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# More Than Words can Tell 

Using Multimodal Texts to Support Reading Comprehension of Literary Texts in English

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#### Abstract

This thesis explores the possibilities of multimodality in supporting text comprehension of literary texts in language learning of the L2. While multimodal texts offer multiple ways of meaning making that sometimes go beyond the written text, I have focussed on multimodal expressions that mirror the context of a given text. I conducted an empirical study with 114 students (grade 9; 13-14 years) in two schools in Trondheim, Norway. The material I used consisted of three literary texts (excerpts from Penguin Readers books adapted for the age group) for which the supported by illustrations and audio files was systematically varied in an experimental design. The students carried out a standardized reading test (Hodder reading test) in a first session to establish different levels of reading proficiency, before they took the main reading comprehension test which included the multimodal text expressions in a second session, about 1-2 weeks later. In addition, their personal experience of support by the multimodal expressions was measured in a questionnaire. Differences between the different versions of the texts were analysed by chi-square tests, analyses of variance, and analyses of covariance. The reading proficiency test proved to be a good indicator for successful understanding of the literary texts. The different modalities seem to support reading comprehension, but the effects appear to depend partly on the students' level of reading proficiency and fatigue. The results are interpreted in the light of cognitive theory of multimedia learning and dual coding theory.


Keywords: multimodal texts, reading comprehension, L2 language, literary texts, text features, individual differences, cognitive theory of multimedia learning, dual coding theory

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## 1 Introduction

"I am not good at reading people." - This sentence was uttered by one of my students, and I could detect some exasperation in his voice. What he meant was that he was not able to understand the class discussion about a book section that was going on at that time. While his classmates were digging deeply into the underlying meanings hidden in a few sentences of a literary text, he was still trying to understand what had happened in these few lines. Needless to say that for him reading was not the most pleasurable experience. And needless to say that he was not alone with this experience.

For me, this was difficult to grasp. I have always loved books and have always defined myself as a reader. Not only have books always been a source of pleasure, they have also taught me about the world and its wonders and the best of them have made lasting impressions that I will never forget and that I cherish immensely. Moreover, do I owe much of my own language learning to reading texts in English and feel that books have been a more than passable substitute for visiting all the places where English is spoken and understanding their history and culture.

Because of this it was on the one hand difficult for me to understand this student's and other students' difficulties in reading literature and on the other hand it filled me with sadness that they were not able to enjoy the world of literature with all its wonders. I have therefore been looking for quite some time for possibilities to support students in their effort to read and to access literature especially in their L2. For a long time - I have been a teacher for more than 10 years - nothing had worked satisfactorily. It was therefore like an epiphany for me when I was introduced to the concept of multimodal texts. The idea to define a text as a combination of different sign systems and to exploit their meaning potential has excited me from the start. This thesis is an attempt to exploit the possibilities of multimodal texts for the English classroom. I was trying to assess their benefits and their limitations for making literary texts more accessible for struggling readers.

The benefits of reading literature have been established over the years and include many different aspects. They range from reading for pleasure, (Bland \& Lütge, 2013; Leland, Lewison, \& Harste, 2012) , to learning about "fundamental human issues" (Collie \& Slater, 1987) and showing ways to deal with problems (Traverso, 2013) to gaining world knowledge (Burwitz-Melzer, 2013). Especially interesting for the teacher of a foreign language is that reading literature enables students to learn linguistic features (Collie \& Slater, 1987) and that
reading literature can support lifelong reading (Bland \& Lütge, 2013). Moreover, it fosters cultural awareness and understanding (Lee, 2013). It is claimed to have even far-reaching consequences for the development of society as reading literature fosters the development of responsible and engaged citizens (Bland \& Lütge, 2013; Leland et al., 2012).

The concepts of new literacies or multiliteracies (Cazden et al., 1996) have put the focus on including multimodal representations into the teaching of literature (Bland \& Lütge, 2013) ending what Sipe (2008) calls the "verbo-centric" tradition of the western world. These new literacies are concerned with texts that include different modes of meaning making (Cazden et al., 1996) including images in books, but also comics and graphic novels that have formerly been seen critically because they were not considered appropriate for readers beyond a certain age (Bland \& Lütge, 2013).

Much research has been concerned with how paying attention to peritextual features in picturebooks (Sipe, 2008; Traverso, 2013) and graphic novels can enrich the reading experience of students who read in their L1 and make them more aware of how pictures and text create meaning (Leland et al., 2012; Sipe, 2008). This again has been established as being a prerequisite for dealing critically with all kind of multimodal representations in and outside of school including multimedia texts in advertisement and on websites (Wright, 2013).

While this research has been concerned with the higher levels of reading and literacy there is also a body of research that focuses on how multimodal representations can foster reading comprehension for students who read in L2 (Carter, 2008, quoted in Bland \& Lütge, 2013, Hestnes, 2012, Traverso, 2013). Because students who read in L2 often use up a lot of cognitive resources for decoding texts the illustrations in books help overcome difficulties in decoding texts on the word and sentence level, illustrations in books can help lessen the cognitive load and lead to vocabulary learning which again will help with the comprehension of literary texts (Nation, 2008).

I have often felt that many students I have been working with in the past do not reach a level of reading proficiency in L2 that truly enables them to enjoy literature and to use it as a source for learning in the way described in the section above. This means that they have not only been cut off from the possibility of defining themselves as readers in L2 but also from acquiring new linguistic features and developing their language proficiency in the foreign language. The threshold for them often lay as low as decoding the text at hand on a very basic level. This led to a lot of frustration seeing that their classmates were discussing literature on a
high level while they were still busy decoding the words on the pages. Considering this, I feel that it should be explored how images or audio files can help these students to reach higher levels of reading proficiency and thus helping them not only with their language development but also fostering their self-esteem as learners of a foreign language.

The aim of this paper is to establish whether multimodal representations of narrative texts help struggling readers to master both lower and higher levels of reading comprehension which again are a prerequisite for literacy in the foreign language. The multimodal texts I am going to use are texts that are illustrated but do not fall into the category of children's' books or graphic novels but contain more text and have not originally been created as a multimodal text. I have chosen an easy-reader version of The Adventures of Huckleberry Finn and of Oliver Twist. This is due to the fact that they support the meaning of the text by illustrations that go not beyond the meaning of the text which might be challenging to those students who struggle with decoding of texts in English on a low level. Moreover, they cover a range of reading proficiency as the Huckleberry Finn text is categorized as being easier by the publisher. In addition, I want to show which combinations of expressions lead to this positive improvement and how students might benefit from the lessening of the cognitive load.

In the first part of my paper, I am going to define central terms and concepts used in this thesis and present how they can contribute to analyzing and discuss the results of the empirical part. I am beginning with describing in detail what the benefits of reading literature are. As reading is a complex process, comprised of different skills and process, I am going to go into the theory of reading and reading comprehension in some depth to make it clear which processes I mean to set the spotlight on. The main focus here will be on reading in a foreign language.

Based on the writings of Van Leeuwen (2005), I will present how pictures, text and sound can work together to create meaning and give a short overview over the meta-language they provide for analyzing the relationship between different modes of meaning and different semiotic sign systems. I am furthermore going to establish how the Dual Coding theory (Clark \& Paivio, 1991; Sadoski \& Paivio, 2004) and the Cognitive Theory of Multimedia learning (Mayer, 2002; Mayer \& Sims, 1994) can account for enhanced reading comprehension especially on the lower levels of reading comprehension. As the theory of cognitive load is often quoted to challenge as well as support the belief that multimodal texts enhance reading abilities on different levels, I am going to present it in some detail before.

Some important aspects considering the assessment of reading and the differences between reading literary as opposed to non-literary texts will be elaborated before I lay out the design and the methods for my study. The thesis will be concluded by a discussion of the results, and the conclusions educators can draw from its results.

## 2 Theoretical background

Looking at how multimodal expressions can support reading comprehension of literary texts only makes sense if it is acknowledged that literary texts are beneficial for language learners and that teachers should spend considerable resources on reading those kinds of texts in the foreign language classroom. I will, therefore, start my theory section with an account of the benefits of literary texts in the L2 classroom before I move on to try to give a brief account of the different processes involved in reading. I do this to have a good basis for showing how exactly multimodal expressions can support some of these processes which will result in increased comprehension. It follows a detailed description of what multimodal texts are and under what circumstances they support text comprehension. Moreover, I will explain these effects by referring to theoretical concepts and point out how the claims made about benefits of multimodal texts can be anchored in theory. A final important aspect in the theoretical part will be a section on assessing reading comprehension since this non-trivial challenge will be of high relevance for my study.

### 2.1 Reading

### 2.1.1 The importance of reading literature

A wide body of research deals with the benefits of reading literature, and I am going to give a brief overview. I will organise my argument around three major points which are: reasons related to pedagogy, language learning and cultural competence. At first, I will describe the benefits of reading literary texts in the light of pedagogy.

### 2.1.1.1 Pedagogical Reasons

Reading literature should primarily be a source of enjoyment (Leland et al., 2012; Nation, 2008). Literature easily becomes enjoyable because people have a need for a story and will actively seek out possibilities to imagine other worlds (Birketveit \& Williams, 2013). Some researchers therefore claim that the language teachers' most important job is to develop their students' love for literature (Leland et al., 2012).

Literature is essential to us because it deals with basic human issues (Collie \& Slater, 1987) which have relevance across different cultures allowing the reader to be drawn into the story. Because stories often elicit emotional responses from the readers, they can make the reader feel that they have experienced the story themselves, which makes the experience very intense
and memorable (Leland et al., 2012). This emotional response is possible when the text offers a way for the students to see a connection with their own lives, which will again make them lifelong readers and learners (Burwitz-Melzer, 2013). The aspect of lifelong learning is also taken up by Leland et al. (2012). They go even further in suggesting that the experiences made while reading literature can lead to responsible citizenship. These benefits of reading literature can be linked to the general part of the Norwegian syllabus where it is claimed that the role of school is not only to foster lifelong learning but also to enable students to life a rich private and public life (Utdanningsdirektoratet, 2006).

While it is important that students see the relevance of what is being depicted in the stories they read, texts will also provide them with new ideas and concepts about the world we live in (Collie \& Slater, 1987; Leland et al., 2012). Østern (2008) describes the subjects concerned with language as educational subjects that are concerned with bildung in its widest sense ("dannelsesfag") and claims that they offer rich possibilities to think about the meaning behind things. According to her, the students will begin an important journey when dealing with literature where they can start in something they are well accustomed with and move towards something new that will challenge their old views. It will not only encourage them to identify with different characters and different viewpoints, but also guide how they will reposition themselves in the world and to find their own place (Leland et al., 2012).This meets with the claims of the Norwegian core curriculum which clearly states the developing of empathy as an important goal of education (Utdanningsdirektoratet, 2006).

### 2.1.1.2 Language learning

There are different aspects of foreign language learning that are said to benefit from extensive reading of literature. One of the strongest points made by different authors concerning language learning while reading literature is that it helps reading to develop and increase the vocabulary of language learners. Nation (2008) claims that extensive reading of literary texts does not only help to learn new words, but also supports establishing words that have been learned before. Birketveit and Williams (2013) make a similar point mentioning that the same words and expressions often occur again and again in a given text which leads to the words being consolidated. While not all the new words encountered in a text might be learned for active use, a lot of words might still become part of the readers' receptive vocabulary (Collie \& Slater, 1987).

