *Computer Assisted Language Learning*, 30, 1-21. <http://dx.doi.org/10.1080/09588221.2015.1111910>
- Hung, H. (2015). Flipping the classroom for English language learners to foster active learning. *Computer Assisted language Learning*, 28(1), 81-96, <http://dx.doi.org/10.1080/09588221.2014.967701>
- Hymes, D. (1972). On communicative competence. In Pride, J.B. & Holmes, J.. *Sociolinguistics*. Penguin
- Johnson, L., Adams Becker, S., Cummins, M., & Estrada, V. (2013). Technology outlook for Norwegian schools 2013-2018: An NMC Horizon Project Regional Analysis. The New Media Consortium.
- Kongsgården, P., & Krumsvik, R. J. (2016). Use of tablets in primary and secondary school – a case study. *Nordic Journal of Digital Literacy*. 11(4). 248-273. DOI: 10.18261/issn.1891-943x-2016-04-03
- Krashen, S. (1985). *The input hypothesis, issues, and implications*. Addison-Wesley, Longman Ltd.
- Lightbown, P. M. (2014). Making the minutes count in L2 teaching. *Language Awareness*, 23, 1-23. <http://dx.doi.org/10.1080/09658416.2013.863903>

Long, M. H. (1997). Focus on form in task-based language teaching. McGraw-Hill companies.  
Retrieved from <http://www.mhhe.com/socscience/foreignlang/top.htm>

Macaro, E., Handley, Z., & Walter, C. (2012). A systematic review of CALL in English as a second language: Focus on primary and secondary education. *Language Teaching*, 45(1), 1-43. <https://doi.org/10.1017/S0261444811000395>

Mitchell, R., Myles, F., & Marsden, E. (2019). *Second language learning theories*. (4<sup>th</sup> ed). Routledge.

Nassaji, H., & Fotos, S. (2004). Current developments in research on the teaching of grammar. *Annual Review of Applied Linguistics*, 24, 126-145.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129-132. DOI: 10.1177/1362168815572747

Olofsson, A. D.; Lindberg, O. J.; Pedersen, A. Y.; Arstorp, A.; Dalsgaard, C.; Einum, E.; Caviglia, F.; Ilomäki, L.; Veermans, M.; Häkkinen, P., & Willemark, S. (2021). Digital competences across boundaries – beyond a common Nordic model of the digitalization of K-12 schools?. *Education Inquiry*, 12(4), 317-328, <https://doi.org/10.1080/20004508.2021.1976454>

Ponce, H. H., Oliva, M. F. R., Claudio, C. R. (2022). Language teaching through the flipped classroom: A systematic review. *Education Sciences* 12(675). <https://doi.org/10.3390/educsci12100675>

Reinhardt, J., & Sykes, J. (2014). Guest editor commentary. *Language Learning & Technology*, 18(2), 2–8. <http://dx.doi.org/10125/44362>

- Rosell-Aguilar, F. (2017). State of the app: A taxonomy and framework for evaluation of language learning mobile applications. *Calico Journal* 34(2).
- Schulz, R. A. (2006). Reevaluating communicative competence as a major goal in postsecondary language requirement courses. *The Modern Language Journal* 90, 252-255.
- Shao, K., Nicholson, L. J., Kutuk, G., Lei, F. (2020). Emotions and instructed language learning: Proposing a second language emotions and positive psychology model. *Frontiers in Psychology*, 11. Doi.103389/fpsyg2020.02142
- Simensen, A. M. (2014). Skolefaget engelsk. Fra britisk engelsk til mange slags ”engelsker”– og veien videre. *Acta Didactica*, 8(2). Retrieved from:  
<https://journals.uio.no/adno/article/download/1138/1017/4950>
- Stockwell, G. (2007). A review of technology choice for teaching language skills and areas in the CALL literature. *ReCALL*, 19, 105–12.
- Swain, M. (1998). Focus on form through conscious reflection. In C. Doughty; J. Williams. (Eds.) *Focus on Form in Classroom Second Language Acquisition* (pp.64–81). Cambridge University Press.
- Sykes, J. M. (2017). Digital games and language teaching and learning. *Foreign Language Annals*, 51(1), 219-224. <https://search-proquest-com.ezproxy.ub.gu.se/docview/2034282224?accountid=11162>
- Tavakoli, H., Lotfi, A. R., & Biria, R. (2019). Effects of CALL-mediated TBLT on motivation for L2 reading. *Cogent Education*. <https://doi.org/10.1080/2331186X.2019.1580916>
- The Norwegian Directorate of Education (2020a). English subject curriculum. Retrieved from:  
<https://www.udir.no/lk20/eng01-04?lang=eng>



The Norwegian Directorate of Education (2020b). Core curriculum. Retrieved from:

<https://www.udir.no/lk20/overordnet-del/?lang=eng>

Turan, Z. & Akdag-Cimen, B. (2020). Flipped classroom in English language teaching: a systematic review. *Computer Assisted Language Learning*, 33(5-6), 590-606.