The acquisition of new words is essential for development of reading comprehension, because a pre-requisite for successful reading is what he calls the correct 'density' of known words readers encounter in a new text (Nation, 2008). The ideal density lies between 95-98\% percent of the words encountered in a text (Hu and Nation, 2000, quoted in Nation, 2008). As it can be difficult to find texts where the density of known and unknown words exactly matches the reader's ability, Nation strongly advocates the use of graded readers.

Other aspects of language learning include grammar (Nation, 2008) like, for example, the use of different sentence structures (Collie \& Slater, 1987). The big advantage for linguistic items being encountered in the context of a literary text is that the reader will pay more attention to these items due to this context (Collie \& Slater, 1987). Learning about language also includes learning about various forms and conventions, as well as how to express ideas (Collie \& Slater, 1987), something which is offered in all literary texts.

As most literary texts are not written for the purpose of teaching a foreign language, the readers will encounter authentic texts which are often richer because they offer more variation than constructed textbook texts. They will not only be confronted with different genres but also with different functions of language like irony or narration (Collie \& Slater, 1987).

One last point made by Nation is that because the students are able to learn more language. A sense of achievement will motivate them to learn even more, which will again help to build up their competence in the foreign language (Nation, 2008).

### 2.1.1.3 Cultural Competence

Different authors (Birketveit \& Williams, 2013; Burwitz-Melzer, 2013; Collie \& Slater, 1987) emphasize the importance of literary text for gaining insight into different cultures. While the main aim of literary texts is not to teach about issues of culture, they do include a lot of information about the culture the story is situated in (Collie \& Slater, 1987). According to Collie and Slater (1987), a literary text offers a rich context in which characters from different backgrounds are described (Collie \& Slater, 1987), thus depicting sub-cultures among, for example, national cultures. Even though literary stories do not describe reality as non-fictional texts do, they might still give insights into codes and customs of the society described in the story.

If the reader is engaged in a text, he will be open to new perspectives. Values and wellestablished knowledge about cultures might be questioned, which will lead to a better
understanding of global cultures and of culturally defined differences in societies (Birketveit \& Williams, 2013). (Burwitz-Melzer, 2013) goes as far as claiming that dealing with cultural issues when reading literary texts will help to develop social skills, a pre-requisite for surviving in today's world. This aspect of reading literature is also reflected in the Norwegian syllabus for English because it claims that learning about culture and literature of a foreign society are important aspects of the teaching of English and help to accept the diversity of values and lifestyles (Utdanningsdirektoratet, 2006).

In contrast to other material like non-fictional texts, the reader of literary texts does not only learn about customs of the target culture but also about the emotional state of characters who live in this context (Collie \& Slater, 1987). Because of this quality they offer a different dimension in contrast to non-fictional material (Collie \& Slater, 1987).

### 2.1.2 Different skills involved in the reading process

Reading is a complex process that includes different sets of sub-skills. Nassaji (2003) is referring to reading as a "multivariate skill" whereas Koda (2005) writes about it as a "multifaceted, complex construct". Depending on the background of the researchers and which area or discipline they are working in, we find different classifications of skills involved in reading. Nassaji (2003) who is a linguist talks about cognitive, linguistic and nonlinguistic skills. He distinguishes moreover between low-level skills (decoding print and encoding visual information for example), high level skills (syntax, semantics and discourse) and higher-order knowledge in which he includes knowledge of text representation and the integration of ideas derived from the text with the readers prior background knowledge, or as he calls it "global knowledge" (Nassaji, 2003).

According to Nassaji (2003) there is an agreement among many scientists as to the different skills involved in reading but there are contrasting ideas about which role the different subskills play for the reading process. Some psycholinguists emphasise the importance of higher level processes such as the integration of contextual and background knowledge. These skills are often referred to as "top-down skills" and have their roots in schema theory (Alderson, 2000). Cognitive psychologists, on the other hand, stress the importance of lower-level processing skills for efficient reading. They claim that weak readers are those who struggle with lower-level processing skills rather than with high-level skills (Nassaji, 2003). Lowerlevel processing skills are often described as "bottom -up skills" and originated in behaviouristic models of reading. In this thesis, I am concerned with both high- and low-level
skills. Pictures, as well as audio versions of a text, can support the decoding of single words which is considered a low-level skill. Multimodal texts will moreover support the comprehension of words and sentences by giving a context to these units of meaning. The context provided by pictures will help students to comprehend single words and support the comprehension of sentences as they fill the gaps in the students' knowledge.

### 2.1.3 Integration of skills

The categories "top-down skills" and "bottom-up skills" did originally not only imply a quality of different skills and an underlying hierarchy which corresponds to Nassaji's (2003) higher-level and lower-level skills, but also suggested a kind of chronological order in which the different skills are applied. Fecteau (1999) states that different skills are now believed to be integrated and that there is no order in which they are applied in a reading situation.

The fact that different sub-skills are believed to be integrated and to be contributing to the reading process, has led to the belief among some scientists that a deficiency in one skill could be compensated for by a different skill. Stanovich (1980/1984, quoted in Nassaji 2003) believed deficient processes on one level could be compensated for by processes on other levels.

On the background of the theory of multimodal representations I hypothesise that deficits in for example vocabulary knowledge can be compensated for by illustrations as they show what the text is talking about thus filling gaps in the students' knowledge and helping them to overcome deficiency in decoding which is the basis for successful reading. The same can be applied to high-level skills. A suitable illustration gives the student as many clues as to what the text is about as headlines or topic sentences and as it is non-verbal it can be directly mapped onto the mental model and will support the reader in activating content schemata. This can compensate for deficits in high-level processing skills. I will refer to the concepts of mental model and content schemata in more detail in the course of the theory section.

I am in the following going to describe in more detail the role that background knowledge, linguistic knowledge, decoding, vocabulary and phonological activation play for reading in the foreign language and in how far the students' performance of these skills can be supported by using multimodal texts.

### 2.1.4 Background knowledge

One aspect of reading that can be categorized as higher-level skill is the integration of ideas with the reader's "global knowledge" (Nassaji, 2003) or prior knowledge. As Swaffer (1988, p.2) puts it, text comprehension "depends rather on the reader than on the text". This means that the knowledge the reader brings to the text will say more about what the reader gets from the text than the text itself. This is also why some scientists talk about "construction" (Koda, 2005; Swaffar, 1988) of meaning instead of referring to comprehension. Langseth (2010) refers to Willingham, who emphasizes the importance of the knowledge the reader brings to the text and especially the knowledge about the topic of the text. Up to $50 \%$ of what the reader gains from the text is due to what he or she knew about the topic at hand before reading this specific text (Willingham, quoted in Langseth, 2010). Teachers should, therefore, focus on teaching knowledge about the world, as well as vocabulary or reading strategies. Other aspects Langseth (2010) mentions are knowledge about structures of texts and about genre, which will help the reader to decode a text successfully. Fecteau (1999) follows a similar line but uses the terms "topic recognition", "genre schemata" and "content schemata". She claims that these have traditionally been considered "top-down skills". Those researchers are advocating the role of "top-down skills" often have their roots in schema theory and greatly emphasize the importance of the reader's schemata for the reading process (Alderson, 2000). Goodman (1982, quoted in Alderson, 2000) goes as far as to call reading a psycholinguistic guessing game and claims that readers rely very little on information found in the text but instead depend heavily on the their existing schemata. The quality of these schemata or prior knowledge will moreover determine how well a text will be comprehended (Swaffar, 1988).

While it sometimes might be a problem that students do not have enough background knowledge to understand a given text they might on other occasions not be able to connect their background knowledge to the text especially when it comes to "topic recognition". This could originate in the lack of decoding abilities or insufficient linguistic ability. Swaffar (1988) therefore claims that activating students' schemata is central to teaching students how to read in the L 2 .

As the information that is encoded in pictures can be understood without any lexical or linguistic clues, this information can be connected to the students' background knowledge much easier which will also help them to fill in those pieces of information that are languagebased as I will illustrate with an example in the next paragraph.

I assume that all the students who are participating in my study possess background knowledge that is relevant for the texts. Looking at the Huckleberry Finn text, possibly all of them have either read or watched adventure stories and have a heuristic as to how these kinds of stories work and which elements they entail. I moreover assume that they all have learned about slavery in America, either at school or through popular media which have taken up this topic in several films just recently thus being familiar with the context of the story. In a unimodal text the students would have to rely on the verbal information to give them an idea what the text is about, its genre and its context in order to be able to link it with their prior knowledge. The text with the picture would give them a first idea of the content of the text with one glance, and they could start creating a model of the text from there. Moreover, the picture could give hints about the genre or the context of the story by for example portraying the clothes of the characters placing them in a certain time frame. Colour code is also something which might be helpful to access the students' background knowledge. Though it might not be conscious the choice of colours in the picture will give the students information about what kind of story to expect.

### 2.1.5 Linguistic Knowledge

Horriba (2000) and Taillefer (1996), both quoted in Nassaji (2003), stress the importance of the reader's linguistic ability such as for example knowledge about orthography, spelling and punctuation (Cushing Weigle, 2002) when it comes to reading in the L2. These studies quoted by Nassaji (2003) suggest that the lack of linguistic ability will hinder the process of successful reading while good linguistic abilities will foster the learning process in the L1 as well as the L2.

This view is also shared by Fecteau (1999) who claims that linguistic knowledge contributes to a great extend to reading comprehension in the foreign language while the lack of the same leads to misinterpretation. However, according to her, this knowledge plays a greater role on lower levels of proficiency, meaning that more proficient readers come to rely less on their linguistic abilities. Concerning linguistic ability, there is an important difference between reading in the L1 and the L2. This is referred to in the linguistic threshold hypothesis which claims that readers need to reach a certain level of linguistic ability to be able to read in this language (Alderson, 2000; Chun \& Plass, 1997). I hypothesis that a lack of linguistic ability can at least to some extent be compensated for by the use of illustrations. Students might, for example, be able to recognize most of the words in a text but might still be unable to realize how these words are linked if they, for example, are not familiar with a certain grammatical
construct or with an unusual sentence structure (Alderson, 2000). While looking at a picture, they can recognize different elements in the picture and connect them to verbal information in the text. The picture or illustration will also provide them with the possibility to realize the relationship between certain elements of the written text. While it is possible that students come from different cultural background that have different visual codes for meaning making, I assumed that most of the students participating in my study would understand the codes used in the two texts.

### 2.1.6 Vocabulary knowledge

One aspect of linguistic knowledge which has experienced a lot of attention is that of vocabulary knowledge. Nation (2008) has for example focused to a great extent on the importance of vocabulary for the reading process in the L2. According to him $95 \%$ until $98 \%$ of the words in a text need to be known in order for the reader to be able to comprehend the text. In one study, where the rate of known words was $80 \%$, none of the readers were able to read successfully the text (Hu and Nation, 2000, quoted in Nation, 2000). Nation's commendation for teachers is therefore to spend a considerable amount of time on learning and teaching vocabulary. Swaffar (1988) follows this view and claims that lack of vocabulary knowledge will make it impossible for the reader to apply high-level reading skills. Nation recommends different strategies to support students while reading longer texts. One of those is to guess unknown words from context (Nation, 2008). An illustrated text can work as this context and can help the reader to make sense of words he does not know or is uneasy about.

### 2.1.7 Word-decoding

According to some models, the process of reading consists of the two main areas of word recognition and comprehension (Alderson, 2000). Because comprehension while reading consists of the same mechanism as those for listening comprehension, decoding at the word level is the one skill that distinguishes reading from listening. According to this view, comprehension requires the same skills independent of how the material is presented (Alderson, 2000). As Woodall (2010) puts it: "On the face of it, reading and listening as language skills share a similar problem-solving task, that of deciphering meaning from streams of language symbols" (page 1).

Especially word recognition or word decoding has been found to play an important role for successful reading and to play an important role in the distinction between good and weak readers reading in a foreign language. This might be due to the fact that less proficient readers
normally use a lot of their cognitive resources for decoding (Durgunogly et al., 1993, quoted in Woodall, 2010) which leaves fewer resources for other processes. This word-level decoding often happens automatically and very fast (Grabe, 1991, quoted in Alderson, 2000; Nassaji, 2003) which has also been confirmed in eye-tracking studies. They found that good readers distinguish themselves by the speed of the fixation of single words and by the processes that are involved in those fixations. According to these studies good readers use fewer cognitive resources for the identification of the individual words but instead move on quicker to higher levels of reading such as making predictions or planning for the next fixation (Alderson, 2000).

These findings are relevant for my studies on different levels. When one assumes that decoding is an important factor in reading in a foreign language and that this process uses up the cognitive resources of weak readers substantially, then the aim of a language teacher should be to support the decoding process. Using multimodal texts, this can be done in two ways. First, an audio file of a text supports the readers in the decoding process and makes it possible for them to move on to other processes and to use their cognitive resources for higher order processes instead of being stuck on a low level of reading. As especially weak readers normally use considerable resources for the decoding process, they would benefit more from such an intervention which would help close the gap between weak and more proficient readers. While an audio file helps decoding all the words, pictures would still help decode some of the words as they would supply a visual "translation" of some words thus also lessening the cognitive load. That audio files might support decoding can be based on the concept early phonological activation.

### 2.1.8 Early phonological activation

One last aspect dealt with in the theory of reading which I find highly important for my study is that of early phonological activation. This concept assumes that reading printed words always has a phonological element. Readers will always identify the sound of a word while reading and will when confronted with a difficult word resort to sounding out the problematic word (Alderson, 2000). This view is shared by Ehri and Perfetti (1992, quoted in Woodall, 2010) who argue that phonological processing is an intricate part of word decoding and sight word recognition. It is therefore assumed that comprehension of a word always also requires phonological processing. Walter (2008) carried out a study in which she wanted to find out whether unreliable representations of phonological representations hindered the reading
comprehension for L2 learners. She found that the ability to distinguish words from one another that differed by a phoneme was a prerequisite for comprehending this word.

For my study this would mean that providing students with a multimodal text in the form of an audio file would provide them with this phonological element thus again freeing them from having to struggle with the pronunciation of words they are less familiar with. Providing them with an audio version of the text would enable them to move on to other processes faster than having them read the text without this kind of support.

As I have shown above, reading is a very complex process which involves different skills and different areas of knowledge. The students' deficit can lie in different areas, and I hypothesise that multimodal texts can support most of the processes involved in these. I am now going to move on to the concept of multimodal texts and how their special features can be utilized to support reading comprehension.

### 2.2 Multimodal Texts

In this section, I am going to describe how we define modes and what the term multimodal texts, therefore, implies. Furthermore, the different functions of different modes are going to be described as well as the relationships that can be observed between different modes for example text and image. The effect of multimodal texts on reading comprehension will be looked into. This section will be concluded by an overview of Paivio's Dual Coding Theory (Clark \& Paivio, 1991; Sadoski \& Paivio, 2004), as well as the Theory of Multimedia Learning, mostly associated with Richard Mayer (Mayer, 2002; Mayer \& Sims, 1994).

### 2.2.1 A categorization of multimodal texts

Different authors from different academic backgrounds have written about and discussed what I will in the following refer to as multimodal texts. An extensive amount of research in this field has been conducted by Bezemer and Kress (2008) and Van Leeuwen (2005) who both have their roots in semiotics researching" the structure of all possible sign systems" (Crystal, 2011).

Bezemer and Kress (2008) have conducted several studies in which he looks into different modes being used in the educational context. He defines mode as ".... a socially and culturally shaped resource for meaning making." (Bezemer \& Kress, 2008). These can include image, writing, layout, speech, and moving images.

### 2.2.1.1 Functions of different modes

Bezemer and Kress (2008) not only describe how these different modes are being used in the educational context but also elaborate on what different functions these modes can have for the learning process because they can make use of different resources.

### 2.2.1.1.1 Writing/Pictures

Writing uses syntactic, grammatical and lexical resources as well as graphic resources such as for example font type and size. Images, on the other hand, can make use of resources such as the position of elements in a given space, size, colour, shape and icons. This resonates with what Nikolajeva and Scott (2006, quoted in Rimmereide, 2013) postulate about functions of pictures and text. They claim that due to their different functions, the different modes are suitable to tell different parts of a story. According to them description is the most important function of pictures, and narration is the most important function of words. Because images communicate by showing, they are superior in communication space whereas words are better in communicating time and causality because they communicate by telling.

Another difference between written, or verbal, texts and images is that a written text is almost always linear, and the different elements are in sequence (Bezemer \& Kress, 2008). This means that they force a reading path on the reader, which is not the case when an image is being observed. The learner is, therefore, freer as to which elements to attend to first.

### 2.2.1.1.2 Speech

Speech has a lot in common with writing as it shares "the aspects of grammar, syntax and lexis" (Bezemer \& Kress, 2008). In addition, speech features other resources such as intensity, pitch and tonal quality. In addition to transferring information, speech can also be used to indicate social positioning through for instance voice or accent (Bezemer \& Kress, 2008). As is the case with written texts, a spoken text is also linear and prescribes a sequence to the listener.

As I am using both images and audio files to support the reading texts in my reading comprehension test, I will now go into more detail about the different text-image relationships that exist, and how they can support the comprehension of texts.

### 2.2.1.2 Text-Image Relationships

Similar to the way lexical information is linked in written texts, Van Leeuwen (2005) describes how information contained in verbal and in visual information units can be linked to
create meaning. He has given a thorough account of text-image relationships summing up earlier research by Barthes (1977) and Halliday (1973) (as quoted in Van Leeuwen, 2005). According to Van Leeuwen's classification, text-image relationships can be divided into two broad concepts called Elaboration and Extension. The aspect of elaboration can further be divided into the functions Specification and Explanation. These two sub-elements have in common that the image does not add any new information to the text but rather illustrates, specifies or mirrors the content of the text. In contrast, "Extension" adds information to the verbal text by adding detail or by contrasting with the verbal text.

Other authors have established other ways of characterising text-image relationships. Carney and Lewin (2002) describe the functions as decorational, representational, organizational and interpretational. While the decorational function does not offer any information, the representational function corresponds to what (Van Leeuwen, 2005) refers to as Elaboration because the content of the picture 'mirrors' aspects of the text or the text in its entirety (Carney \& Levin, 2002). Organizational pictures help structure the text and are often found in non-fictional texts while transformational pictures offer systematic mnemonic elements (supporting memory) that work by association (ibid, 2002).

Van Leeuwen (2005) also elaborates on how verbal and visual elements are placed 'in or on a semiotic space' and refers to this using the term composition. According to him the placement of elements on a page can, for example, add a lot to what readers or observers perceive as more or less important, as positive or negative. The placement of elements on a page and their size can contribute to their visual weight and reflect their information value, something which Kress has called functional load in a number of publications (Kress, 2003). Other aspects that influence how information contained in visual material is perceived is whether it is put in the fore or the background. An aspect that can trump size and position is whether cultural factors such as the depiction of human figures are part of the multimodal text.

Quoting Maryama (1980), Van Leeuwen (2005) stresses that information can only be interpreted in a context along with other pieces of information, which - concerning words and pictures -means that the pictures must be seen in relation to the verbal mode and vice versa. This is an aspect that I need to consider in my study as I am -according to this view - not only adding information units contained in certain images. Because of the synergetic effect of images and verbal mode in a multimodal text, the multimodal text will become more than the sum of its parts.

I will in the following move closer to the pedagogical context and give an account on how different researchers have assessed the potential of multimodal texts for reading in a foreign language.

### 2.2.2 The influence of multimodal texts on reading comprehension

There is a large body of research that suggests that students gain better results when they read texts that offer more than one modality. Langseth (2010) claims that audio versions of reading texts foster understanding because they help to decode text and visual representations help students relate the text to their prior knowledge which is important in the light of the findings on text comprehension presented above. Woodall carried out a study with students that showed that students who were listening while reading outscored their classmates who were restricted to the printed text. Rimmereide (2013) agrees that visual expressions foster understanding and suggests that especially reluctant readers might benefit from that kind of support. Traverso (2013) agrees with this view and adds that pictures can also have positive effects on the imagination. While several researchers have established the effect of multimodal text annotations (Chun \& Plass, 1997; Leutner, 2001). Bland and Lütge (2013) claim that the synchronised presentation of word and picture does not only help to learn new words but also new language concepts such as new grammatical constructions which both supports comprehension. The following sections go deeper into theories explaining why such positive effects of multimodality might occur,

### 2.2.2.1 Theories explaining effects of multimodal representations

The positive effect that multimodal texts have on text comprehension can be explained on the background of different theoretical models. Two of these theories are Paivio's Dual Coding Theory (Clark \& Paivio, 1991; Sadoski \& Paivio, 2004) and the Cognitive Theory of Multimedia Learning (CTML) by Mayer (Mayer, 2002; Mayer \& Sims, 1994). The latter can be understood as a further development of the Dual Coding Theory. Chun and Plass (1997) and others have based their own theories of multimedia learning on both the basic concepts of Paivio and on aspects of Mayer's theory of multimedia learning.

According to Paivio's theory which is a theory of cognition, all information is presented in two different codes, namely the verbal and the non-verbal code (Clark \& Paivio, 1991; Sadoski, 2005; Sadoski \& Paivio, 2004). Whereas the verbal code is used for presenting and processing speech and writing, the non-verbal code is responsible for presenting and processing non-verbal objects (Sadoski, 2005) such as pictures, videos or background noise.

Mayer (Mayer, 2002) who is basing his own theory on the DCT is talking about different channels being used to process these different types of information. Information processed in the verbal code is afterwards stored separately from information processed in the non-verbal code.

According to Clark and Paivio (1991), the two sub-systems in which verbal and non-verbal information is being stored are called logogens and imagens and are activated when words or respectively things are being manipulated, recognized or thought about (Clark \& Paivio, 1991). Whereas language is normally being encoded in the logogens, pictures are processed in both systems, namely the logogens and the imagens. This explains why pictures help the process of memorization of text (Schnotz \& Bannert, 2003). Apart from the fact that information is coded dually and can therefore also be retrieved through more than one system, more information can be stored and specific information can be stored in the system that is better suited for this type of information. This means that for instance information that has been coded symbolically will be coded in the verbal system whereas information coded in an analog form can be coded in the nonverbal system (Kirby, 1993; Paivio, 1971, 1986, all quoted in Chun and Plass, 1997).

The theory of multimedia learning shares some of the assumptions about learning and the processing of information with DCT. The theory has a strong focus on using illustrations to foster learning and is based on three main principles. These are the existence of dual channels for processing information, a limited capacity of those channels and active assessing of information by the learner.

This theory shares the view of DCT that there are dual channels for information processing which Mayer (Mayer, 2002; 1994) calls visual/pictorial and auditory/verbal which correspond with the two channels described by Paivio. Mayer, however, has also included the sensorymodality approach into his model which focuses on which senses a learner first uses to perceive presented information. This concept is most consistent with Baddeley's model of working memory (Baddely, 1986, 1999, quoted in Mayer, 2002). Concerning the aspect of dual channels, the cognitive theory of multimedia learning has adopted a view that is a compromise between Baddeley's and Paivio's concepts.