<https://doi.org/10.1080/09588221.2019.1584117>

Ur, P. (2011). Grammar teaching, research, theory, and practice. In: Hinkel, E. (ed) (2011).

*Handbook of research in second language teaching and learning, volume II*. Routledge.

## Appendices

### Appendix A: Consent form

Til foresatte på 9. trinn.

Samtykker du/ dere til at eleven deltar i et forskningsprosjekt om språklæring i engelskfaget?

Prosjektet er en undersøkelse i forbindelse med min masteravhandling om grammatikkundervisning i engelskfaget.

Det er helt frivillig å delta og du kan når som helst trekke samtykket. Deltagelse innebærer at engelsklærer, Marte Johnson, kan samle inn elevenes svar på noen språkoppgaver (grammatikktester / oversettelse) og analysere hva besvarelsen viser om elevens språklæring i engelskfaget. Elevene kan også bli spurt om hva de synes om læringsaktivitetene. Alle svar anonymiseres i masteravhandlingen og elevene gir ikke fra seg andre personlige opplysninger enn oppgavebesvarelsen, men lærer vet hvem som har besvart oppgavene ved innlevering.

### Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet «Undervisningsmetoder i engelskfaget», og har fått anledning til å stille spørsmål.

Jeg samtykker til at min sønn / datter deltar i dette forskningsprosjektet og at elevens besvarelse på språkoppgaver kan inngå i datamaterialet det forskes på. Jeg samtykker til at elevens opplysninger behandles frem til prosjektet er avsluttet.

Elevens navn og klasse: \_\_\_\_\_

-----  
(Signert av foresatte til prosjektdeltaker, dato)

Ved spørsmål, ikke nøl med å kontakte meg på tlf 99044660 eller [marte.k.hiorth.johnson@kristiansand.kommune.no](mailto:marte.k.hiorth.johnson@kristiansand.kommune.no) / [80marte@ikrs.no](mailto:80marte@ikrs.no)  
Utfyllende informasjon på neste side:

Utfyllende informasjon om undersøkelsen ” Undervisningsmetoder i engelskfaget ”

## Formål

Som del av arbeidet med min masteravhandling om fremmedspråk i skolen ved Høgskolen i Østfold skal jeg gjennomføre en undersøkelse om grammatikkundervisning i engelskfaget. Målet er å få kunnskap om læringseffekten av noen undervisningsmetoder. Undervisningsmetodene og oppgavene vil være slike som normalt inngår i engelskundervisningen.

*Type oppgaver og data som innsamles om eleven:* Oppgavebesvarelsene som samles inn vil være vanlige språkoppgaver som for eksempel å oversette setninger eller fylle inn ord. Eleven kan også bli spurt om i hvilken grad de opplevde arbeidsmetoden som lærerik eller gøy. Ingen av oppgavene vil ha spørsmål av mer personlig karakter. Ingen sensitiv informasjon samles inn utover det som er beskrevet her.

**Ansvarlige for dette prosjektet:** Marte Johnson, lærer ved Havlimyra skole og masterstudent ved Høgskolen i Østfold. Veileder for masteroppgaven: Karin Dahlberg Pettersen ved Høgskolen i Østfold.

**Hva betyr det for deg å delta?** I løpet av undervisningsåret vil vi i engelskfaget gjennomføre noen læringsaktiviteter der elevene før og etter besvarer noen språkoppgaver som for eksempel oversettelse av setninger eller å fylle inn noen ord i setninger.

**Det er frivillig å delta** Det er frivillig å delta i prosjektet. Det betyr at du kan velge selv om du har lyst å være med eller ikke. Du og dine foresatte kan når som helst gi beskjed at du ikke vil delta. Alle i klassen deltar i undervisningsaktivitetene, men din besvarelse av oppgavene vil ikke inngå i analysen av resultatene dersom du ikke ønsker dette. Du kan når som helst trekke samtykket tilbake uten å oppgi noen grunn. Det betyr at det er lov å ombestemme seg, og det er helt i orden. All informasjon om deg vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller om du først sier «ja» og så «nei».

## Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger

Alle besvarelser i prosjektet anonymiseres før resultatene analyseres. Lærer ser navn og oppgavebesvarelse ved innlevering, deretter anonymiseres besvarelsene. Jeg vil bare bruke informasjonen om deg til å analysere læringseffekten av noen språkaktiviteter. Jeg vil ikke dele din informasjon med andre. Det er bare Marte Johnson som har tilgang til personlig informasjonen (oppgavebesvarelse med navn). Veileder har tilgang til analyse av resultater og forarbeid til dette, men ingen personlig informasjon.

Jeg passer på at ingen kan få tak i informasjonen som vi samler inn om deg. Jeg passer på at ingen kan kjenne deg igjen når jeg skriver om prosjektet / resultatene. Masteravhandlingen vil ikke nevne enkeltpersoner. Det vil være en analyse av tall og statistikk knyttet til læringseffekt på gruppenivå og ikke analyse av enkeltelevers språklæring. Jeg følger loven om personvern.

**Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?** Jeg har som mål å bli ferdig i løpet av et år. (juni 2023) og vil ikke oppbevare informasjon om elever etter dette.

**Dine rettigheter** - Når du deltar i et slikt forskningsprosjekt har du rett til å få se hvilken informasjon om deg som vi samler inn. Du kan også be om at informasjonen slettes slik at den ikke finnes lenger. Dersom noen opplysninger er feil kan du si ifra og be forskeren rette dem. Du kan også spørre om å få en kopi av få informasjonen av oss. Du kan også klage til Datatilsynet dersom du synes at vi har behandlet opplysningene om deg på en uforsiktig måte eller på en måte som ikke er riktig.

## Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler informasjon om deg bare hvis du sier at det er greit og du skriver under på samtykkeskjemaet.

**Hvor kan jeg finne ut mer?** Hvis du har spørsmål om studien, kan du ta kontakt med:

- Marte Johnson tlf 99044660 / [marte.k.hiorth.johnson@kristiansand.kommune.no](mailto:marte.k.hiorth.johnson@kristiansand.kommune.no).
- Karin Dahlberg Pettersen (veileder). [karin.d.pettersen@fremmedspraksenteret.no](mailto:karin.d.pettersen@fremmedspraksenteret.no) / [karin.d.pettersen@hiof.no](mailto:karin.d.pettersen@hiof.no)
- Personvernombud ved Høgskolen i Østfold: Line M. Samuelsen. [line.m.samuelsen@hiof.no](mailto:line.m.samuelsen@hiof.no)
- 

Høgskolen i Østfold har bedt Personverntjenester se om prosjektet følger loven om personvern. Personverntjenester har gjort dette, og mener at vi følger loven. Hvis du lurer på hvorfor Personverntjenester mener dette, kan du ta kontakt med: Personverntjenester på epost ([personverntjenester@sikt.no](mailto:personverntjenester@sikt.no)) eller på telefon: 53 21 15 00.

Med vennlig hilsen                      Marte Johnson                      Tlf 99044660 / [marte.k.hiorth.johnson@kristiansand.kommune.no](mailto:marte.k.hiorth.johnson@kristiansand.kommune.no)

## Appendix B: Approval from NSD



[Meldeskjema](#) / [Undervisningsmetoder i engelskfaget](#) / Vurdering

# Vurdering av behandling av personopplysninger

### Referansenummer

911625

### Vurderingstype

Standard

### Dato

18.07.2022

### Prosjekttittel

Undervisningsmetoder i engelskfaget

### Behandlingsansvarlig institusjon

Høgskolen i Østfold / Fakultet for lærerutdanning og språk / Institutt for språk, litteratur og kultur

### Prosjektansvarlig

Karin Dalberg Pettersen

### Student

Marte Johnson

### Prosjektperiode

01.06.2022 - 01.03.2023

### Kategorier personopplysninger

Alminnelige

### Lovlig grunnlag

Samtykke (Personvernforordningen art. 6 nr. 1 bokstav a)

Behandlingen av personopplysningene er lovlig så fremt den gjennomføres som oppgitt i meldeskjemaet. Det lovlige grunnlaget gjelder til 01.03.2023.

[Meldeskjema](#)

### Kommentar

OM VURDERINGEN

Personverntjenester har en avtale med institusjonen du forsker eller studerer ved. Denne avtalen innebærer at vi skal gi deg råd slik at behandlingen av personopplysninger i prosjektet ditt er lovlig etter personver regelverket.