Mayer's second principle, that of limited capacity, assumes that learners are limited in how much information they can process with the help of each channel at a time. Only a few pictures can be held in working memory at a time, and only some of the information can be
processed instead of creating an exact copy of the presented material. The same goes for information presented to the verbal channel; only a few words can be processed at a time and the learner has to choose those that are most relevant in order to create a suitable mental representation.

Another aspect these two theories share is that information attained from these two channels organised into different mental representations and that these two representations are afterwards integrated into one (Mayer, 2002). Learners are viewed as actively constructing a coherent mental representation to integrate the visual and the verbal representations, following a process of selecting relevant words and aspects of visual representations (Mayer 1971, quoted in Chun and Plass, 1997). Mayer calls this himself "active assessing" (Mayer, 2002) and this aspect among others is a further development of Dual Coding theory.

### 2.2.2.1.1 Images

Mayer and others have driven research further and given it more relevance for teaching by establishing what kind of images help the learning process and where to place these images. He has stated that pictures should always be presented closely together with the text, meaning both at the same time and spatially close. It should be mentioned that much of much of this research was concerned with non-fictional texts which might put some limitations on how much of this research can be relevant to my study. Leutner (2001) based his research on the effectiveness of multimodal, or as he says multimedia texts, on the theory of multimedia learning. His research is situated in the context of foreign language learning and has clearly relevance therefore for my study. His research does confirm not only positive effects of multimodal learning material but also suggests different factors which moderate or define the effectiveness of multimodal learning material such as for example individual differences between learners. In one study for example, he established that verbalisers and visualizers reacted differently when presented with different modes of presentations. He confirmed Mayer's view that pictures should be presented together with the text they illustrate.

### 2.2.2.1.2 Audio

According to the theories of Paivio and Mayer, presenting information in an auditory form to support text comprehension is fundamentally different from adding a picture to a written text. This results from different types of representation of knowledge. While text presents information in a symbolic structure, pictures convey information by using visuo-spatial
structures (Clement \& Gentner, 1991). Both spoken, and written texts share the same use of symbolic representation and involve similar cognitive processes. In contrast to this, pictures offer visual information which means that this information can be mapped directly onto the mental model. An analogy between the visual information and the corresponding model can be established (Schnotz \& Grzondziel, 1996, quoted in Chun and Plass, 1997). Schnotz (1993) claims that establishing a mental model is more direct when pictures are processed and that it is language -independent. In the light of my study I interpret it like this: students reading in a foreign language can access the content of a multimodal text without having to translate all the words into their own language and afterwards transferring it into a mental model and integrating it with existing mental models of the world. They can create at least part of their mental model representing the text without employing these cognitive processes if a picture is presented. Another aspect mentioned by Eitel and Scheiter (2014) is that due to the way information is organised in a picture, its "global spatial structure" can be processed right away without much pondering. In my study this means that -with suitable pictures - the students will get a general idea of what the text is about even if they just quickly glance at the picture or illustration that accompanies the written text.

While according to the theory of dual coding and multimedia learning, the addition of an audio file should not improve comprehension as it does not lead to dual coding, other research suggests, that supporting students reading in the L2 with an audio version while they are silently reading does have a beneficial effect on their reading comprehension. Woodall (2010) carried out a study in which students were presented with an audio version of a longer text they were reading. The students who had listened while reading scored higher in reading comprehension tests and reported that they had benefitted from the audio version of the text. Other studies carried out by for example Richardson and Carleton (1996) found positive effects of audio versions as well.

Woodall offers different theoretical approaches to explain his observed effects. On the one hand, he refers to Ehri (1992, quoted in Woodall, 2010) and Perfetti (1992, quoted in Woodall, 2010) who postulate that word comprehension is always done with a phonological component. Word comprehension is, therefore, dependent to some extent on phonological processing because the word's meaning is 'wrapped' in its pronunciation and spelling (Ehri, 1992, quoted in Woodall, 2010). This means that the sound of a word is always present even in silent reading. Alderson (2000) supports this view by claiming that readers - as part of identifying a words meaning - try to identify the pronunciation of a word. This means on the
other hand that if the pronunciation of a word is not available because the reader cannot connect a written representation with its sound, the reading process is hindered. Woodall stresses that this explanation implies the understanding that decoding and comprehension are not two processes that happen independently of each other but are tasks that are interconnected (Ehri, 1992, quoted in Woodall, 2010).

Other researchers like Lund (1991) assume that decoding and comprehension are two distinct processes. Especially beginning readers use a lot of their cognitive resources for the decoding process (Durgunoğlu, Nagy, \& Hancin-Bhatt, 1993) which means that they might not have enough resources for the comprehension process. This view of reading results in a different explanation why an audio version of a text might be beneficial for the reader. The text that is being read aloud frees cognitive resources as the reader does not need to spend his resources on decoding and can spend more of his/her resources on the comprehension process.

Furthermore, Woodall offers a third explanation for the beneficial effect of audio versions on reading comprehension. In light of the Vygotsky's theory of proximal development (Vygotsky, 1978) the spoken version of the text can function as a scaffold for the reader as it provides information to the reader that lifts his or her performance onto a higher level (Woodall, 2010). While the two first theoretical explanations Woodall offers contradict each other, the last two ones can be combined in order to explain the positive effect of spoken text versions. Cognitive resources normally used for decoding are being freed for comprehension because the audio version functions as "a more experienced or knowledgeable assistant" (Woodall, 2010) and a scaffold.

### 2.2.2.2 Factors that influence effects of multimodal texts on reading comprehension

### 2.2.2.2.1 Positioning of visual and verbal information

For Mayer (2002) and Leutner (2001), a prerequisite for a successful multimedia effect is that visual and verbal information is presented simultaneously and on the same page so that "referential connections" can be established in working memory. According to them such referential connections will lead to a deeper understanding and thus meaningful learning. On the other hand, cognitive resources would be lost if the distance between words and pictures was too big and readers would have to move back and forth between them.

In contrast to this Eitel and Scheiter (2014) have introduced the idea that showing a picture first can have a positive effect on learners as the picture then can function as a scaffold and
guide the meaning-making when reading the text. The image does not only provide the reader with some initial information but also helps the comprehension process because it eliminates some interpretations. Eitel and Scheiter (2014) present this as exclusively positive because they are mostly working with scientific text, which do not have several correct interpretations. For the reading of literary texts, this has to be seen more critically. While weak readers might appreciate if some interpretations were eliminated, stronger students might feel patronized and experience the reading process as less enjoyable as pictures, for example, might restrict them in picturing surroundings and characters themselves.

### 2.2.2.2.2 Individual differences

Many different studies have established that individual differences influence reading comprehension when students read in a foreign language (Leutner, 2001; Liu, 2004; Reid, 1987). Salomon (1989, quoted in Chun and Plass, 1997) goes as far as to claim that individual differences determine reading results more than any other factor (Chun \& Plass, 1997). The field of individual differences include linguistic competence, prior knowledge, learning styles, cognitive styles, abilities, strategies and affective factors (Chun \& Plass, 1997). Since not all of them are equally relevant for my study, I am going to restrict my account to the aspects that are typically mentioned in the context of reading comprehension in a foreign language and learning with multimedia or multimodality. These include verbal and spatial ability, the distinction between verbalizers and visualizers, learning preferences and background knowledge, which will be described in the following.

One important aspect of multimedia learning is that learners can choose the form of representation that corresponds best to their needs or their learning types. Leutner (2001) refers to these learner types as "visualizers and "verbalisers", describing learners who learn better with verbal and students who learn better with a visual representation. According to Leutner (2001), especially visualizers benefit greatly from multimedia material, because the visual information seems to be working as a "crutch". When on the other hand visualizers do not have access to their favourite mode of representation, their performance as readers suffers. Leutner (2001) therefore strongly suggest that readers who read in their L2 should be provided with both a visual and a verbal mode in order to explore the meaning of texts written in the foreign language. Other studies (Chun \& Plass, 1996a, 1996b) have found the same results indicating that the visualizer/verbalizer preference has not only an effect on vocabulary learning but also on text comprehension). Birketveit and Williams (2013) strongly agree with
these findings in claiming that learners should be allowed to attend to different representations according to where "their cognitive strength lies" (Birketveit and Williams, 2013, p.17).

The findings of Leutner (2001) and others who have done research in this field can clearly also be related to Gardner and his theory of multiple intelligences (Gardner, 1983, quoted in Harmer, 2007) as Gardner's theory also explains the individual differences between learners.

Several studies have shown that verbal ability has an effect on text comprehension (Knight, 1994 quoted in Chun and Plass, 1997) and correspondingly on the extent to which pictures and illustrations support reading comprehension. The role of a text's difficulty or respectively the student's verbal ability has been established by Liu (2004) who carried out a study where he tested the effect of comics on text comprehension. His results showed that the comic strips only had a positive effect on text comprehension when the level of the verbal text lay above the students' level of reading proficiency. The comic strips had no effect for students with a higher proficiency and no effect when the original text was easier to understand so that the students had less difficulty comprehending it. Levie and Lentz (1982) came to the same conclusion and Peek (1993, quoted in Chun and Plass, 1997) explained this effect with the inability of students with lower verbal ability to create mental representations of a text when they could only rely on the written text.

Knowledge about the content of the text has been clearly established as having an influence on reading comprehension in the L1 as well as in the L2 (Nassaji, 2003; Swaffar, 1988). Naturally, the use of multimedia will help activate the background knowledge of readers and thus the integration of background knowledge with newly acquired knowledge (Chun \& Plass, 1997).

### 2.2.2.2.3 Text-image relationships

Leutner (2001) presents a very positive view of multimedia learning and especially on texts that are presented with a verbal and a visual mode. He bases his view on the cognitive theory of multimedia and adds the dimension of individual differences in language learners. Carney and Levin (2002) also maintain an exclusively beneficial effect of multimodal expressions claiming that apart from decorational pictures, all pictures or illustrations have a positive effect on text comprehension with transformation having the greatest effect followed directly by representational pictures which is the most common function in the text examples they looked into (Carney \& Levin, 2002).

McDonald (2009) offers a more differentiated overview over text-image relationships and their effects on reading comprehension in the foreign language. He conducted research which tries to establish what kinds of combinations of verbal and visual texts will lead to a better text comprehension in the foreign language. McDonald (2009) refers extensively to research that describes different kinds of relationships between written and visual texts and how they can have different effects on the learner's text comprehension.

Mc Donald (2009, quoting Unsworth, 2008) lists as a possible relationship "concurrence" which means that text and image convey very similar messages to the reader leading to increased text comprehension. Concurrence corresponds to what Van Leeuwen (2005) described with 'Elaboration'. Mc Donald's research on reading comprehension of comics confirmed the view of Unsworth (2008, quoted in Mc Donald, 2009) that only pictures which repeat the message of the text will support reading comprehension in the L2. Traverso (2013) refers to pictures that are synchronized with the text in order to support comprehension.