Personverntjenester har nå vurdert den planlagte behandlingen av personopplysninger. Vår vurdering er at behandlingen er lovlig, hvis den gjennomføres slik den er beskrevet i meldeskjemaet med dialog og vedlegg.

### VIKTIG INFORMASJON TIL DEG

Du må lagre, sende og sikre dataene i tråd med retningslinjene til din institusjon. Dette betyr at du må bruke leverandører for spørreskjema, skylagring, videosamtale o.l. som institusjonen din har avtale med. Vi gir generelle råd rundt dette, men det er institusjonens egne retningslinjer for informasjonssikkerhet som gjelder.

### TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 01.03.2023.

### LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra foresatte til behandlingen av personopplysninger om barna. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte/foresatte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være foresattes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

### PERSONVERNPRINSIPPER

Personverntjenester vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at foresatte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål

- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

#### DE REGISTRERTES RETTIGHETER

Personverntjenester vurderer at informasjonen om behandlingen som de registrerte og deres foresatte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18) og dataportabilitet (art. 20).

Vi minner om at hvis en registrert/foresatt tar kontakt om sine/barnets rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

#### FØLG DIN INSTITUSJONS RETNINGSLINJER

Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

Ved bruk av databehandler (spørreskjemaleverandør, skylagring, videosamtale o.l.) må behandlingen oppfylle kravene til bruk av databehandler, jf. art 28 og 29. Bruk leverandører som din institusjon har avtale med.

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og eventuelt rådføre dere med behandlingsansvarlig institusjon.

#### MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til oss ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

<https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema>. Du må vente på svar fra oss før endringen gjennomføres.

#### OPPFØLGING AV PROSJEKTET

Personverntjenester vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Kontaktperson hos oss: Olav Rosness, rådgiver.

Lykke til med prosjektet!

**Appendix C: Pre-tests and post-tests**

<p><b>PRE-TEST 1</b></p> <p><b>1. Oversett setningene til engelsk:</b></p> <p>Det er sent.</p> <p>Det er en hund i hagen.</p> <p>Det er epler i butikken.</p> <p>Det er kaldt.</p> <p>I Kristiansand er det mange hvite hus.</p> <p>I boksen er det en kopp.</p> <p>I den boka er det mange bilder.</p>	
<p><b>Post – test 1</b></p> <p><b>1. Oversett setningene til engelsk:</b></p> <p>Det er varmt i dag.</p> <p>Det er en gutt ute.</p> <p>Det er tomater på bordet.</p> <p>Det er tidlig om morgenen.</p> <p>I Europa er det mange religioner.</p> <p>I glasset er det et insekt.</p> <p>Det er mange fisk i havet.</p>	

<p><b>PRE-TEST 2 Oversett setningene til engelsk:</b></p> <p>På mandager spiller jeg i band.</p> <p>Mange gutter spiller fotball.</p> <p>Hun sitter og spiser middag på kjøkkenet.</p> <p>Pappa lager noen ganger middag.</p> <p>Jeg spiller gitar i et band.</p> <p>Jeg sitter og leser en bok mens søsteren min ser på TV.</p> <p>Han er på rommet sitt og han leker med biler.</p> <p>Hun holder på å lage en kake.</p>	
<p><b>POST-TEST 2</b></p> <p><b>Oversett setningene til engelsk:</b></p> <p>På tirsdager spiller jeg basketball.</p> <p>Hun sitter og leser en bok.</p> <p>De holder på å lage en film.</p> <p>Mange tenåringer spiller videospill.</p> <p>På søndager drar vi til dyreparken.</p> <p>Min onkel inviterer oss vanligvis til jul.</p> <p>Jeg spiller trommer.</p> <p>Jeg ligger og hører på musikk mens du leker med dukker.</p> <p>«Gjør du leksene dine, Kari?»</p>	

## Appendix D: The Survey

### Undersøkelse om undervisningsmetoder i Engelsk

Du har deltatt i to av disse undervisningstimene (se kryssene):

- Grammatikk undervist ved behov i meningsfylt undervisning
- Grammatikkundervisning med «gamifisering»
- Grammatikkundervisning ved omvendt undervisning (video + individuelle oppgaver på nett).

Hvilken grammatikktime synes du var mest lærerik? Hvorfor?

Hvilken time trivdes du best i? Hvorfor?

Kan du kort si hva du syntes om de to ulike:

\_\_\_\_\_:

\_\_\_\_\_:

Hvordan synes du grammatikkundervisning i engelsk bør gjennomføres?