### 2.3 Summary of the theory and study questions

Reading literary texts is a rewarding activity for students from a pedagogical as well as a didactic perspective. It fosters personal growth as well as language learning and should, therefore, be an important part of every language learning program. In order to achieve this, students need to achieve a certain mastery in reading which is a complex process that involves processes such as decoding, comprehension and the integration with former knowledge. Researchers do not agree on whether former knowledge, reading ability in the L1 or linguistic ability is more relevant for successful reading, but they agree on the fact that they play a role. Several researchers agree on the fact that linguistic ability is more important at beginning levels of reading in the L 2 and that decoding uses up a lot of cognitive resources in readers that have not reached an advanced level of reading. Several studies have shown that pictures that repeat the content of a text help text comprehension which is in accordance with dual coding theory and the theory of multimedia learning. Some of these studies found that multimodal expressions especially support readers that are on a low level of reading proficiency. While dual coding theory and the theory of multimedia learning do not account for positive effects of audio versions of texts, there are studies that seem to prove that audio texts do indeed have a positive effect. Several theoretical concepts can be drawn upon to explain these findings.

On the background of the theory presented here I formulate the following study question:

## How do multimodal texts affect reading comprehension of literary texts in the L2 classroom?

Questions related to this are:

1) To which extent do multimodal text expressions support reading comprehension in the L2?
2) In how far do pictures and audio versions of texts differ in influencing text comprehension?
3) What kind of students benefit from multimodal text expressions?
4) Are multimodal expressions able to close the gap between stronger and weaker readers?
5) Which students experience multimodal expressions as helpful?
6) Which other factors in the design are decisive for text comprehension of literary texts.

I am now going to move on to the theory of reading assessment which very closely relates to the design of my study.

### 2.4 Assessing reading

Studying the effects of multimodal texts on reading in the L2 makes it necessary to assess the student's' level of reading proficiency. Reading will in this context be operationalized as reading comprehension. Assessing reading comprehension is not a trivial task, and a large body of literature can be found on how to assess which aspects of reading comprehension. The following sections will present a brief introduction to the parts of this literature that I consider relevant for the purpose of my study.

According to Alderson (2000) there are several central aspects to be considered when deciding how to test for reading comprehension. These are whether one wants to test for process or product, which levels of understanding are being focused on and which implications different test designs have for the outcome of the test.

### 2.4.1 Process and product

Alderson (2000) claims that it is less difficult to focus on product than on process but that both approaches have their inert challenges. When language testers focus on the process of
reading they are concerned with what is happening in the reader's brain while they read, how they decipher words and what they think about what they have read and how different elements of the text work together (Alderson, 2000). Not only are there many processes that are being carried out in the brain while reading, but these processes might also differ between individual readers, different properties of texts or the purpose of reading at a given time.

What is challenging about focusing on the processes of reading is that those processes are normally happening in silence, internally and privately. While trying to turn an internal process into external one, one risks distorting what is happening in the reader's brain while unobserved (Alderson, 2000). Possible solutions to this dilemma so far have been offered by eye-movement studies and read aloud protocols. While eye-movement tells us something about what the reader is focusing on, and can thus offer some insight into the processes of reading, it still fails to show what exactly is happening in a reader's brain.

Even though read aloud protocols have supplied important insights into the processes of reading, it is obvious that reading aloud is not the normal way of reading and therefore does not give an accurate account of what is happening when we read by ourselves (Alderson, 2000).

In contrast to focusing on the process, language testers can focus on the end product of reading, namely text comprehension. Typical for this approach is that questions concerned with different aspects and levels of understanding would be devised to see how readers did on these text comprehension questions. Other methods would be to let informants write summaries or to carry out interviews with the readers after they have read a certain text. The problem with summaries and interviews is of course that they might test rather for the ability to remember than for understanding. When asking about certain aspects of the text the question arises which possible interpretations to acknowledge as correct as texts, especially literary ones, have different meaning potential (Halliday, 1979; Widdowson, 1979, both quoted in Alderson, 2000).

### 2.4.2 Different levels of understanding

Most theories of reading will assume that there are different levels of understanding when we talk about text comprehension (Alderson, 2000). Common ways to differentiate are between literal understandings, meaning that are not directly stated or understanding the main ideas of the text. A very early distinction was proposed by Gray (1960, quoted in Alderson, 2000) who wrote about reading 'the lines', reading 'between the lines' and reading 'beyond the lines'.

Such theoretical concepts do not only help to describe different ways of understanding, they also imply a hierarchy of the different levels of understanding. Furthermore, they clearly relate to a focus on the product of reading (Alderson, 2000). The problem with such categories is that it might be difficult to determine where, for example, literal meaning ends and interpretation begins as language very seldom transfers every single bit of underlying meaning but asks for inference making even when processing apparently straightforward language (Alderson, 2000).

### 2.4.3 Different techniques for testing reading

There are different methods for testing product based text comprehension, and they have all their purpose and limitations (Alderson, 2000). Multiple-choice questions are considered to be effective and efficient and are a widely used method. One argument in favor of these kinds of questions is that the errors in choosing a distractor can give insight into where the error lies and therefore offers the opportunity for diagnosis.

Multiple-choice questions are considered to be objective methods but are often supplemented by other objective types of questions such as short-answer questions or sentence completion. Alderson (2000) strongly advocates a range of different question types from both the objective and the more subjectively evaluated techniques as multiple test questions encourage the reader to guess the answer and do not give insight as to why the reader answered that way.

A challenge with multiple choice questions is that distractors have to be chosen very carefully (Alderson, 2000). The distractors should be chosen so that readers with a lower reading proficiency might choose them but not those with a higher proficiency. Alderson (2000) postulates that test items should be pre-tested to ensure that they are neither too difficult nor too easy and that they discriminate between the test takers.

A technique that Alderson (2000) calls semi-objective is a short-answer test. In such a test item, the students are asked to write a short answer to a question. This provides the test-giver with more information as the test-taker cannot simply get to the correct answer by eliminating other unlikely ones. The challenge with these kinds of questions is that they are difficult to construct because one has to establish beforehand which possible answers the test-takers might give and which answers will be accepted. The correcting process thereby becomes less straightforward than for multiple-choice questions (Alderson, 2000). This will be further dealt with in the methodological approach?

### 2.4.4 Theory of assessing literary texts

When talking about assessing literary or narrative texts, one needs to talk about some properties of literary texts, which distinguish them from non-fictional texts. Alderson (2000) sums up some aspects of literary texts that need to be considered when devising a test that tests for comprehension of narrative texts. On the one hand the structure of narrative texts, often referred to as story grammar, can support the comprehension of such texts. This can facilitate the building of a mental model of the text. On the other hand, literary texts often have several layers of meaning which can make processing harder, and they often use complex and very varied language (Alderson, 2000).

When it comes to determining which literary texts are more complex than others, there are several aspects to be considered: Genre and structure of the texts play a greater role when readers are less proficient. Another factor is the aspect of culture. Very often literary texts are culture-specific so that problems in comprehension can have more to do with a lack of background knowledge than with the structure of the specific text (Alderson, 2000).

Another aspect which distinguishes literary text from non-fictional text, is that they illicit different reactions in the reader. Literary texts evoke more emotional responses like empathy and arouse more suspense and curiosity (Halasz, 1991, quoted in Alderson, 2000).

Alderson (2000) asks for caution when testing for reading comprehension of literary texts because due to their special structure and the individual way readers respond to texts it might be difficult to determine whether a text has been understood or not. On the other hand, if understanding a literary text differs from reading non-fictional texts, it is worth to focus on testing of reading comprehension of literary texts.

### 2.4.5 A construct for reading comprehension

According to Alderson (2000) the construct of what is involved in the reading process will have an important influence on my test design. This means the construct will determine which questions are being asked and how the answers are being interpreted. I decided to adopt categories of different question types or reading categories that have been used in the PISA study 2006 (Cresswell \& Vayssettes, 2006). These have been developed to test for general reading comprehension and are being developed to account for functions of reading that are relevant for different situations in and outside of school. Nonetheless, I found these categories useful in the context of my study which I will present in some detail. The categories are the following:

1. Retrieving information
2. Developing an interpretation
3. Forming a broad general understanding
4. Reflecting on and evaluate the content of the text
5. Reflecting on and evaluating the structure of the text

The same skills and subskills might be involved in answering questions from these categories but they are still helpful to diagnose reading comprehension as most readers should be able to answer those of type of questions to some extent (Cresswell \& Vayssettes, 2006). I will in the following describe the categories and elaborate on how I predict that multimodal representations can help to answer these kinds of questions.

### 2.4.5.1 Retrieving information

While reading in everyday life might require that we only need some specific information from a given text (Cresswell \& Vayssettes, 2006), the literal information in literary texts is the basis for interpretation or making inferences. In order to understand a text and its tone, we need to have information about details that are for example describing the scenery or depicting the features of a character. To retrieve specific information the reader needs to be able to scan a text and the relevant information is often found in a single sentence (Cresswell \& Vayssettes, 2006). I hypothesise that questions from this category can be answered more easily if the given text is supported by an illustration as some detail might be featured in the illustration so that even if the corresponding text passage proves to be difficult to understand, the reader can still extract information about these details. Readers who read might skip individual words or pay less attention to some especially those they do not know or are not able to decode successfully. An audio version does decode all the individual words indiscriminately and at least identifies their pronunciation. It will, therefore, be easier for readers to attend to the meaning of individual words and to move on to higher-level processes.

### 2.4.5.2 Developing an interpretation

In order to develop an interpretation, the reader needs to go beyond a first impression of the text and must organize individual pieces of information into a coherent model of the text. They might also have to decide on how pieces of information are connected with or without markers indicating these relations (Cresswell \& Vayssettes, 2006). As developing an interpretation depends on the reader to have understood most of the literal message of the text, this category will be supported by multimodal text representations because they support the
reader in accessing the literal meaning of a given text. Moreover, a picture has other means of depicting an atmosphere or the relationship between characters. If we assume that the illustrator has made correct inferences about a given story, then the students can follow his interpretation and only need to decode information encrypted in a picture which might be easier than interpreting verbal clues. I asked for example about the mood in a certain scene. By the choice of color and facial expression, the illustrator had given the scene a positive atmosphere that mirrored what was being said in the text. The same goes for the audio file of the text. Someone reading the text will always interpret the text at hand and will, therefore, provide meaning which might not be as obvious in the written text especially when the text is not in the reader's own language. Voices might, for example, convey emotions such as anger, fear or excitement.

### 2.4.5.3 Forming a broad general understanding

In order to form a broad general understanding, the reader must be able to recognize which ideas presented in the text are central and which are of minor importance. They can demonstrate this by for example choosing the main topic or theme of a text or elaborating on an author's intention (Cresswell \& Vayssettes, 2006). The illustrations in the texts I have chosen for the reading test have been designed to support comprehension. They, therefore, deal with the main idea and the aspects of the story that are most relevant. Attending to the pictures will, therefore, give the students an idea about central aspects of the story, and they will not have to make the decision themselves.

### 2.4.5.4 Reflecting and evaluating the content of a text

This category asks the readers to activate their prior knowledge or their background knowledge. Readers might be asked to evaluate the content and to compare it with what they know about the world or with other sources of information on this topic (Cresswell \& Vayssettes, 2006). As I hypothesize that pictures or illustrations will help to activate content schemata, added illustrations will help the readers to connect their own knowledge of the world with a given text. A spoken version will give them an idea of the context of the story because different accents will make it easier to place a text in a cultural context and thus again activate content schemata.

### 2.4.5.5 Reflecting on and evaluating the form of a text

This category is closely connected to genre and register. The reader is asked to comment on the author's style, how the author accomplishes his or her goals and which attitudes are
expressed in a text (Cresswell \& Vayssettes, 2006). Pictures can give important information about the genre of a text. The way characters are being portrayed provide an idea about the intentions and attitudes of the author as seen by the illustrator. This can be of course problematic if attitudes, for example, are ambiguous and the illustrator choses one that can be misleading. In the case of the texts I have chosen, the pictures make it quite clear what kind of stories we are dealing with. In style, the illustrations resemble old oil paintings thus indicating an old-fashioned novel which enables students to activate schemata on this genre and help them to place the novel in a context of other novels and stories of this genre.

## 3 Methods and Materials

This chapter deals with the participants of my study and a detailed description of the different aspects of the study and choices made which are linked to the design chosen to answer the questions raised in the conclusion of the theory part. Moreover, I will give a thorough account of the different sessions in which I carried out the study. The chapter will conclude with a short description of the methods for analysing the data gathered in the different tests.

As general reading proficiency has been argued to be of importance for the effect of the multimodal texts in the previous chapter, I needed to measure the proficiency level of the students independently of the reading comprehension test which composed the main part of my study, In order not to exhaust students more than necessary, the proficiency level was measured using a standard and well-established reading test (the Hodder test, see below) in a separate session about one week before the main reading comprehension test. . The test for general reading proficiency was an established reading test which is mostly used with students who have English as a first language while I developed the second reading test myself. In order to do so I used categories of reading which have also been used for the PISA tests (Cresswell \& Vayssettes, 2006). I developed questions in different formats and pre-tested a first version with a group of students (50) which did not participate in the study. Both parts of the test will be described in more detail below.

### 3.1 Participants

The 114 students who took part in both parts of my study attend two of the biggest lower secondary schools in Trondheim Norway after consent was given by the students and their parents. They were in grade 9 according to the Norwegian system and therefore between 13 and 14 years old. I have taught at both schools but not those particular students. At one school, I was teaching while carrying out the study but not at this grade and not in English and the other school I knew from my teacher training. From what I have seen in the classrooms and gathered from my talks with teachers I would say that both schools share not only a considerable size but also a similar students' body. It should be mentioned that I received 12more consent forms but that due to illness some students could not take both tests.

From school A 79 students participated in my study. There are 180 students at this school in grade 9 divided into 4 "classes" of about 50 students each which are again divided into two
groups. Three of the classes took part in my study but with varying numbers of students. In one class the teachers took up the topic of my study at a teacher-parent evening so that all the parents were informed and most of them gave their consent there and then so that almost all of the students from that class participated.

This means that this students' body was the most diverse of the three groups from this school. From the other groups of school A I received 9 and respectively 26 consent forms out of 50. This means of course potentially biased selection, especially in one of the classes. I was told by the teachers, and found that confirmed when I analysed the results for the first reading test, that especially students with lower English proficiency and lower self-esteem concerning their performance in English had not given their consent to participate in the study. As a consequence, I ended up with fewer students at low proficiency levels than I was aiming for.

According to the teachers, the low number of participants also had a lot to do with the time of year when I approached the students and the parents which was shortly before Christmas. Even though I talked to the students personally, sent out a letter and a reminding e-mail it took long time to get the consent forms back which also meant I had to postpone the actual date for carrying out the reading tests.

The class teachers of the fourth group decided to not participate in the study after having seen the Hodder Reading Test (see below), finding it too difficult and thus too frustrating for some students to do it.

In the second school students in grade 9 divided into three "classes" which are again divided into two groups of about 25 students. An average of half the students and their parents in each class gave consent to participate in my study. Again, those students who were willing to participate in the study were mostly not those with the lowest reading competency according to their teachers.

As several of the students who had given their consent were sick when the test was carried out, only 54 students of school II participated in the first reading test.

It should further be noted that 50 male and 83 female students participated in the study. This does not represent the class compositions, so it is safe to say that male students were less likely to participate in the study.

### 3.2 Testing for general reading proficiency

As I had decided that I wanted to analyse the effects of multimodal texts on the students according to the level of their general reading proficiency, I had to find a test that would enable me to differentiate between different levels of reading proficiency. The test should not take more than an hour to be carried out because I only had two hours with each student group and needed one hour for the multimodal reading test. Furthermore, I wanted the test to be easily scored so that I could focus primarily on devising my own multimodal reading test. I had thus decided to use an already established test and decided to use the Hodder Group Reading Test 3 after personal consultation with an established researcher in the field (Jane Oakhill, personal communication).

The only other way of establishing the reading proficiency that I saw was to use the results of the national reading test for English, which had been carried out about a year before, in year 8. The advantages would have been that this test is much more detailed and tests for a greater range of different reading skills than the Hodder Test and that it is culture specific. I decided against this test however because the students had taken it a year ago, and I did not expect them to have developed all to the same extent. The most important reason though was that some of the test items in this test were multimodal, and I wanted to establish how well they read without the support of multimodal expressions. I decide that the aspect of culture could be neglected for my purposes as I would only test their reading proficiency in comparison to other students from the same background.

### 3.2.1 The Hodder Reading Test

As I have mentioned above I decided for the Hodder Group Reading Test for practical reasons but also because it promised to provide me with a good system to group my students. I had gotten advice from Jane Oakhill, who has carried out many studies on reading herself to use a test by Hodder. Moreover, we had used tests of reading comprehension at the international school where we I had worked before and I had experienced them as easy to handle and to analyse. I had not seen this particular test beforehand, but the test was described on the Hodder group's website to be especially suited to differentiate between different levels of reading ability. ${ }^{1}$ Even though I bought licences to carry out the test, I am not allowed to publish any test items, so I am going to describe the design of the test and what it tests for.

[^0]The Hodder Group Reading Test is designed as a group reading test which tests for reading comprehension "at the word, sentence and continuous text levels". Obviously, it does not only tests for reading comprehension of literary texts but tests reading ability on a more general basis. The test consists of one task where students have to establish which 2 of 5 words mean the same, which tests for vocabulary knowledge or comprehension on the word level. In a second task, the students need to decide which word to choose from a list in order to give meaning to single sentences. This tests for comprehension on the sentence level. In a third task, students are given a choice of words again but this time they do not deal with single sentences but one continuous text. The last three tasks consists all of continuous texts of different genres where the students need to fill in words of their own choice. The genres are travel literature, scientific text, literary text and a text that can be described as biography or a newspaper article with biographical elements. The words that they are required to fill in are not very specific, but the texts have different levels of complexity.

It should be said that I chose the Group Reading Test 3 which is designed to test students from year 5 to 11 in the English school system. I partly compensated for that by not timing the test as suggested by the manual but to allow them the whole hour instead of 30 minutes to finish the test.

### 3.2.2 Carrying out the Hodder Reading Test

As the Hodder Reading Test was designed to last 30 minutes, the students had enough time to work with it, and I had enough time to explain quite in detail what they were supposed to do. In most of the groups, I was with the students at the same time as the teacher, so they always had access to someone clarifying questions. At school B, I carried out the Hodder reading Test on one day in all the different groups stretched over the school day. Here, two lessons slightly overlapped so that I was not in the room all the time and cannot guarantee that students might not have gotten help I did not intend them to get. My results do not suggest that though. At school A, the different groups took the test on different days, and I was with them all the time.

All the students, both at school A and B managed to complete the reading test on time even though some groups seemed to need considerable more time than others which might be explained by the fact that they took it at different times of the day.

After having analysed the results of the Hodder reading test, I calculated the raw scores and additionally divided all the students into three equally strong groups according to their
performance in the reading test across the schools. Group I would correspond to the students with the lowest scores while group III had the highest scores in the first reading test. To roughly balance reading proficiency in the three groups taking the different versions of the main reading comprehension test (see below) I distributed the students to the experimental conditions so that in each condition, an equal number of students from the three Hodder score groups was represented.

### 3.3 Testing for reading comprehension of literary texts

The main part of my study consisted of a self-developed reading comprehension test of three different texts that were all presented in one version with the written text only, one version with the additional audio version of the text read by a native speaker and a version combining the written text with images. Each students reading comprehension test consisted of one text, one text with audio and one text with images, but the combination of the texts was varied systematically. Each student was tested with texts in the three modalities, and each text was tested in combination with the different modalities (see the three versions in the appendix).

### 3.3.1 The chosen texts

In a second session, the students carried out a reading test of a literary text which I had designed myself. The reading tests consisted of two chapters of an easy reader version of "The adventures of Huckleberry Finn" by Mark Twain and one chapter of an easy reader version of "Oliver Twist" by Charles Dickins. I had decided on these texts for several reasons. To begin with, I chose the easy reader versions of these texts because these versions of easy readers are illustrated and come with an audio file which made the proceedings quite uncomplicated. The illustrations are specially designed to increase comprehension. I think that the illustrations in both texts are similar when it comes to their 'visual weight' (Van Leeuwen, 2005). As can be seen in the overview, I provide descriptions of the three texts in more detail. All illustrations feature human figures and cover a lot of space on the page so that the illustrations gain additional visual weight (Van Leeuwen, 2005). When it comes to the placement of the illustrations, they are either on top of the page or on the left-hand side of the page which both adds to the visual weight of the illustrations (Van Leeuwen, 2005). I tried to keep these aspects of the layout as much as possible. While the illustrations in the Huckleberry Finn text offer more detail concerning the surrounding, the Oliver twist text offers more detail when it comes to the characters featured in the text.

The reading speed of the audio files easily allows following the text if one wishes to read and to listen at the same time. As seems natural for these two texts, the Huckleberry Finn text is read with an American and the Oliver Twist text with a British accent.

Another reason why I had decided on the Huckleberry Finn text was that I had used the easy reader's version of Huckleberry Finn with a group of student about the same age in Germany and they had found it quite motivating.

These versions of easy reader texts have some other features which are directed at improving comprehension. First, some of the vocabulary is highlighted in the text and explained in an allocation on the same page and second, at the beginning of each chapter we find a kind of topic sentence which is a quote from the text. I deleted these features in order to be sure that my results were not influenced by these features.

First, I had planned only to use the first three chapters of Huckleberry Finn but changed that towards using two chapters from the Huckleberry Finn book and one chapter from the Oliver Twist book. I decided on a chapter from a second book for two reasons. After I had analyzed the results of the Hodder Test, I had felt already that the texts I had chosen were two easy and decided to pretest my reading test with a different group of students in order to establish if I should at least offer one text with a higher level.

The results of my pretest indicated that the reading texts were two easy for my purpose especially with the questions I had designed for them. I thus decided on two measures to remedy this. First, I chose one chapter of "Oliver Twist" which is from the same series and therefore includes the same features as the other texts but which is based on more headwords and is indicated as being a level higher than the "Huckleberry Finn Text". That would mean that I could possibly also see effects for better students and not only for those with the lowest level of reading comprehension.

As content always plays an important role when it comes to reading comprehension, I also need a book which could be comparable to Huckleberry Finn. Even though they tell very different stories, I decided that these two books shared some important features. In both stories, a young boy is the main character and for both characters their immediate families do not play a positive role in their life. They both live lives that reflect the times which can seem very alien to today's readers and might make it difficult for readers to identify with them. On
the other hand, they deal with universal topics such as friendship, loyalty and overcoming difficult odds until they finally find their place in life and society.

I will in the following go more into detail concerning how the pictures or illustrations support understanding in the two different texts. The description features a list with meaning units included in the illustrations. A more detailed overview of the meaning units of the written text and how the questions relate to the individual meaning unit in both the written text and the illustrations can be found in the appendix.

### 3.3.1.1 The adventures of Huckleberry Finn by Mark Twain

This highly adapted version of Huckleberry Finn by Mark Twain is part of the Penguin Active Reading series and is labelled as a level three book, featuring 1200 headwords and being aimed at Pre-intermediate readers of English as a foreign language. This level corresponds to a language proficiency described as A2 by the Council of Europe (Council of Europe, 2001). For my study, I chose the first two chapters. The first chapter is about two pages long and features two pictures or illustrations. The illustrations are in full colour and are realistic pictures in pastels which show the characters and the scenery. There are two pictures, one spreading above the lower two-thirds of two pages and one covering the upper third of another page.

The information that can be gathered from the first illustration of the first chapter is the following:

- The scene happens at night time (all the colours are tinged blue)
- The scene happens in a garden or on a farm (there is cropped grass and a building that could be a garden shed)
- The garden is close to some woods (there are many trees in the background)
- It must be summer (all the people are lightly dressed, the boys do not wear shoes)
- there is a grown up black man sitting propped up against a tree
- The man is sleeping
- The man's hat is on a branch above his head
- Two boys are having a good time ( they smile and laugh)
- The two boys leave the garden for a different place (they seem to leave the garden running)
- The scene is light and playful (facial expressions of the people involved, light pastel colours)

The information that can be gathered from the second picture of the first chapter is:

- The two boys meet /are together with other boys (the two boys can be seen among a group of other boys)
- The boys are somewhere inside (The light of the lamp throws shadows against a back wall of some sorts)
- The scene is light and playful (facial expressions of the boys, light pastel colours with a yellow being the most prominent colour)

The second chapter is about two and a half pages long without the illustrations. It features two pictures, both of which spread over two pages and cover two third of these two pages. The first picture includes the following pieces of information:

- The scene depicted in this picture is taking place at night (blue-tinged colours plus Huck carrying a candle)
- Huck is sleeping in his own room (no one else can be seen in the picture)
- Huck's father is very poor (his clothes are ragged and filthy)
- Huck's father is angry (facial expression)
- Huck is not happy to see his father (facial expression)
- The meeting is happening in secret (no one else is there, happens at night)

From the second picture the following pieces of information can be depicted:

- Huck and his father live isolated from other people (no other houses can be seen, a lot of nature instead)
- They live close to a river
- They live in a wooden cabin
- There is a canoe
- The canoe is hidden
- The scene depicted here is taking place during the day (colouring of the scene)
- Huck is alone (no one else can be seen, nothing indicates by association that there are other people around)
- Huck creates a bloody trail from the cabin to the water


### 3.3.1.2 Oliver Twist by Charles Dickens

The version of Oliver Twist I used for my study is as well part of the Penguin Active Reading series. It is a level 4 book which means that is features 1700 headwords and is supposed to be suitable for intermediate readers which corresponds to a language proficiency described as B1 by the Council of Europe. The text used for the text is the first chapter which is two pages long without the illustrations. In addition, the text features two illustrations in full colour, one covering the whole page the other about three-quarters of a page.

The following information can be deduced from the first illustration:

- Oliver gets soup to eat (we see a bowl and a spoon )
- He asks for more soup (he holds the empty bowl up to the master)
- Oliver seems to be afraid or at least uneasy (his posture and facial expression suggest so)
- The master is getting angry (his facial expression such as knitted eyebrows and his posture, bearing down on Oliver, are suggesting this)
- Oliver is poor (his clothes are ill-fitting, and the seams come away at the sleeves)
- The master is better off than Oliver (his clothes look more expensive, and his buttons are stretching suggesting he gets more than enough to eat)
- The situation is a serious one (prominent colours are dark green and brown)
- The story takes place in a different time (clothes look old fashioned)

The information that can be gathered from the second illustration are:

- Mr Bumble is even better off than the master (his clothes are better fitting and look more refined)
- Mr Sowerberry must have work that requires sombre and respectful clothing (he wears a black overcoat and a black top hat)
- The two people share mutual respect (look at each other straight, no one bears down on the other)
- Mr Bumble tries to sell Oliver (a sign featuring the same message which Mr Bumble is pointing at)
- Mr Bumble asks Mr Sowerberry about this (Mr Bumble is pointing at the picture, and Mr Sowerberry seems to be pondering something)
- The story takes place in a different time (old-fashioned clothes, way announcement is made)


### 3.3.2 Pre-test to determine selection of questions

As I have mentioned before, the students who participated in my study were mostly those who felt quite competent in reading English, and many who felt uneasy about their performance had declined to participate. This, together with the for me surprisingly good results in the Hodder Reading Test had made me think about whether my chosen texts would not be too easy. Texts that were too easy would distort my results because multimodality has only an effect if the texts in their unimodal version lie a little bit above the reader's level of reading comprehension (Liu, 2004).

I decided therefore to carry out a pre-test with three chapters of The Adventures of Huckleberry Finn and two chapters of Oliver Twist to determine which texts together with which questions would work best to differentiate between the reading proficiency of the student. The pre-test would, in addition, give me an indication as to how long students would need to complete reading three texts.

For the pre-test, I used the texts without illustrations with one class in grade 8 at one of the schools where I also carried out my study. Therefore, the pre-test was carried out by 50 students. As I only wanted to determine which questions worked well to differentiate between the students, the test was strictly anonymous. For some aspects of the story, I had devised several questions that were overlapping as, for example, the stem of one question gave a hint as to what alternative might have been correct in a different question. I therefore devised different versions of the reading test based on Huckleberry Finn to be able to try out as many questions as possible. In my pre-test, I included simple as well as complex multiple (Cresswell \& Vayssettes, 2006) where students had to decide which statements about the text were correct without knowing how many of the alternatives were correct.

A third of the students were asked to work with the first version of the Huckleberry Finn texts, a third to work with the second version of the same texts featuring different questions and a third to work with the Oliver twist texts. Students who worked very fast were asked to read a second set of tests.

The time frame for my pre-test was the same as for the actual test which means the students had 60 minutes to complete the test. They did not have any additional questions; the questions were mostly simple multiple-choice and we did not lose much time with explanations as the
set up was quite straight forward. On the other hand, they had not the advantage of the illustrations and the audio file to support the comprehension process. All of the students managed to read one set of texts and some even managed to read two sets. I carried out the pre-test in the first lesson, and the students seemed quite motivated to finish the task.

The pre-test helped me to determine which questions to discard because most of the students, who were a year younger than my actual group, had answered them correctly even without the help of an additional modality. Moreover, it helped me to fine-tune some of the questions so that the statements and some of the distractors were less ambiguous. In general, the students had answered so many questions correctly that I decided to replace some of the multiple choice questions with open questions where students had to answer questions instead of being able to just chose one alternative answer. I decided on the first two chapters of Huckleberry Finn and the first chapter of Oliver Twist.

### 3.3.3 Designing the final version of the reading test

The final version of my reading comprehension questionnaire consisted of the reading tests, both unimodal and multimodal and a set of 14 comprehension questions for each text. In addition, the students were asked to answer 8 questions about their experience with reading these multimodal texts and how the different modalities had influenced their comprehension of the texts and their performance answering the questions. A second questionnaire included 14 questions about reading anxiety and 15 questions about learning styles. I will describe the different parts of the reading test in more detail in the following paragraphs.

### 3.3.3.1 The reading comprehension questions

When devising a test of reading comprehension, one has to be careful about the construct to use because every construct is based on a certain understanding of reading and the processes involved (Alderson, 2000). I decided to use five categories to test reading comprehension which I took from the reading part of the PISA study from 2006 (Cresswell \& Vayssettes, 2006). These categories were:

1. Retrieving information
2. Developing an interpretation
3. Forming a broad general understanding
4. Reflecting on and evaluate the content of the text
5. Reflecting on and evaluating the form of text

For each category, I had the same amount of questions for each text. Of the 14 questions for each text six questions required to retrieve information from the text, five questions were based on developing an interpretation, one question tested the reader's ability to form a broad general understanding of the text, and one question each asked the students to reflect and evaluate the content of the text and to reflect and evaluate the form of the text. There were more questions about the content than questions that required the students to go beyond the texts. The questions were the same for all of the different combinations of modalities of one specific text.

While I had only used multiple choice questions for my pretest with one correct answer and two distractors, I revised my final reading test so that I had a mixture of simple multiple choice questions with one correct answer (Cresswell \& Vayssettes, 2006) and three distractors, complex multiple choice items with more than one correct response (Cresswell \& Vayssettes, 2006) and questions that had to be answered with a short sentence or part of a sentence. I chose these different types of questions so that the chance of guessing the correct answer was as low as possible. As to not frustrate the students I had left in some questions which had been answered correctly by most of the students in the pre-test.

In order to make sure that I only tested the comprehension of the texts and not the students' ability to understand the text of the questions, I decided to have the questions and statements in Norwegian. The students could also write their answers in Norwegian if they liked. The fact that the questions were in Norwegian had the additional effect that the students could not just scan the text for the same words or combinations of words as they found in the questions and thus choose a sentence from the text for their answer or make an educated guess for the multiple choice questions. The disadvantage of short answer questions is, of course, that students who are reluctant to write, tend to ignore these questions completely.

The questions for each text would always start at the top of the right-hand side of the questionnaire so that none of the questions would be ignored. They were presented in the same position for each version of the text.

### 3.3.3.2 The distribution of modalities

Of the three texts, the students were to read one would always be unimodal, one would be illustrated and one would be combined with an audio file. As mentioned before I changed the layout of the texts slightly so that none of the words were highlighted and explained at the bottom of the page, and I changed the size of the pictures to fit my questionnaire pages. I
ensured that the pictures would end up on the same page as the text they illustrated so that the students would be able to benefit most from this additional representation (Leutner, 2001).

I made three version of the reading comprehension test so that the modalities could rotate between the different texts. The purpose was to ensure that the difference in comprehension would not mainly lie with the specific text but with the modality it was presented in. Of my participants, a third from each reading group level would get version one of the test, one-third version two and one third version three. The questions were the same in all three versions.

### 3.3.3.3 Questions about reading with different modalities

At the end of the reading comprehension test the students were asked to answer eight additional questions about how they had experienced reading texts in different modalities and how the different modalities had influenced their understanding as well as their ability to answer the comprehension questions. The two multimodal versions were represented with four questions each. The students could also indicate whether they preferred unimodal so that they could imagine the story more freely. I had devised these questions myself based on what kind of reactions I assumed students might have when presented with multimodal texts to capture at least a rough estimate of the subjective experience of the different modalities.

### 3.3.3.4 Additional questionnaires

In addition to answering the questions for the reading comprehension test, students were also asked to think about their attitude towards reading in English and their preferred learning style. The questionnaire was an adapted version of a test used by Reid (1987) because I did not find another questionnaire about learning styles that I found appropriate for my purpose. The questionnaire includes items that ask about a verbal, an audio and a visual learning style. The students were asked to answer 15 questions with 5 test items representing the preferred learning style.

I took the questionnaire about the students' attitude towards learning, originally called "Reading anxiety Questionnaire" directly from the Saito, Garza, and Horwitz (1999) article on reading anxiety. It consists of 14 statements about the reader's attitude towards and experience with reading in a foreign language, here English. The only changes I made here were that I translated the questions to Norwegian and that I changed the order of the statements so that not all the negative statements were at the beginning followed by the positive statements.

However, since only a rather small fraction of the pupils (and here especially the more proficient students) were able to finish all three parts of the reading comprehension test and the additional questionnaire about learning styles and attitude towards reading in a foreign language I could unfortunately not use the data gathered by these questions. They were excluded from the analyses presented in this thesis.

### 3.3.4 Carrying out the reading test

As with the reading session for general reading competency, I carried out the second session at school B on one day with the students carrying out the test during their English lessons spread over the day. As they also had a concert that day, they had less regular lessons than on other days. Due to the concert the students had been organised differently, so that I had a whole class together for a session. There was always at least one teacher with me in the room. I started the sessions with thorough instructions as to how to work with the questionnaire and how to access the audio files.

In order for the students to listen to the audio file accompanying one of the texts, I had brought with me 20 iPads with audio files of the three texts on them. For the other students, I had uploaded the audio file onto some of the school computers which worked well because this school is well equipped with computers as well as with headphones. Most students were able to get a computer or an iPad right away when they need it; a few had to wait a couple of minutes and worked with another text in the meantime.

Most students managed to finish reading the texts while not everybody managed the additional questions or the questionnaire about reading anxiety and learning strategies. Motivation and focus obviously had to do with it as some had tried to find more interesting things on the IPads than the audio files as I could see when I went through them afterwards.

At school, A carried out several sessions with the different classes and groups. In the class where there were only 9 students who participated I carried it out in the first lesson and most of the students managed in time, and there was no problem with having enough IPads and head phones for the students. I was on my own with the students for this session. In the second class, I carried out the reading test with the two sub-groups in the first and second lesson respectively being on my own. There were enough resources, and most students managed to finish in time, at least the mere reading questions.

The last session at school, I was carried out in the last lesson during the day with the whole class which made the organisation more challenging. As many of the school computers did not work, the students had sometimes to wait a long time in order to access an audio file which caused some to struggle with finishing their questionnaire. Moreover, one of the teachers who are normally with this group was sick so that I had to stay with one group in the computer room and some students were not able to ask questions that came up during the session.

I had the impression that the fact that the test was carried out at the end of the day resulted in the students being more tired than those who had been able to carry it out earlier during the day which resulted in a higher number of students not being able to finish on time. Some students seemed quite frustrated by this.

### 3.4 Methods for analysing the data

The analysis of the collected data will be restricted to the Hodder score, the results of the main reading comprehension test and the self-reported experience with the different modes, because the last two questionnaire parts about learning styles and attitudes were not answered by a large enough group of students. Analyses were conducted in two parts, in the first part effects were explored on a more descriptive level whereas the main analyses of the effects of multimodal texts on reading comprehension will utilize a slightly more complex analyses method.

In the first descriptive part and in the analysis of the self-reported experience the analyses are based on Chi-square tests and analyses of variance (ANOVA), whereas the main analyses are conducted as analyses of covariance (ANCOVA). Although it is far beyond the scope of a master thesis like this to give an introduction to the statistical background of the analyses, the following sections will briefly introduce the line of thinking behind the three methods used. For further information, I like to refer the interested reader to the method literature, e.g. Field (2013).

### 3.4.1 Chi-square test

A chi-square test is a non-parametric statistic comparing the expected frequencies assuming no relation between a categorical variable and another categorical with the observed frequencies. Then the amount of deviation between the two frequencies is tested for the
likelihood to occur randomly, just because of the sampling. If, for example, no relation between gender and the correct answer in a question of the reading test exists, then an equal proportion of boys and girls should answer wrong and correct. In every sample, there will be variation of the proportions just because the sample does include a limited number of people and not the whole population. The Chi-square test calculates now for each group (e.g., boys with correct answers, girls with wrong answers, etc.) the difference between the observed frequency and the expected frequency. This difference is squared and summed up and then this value (the Chi-square) is together with the degrees of freedom (which depends on the number of cells in the table) compared to a table of Chi-square values to find out if it is large enough to reject the hypothesis that there is no difference.

### 3.4.2 ANOVA

An analysis of variance compares differences on a continuous variable between two or more groups. For example, it calculates the means in the total scores from the reading comprehension test for boys and girls. Then it is tested if the fraction of the differences between individuals (the variance in the scores) that can be explained by being a boy or a girl is large enough compared to the differences within the group of boys and within the group of girls to assume that is not random. The ANOVA does that by calculating a test statistic referred to as F , which simply speaking is the ratio of systematic between group variance and unexplained within group variance. Then - just as with the Chi-square - the value calculated for the F is checked in a table. Is it larger than the one in the table it is assumed that the impact of the grouping variable (here gender) is not random. Since these critical values for F are depending on the number if groups and the number of members in the groups (the degrees of freedom), an F value can only be interpreted together with the two degrees of freedom (one for the number of groups minus one, the other for the number of participants minus the number of groups).

### 3.4.3 ANCOVA

An analysis of covariance is a slightly more advanced version of an analysis of variance as it allows including not only grouping variables but also continuous variables as predictors. It both calculates how strong the impact of the continuous variable is and adjusts the scores for each person son that the impact of the grouping variable is no longer confounded by possible differences between the groups on the continuous variable. In my case, I was interested to test the impact of the modalities on text comprehension. Since text comprehension proved to be much dependent on general reading proficiency, my results for a simple ANOVA comparison
of the modality groups might have been confounded by differences between the groups in Hodder scores. Thus, I controlled for such differences by including the Hodder score in the analyses. Furthermore, this also gives me the possibility to test if the effect of the modalities depends on the Hodder score, in other words, if less proficient students would for example benefit more from images. In statistical terms, this is referred to as an interaction.

## 4 Results

In this chapter, I will present the results of my data analysis of the main reading test which included the first two chapters of Huckleberry Finn and the first chapter of Oliver Twist. I am first going to give an overview of the descriptive statistics of text comprehension collected from the three texts in which I will list the percentage points correct answers for the different individual questions and the percentage points for the total score and the different sub-scores. The descriptive statistics will moreover provide an overview over how many boys and girls have answered the individual questions correctly and how the correct answers were distributed across the two schools. Then, I will give an overview of how the percentage of correct answers relates to the Hodder-scores of the pupils. For this purpose, the sample was evenly divided into three groups according to the Hodder-scores (low: 5-19 points, medium: 19-30 points, high: 31-42 points). Finally, I will present the distribution of correct answers on the different modalities.

In addition, I will introduce results from preliminary significance tests with the purpose of determining whether there are meaningful differences between boys and girls, the two schools, the Hodder score groups and the modalities used in the reading test. These analyses are conducted by means of chi-square tests for single questions and ANOVAs for mean scores calculated from several questions. ${ }^{2}$

In the main part of the results section, the effect of the experimental manipulation with the different modalities of the texts will be tested in a series of ANCOVAs. The effect of the modalities is analysed and controlled for differences in the Hodder scores. Also, the effect of the interaction between the modalities and the Hodder scores is calculated. This is done to test if students benefit from the modalities differently depending on their general reading proficiency.

And last, the student's self-reported perception of the pictures and audio files is analysed in relation to the general reading proficiency.

[^1]
### 4.1 Descriptive Statistics for the reading test (literary texts)

In this part, I am going to describe the results for the main reading test which I had devised myself and which included three literary texts. These were the first two chapters of The Adventures of Huckleberry Finn and the first chapter of Oliver Twist. I will describe the results for the three different texts individually. In general, gender and the school the pupils attended showed to have little effect on the results for reading comprehension. When it comes to the different modalities, the results showed some differences for the different modalities, but these differences were not significant, at least when the noise in the data caused by differences in Hodder scores between the experimental groups was not controlled. The only factor that accounted for a larger number of significant differences was the Hodder score, measuring students' general reading proficiency. Students with better reading proficiency also performed better in the text comprehension of the three texts. The following sub-sections present these effects in more detail.

### 4.1.1 Descriptive results for the first text (first chapter Huckleberry Finn)

Table 1 presents the results of the first reading test, including a differentiation according to the background variables gender and schools, Hodder score and modalities of the text. It gives an overview of students' score on the reading test for the first text (chapter 1 Huckleberry Finn). The test includes 14 comprehension questions and controls for background variables (gender and school), reading proficiency (Hodder score), and the three types of modality in the text. 114 students carried out the first reading test with some questions only having been answered by 113 students.

Generally, there are no significant differences between the results for boys and girls. The total score for all the individual questions is $61 \%$ correct answes, and the results for the single questions range from $43 \%$ (question7) to $89 \%$ (question 6). Checking the background variables it shows that only in the results for question 7, we can see significant differences between boys and girls. The girls score 20 percentage points higher than the boys. Even though there is a tendency for the other questions that girls have better results than boys, these differences are not significant. Concerning the schools, we only find a significant difference in performance for question 11 with school A having a 27 percentage points higher score. There is again a tendency for school A to have higher scores in some of the questions, but the trend is not significant.

Table 1: Descriptive results for the first text (first chapter Huckleberry Finn)

|  | Z | $\begin{aligned} & \text { 苞 } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  |  |  | ${\underset{\sim}{0}}_{\infty}^{\infty}$ | Nin |  | $\begin{aligned} & 4 \\ & 0 \\ & \text { O} \\ & \text { B } \\ & 0 \end{aligned}$ |  | $\begin{array}{r} \text { U } \\ \\ 0 \\ 0 \end{array}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Question 1 | 114 | X | X |  |  |  |  | $45 \%$ | $45 \%$ | $45 \%$ |  | 46 \% | $43 \%$ | $29 \%$ | 53 \% | $54 \%$ | *, a | 44 \% | 38 \% | $53 \%$ |
| Question 2 | 114 |  | X |  |  |  |  | $44 \%$ | $50 \%$ | $41 \%$ |  | $40 \%$ | $50 \%$ | 27 \% | 38 \% | 67 \% | **, a | $33 \%$ | 43\% | $55 \%$ |
| Question 3 | 114 |  | X |  |  |  |  | 57 \% | $53 \%$ | $59 \%$ |  | $50 \%$ | $67 \%$ | $37 \%$ | $62 \%$ | $74 \%$ | **, a | 47 \% | 58\% | $66 \%$ |
| Question 4 | 114 |  |  | X |  |  |  | $76 \%$ | $75 \%$ | 77 \% |  | $79 \%$ | $72 \%$ | $63 \%$ | $76 \%$ | 90\% | *, a | $75 \%$ | $78 \%$ | $76 \%$ |
| Question 5 | 114 | X | X |  |  |  |  | 57 \% | $55 \%$ | $58 \%$ |  | 62 \% | $50 \%$ | $39 \%$ | $59 \%$ | $74 \%$ | **, a | 56 \% | $58 \%$ | 58\% |
| Question 6 | 114 |  | X |  |  |  |  | 89\% | 90\% | 88\% |  | $90 \%$ | 87\% | $80 \%$ | $91 \%$ | 95\% |  | 86 \% | 85\% | 95\% |
| Question 7 | 114 |  | X |  |  |  |  | $43 \%$ | $30 \%$ | $50 \%$ | *, a | $37 \%$ | 52\% | $22 \%$ | $38 \%$ | $69 \%$ | ***, a | $36 \%$ | 45\% | 47\% |
| Question 8 | 113 | X |  | X |  |  |  | 46\% | 46\% | 46\% |  | $51 \%$ | 39\% | $30 \%$ | 47 \% | 62\% | *, a | 33\% | 49\% | 55\% |
| Question 9 | 113 |  |  | X |  |  |  | 73\% | 77 \% | $72 \%$ |  | $78 \%$ | 67 \% | $78 \%$ | 74 \% | 69\% |  | 69 \% | 69 \% | 82\% |
| Question 10 | 113 |  |  | X |  |  |  | $59 \%$ | $54 \%$ | $62 \%$ |  | 57 \% | $63 \%$ | $53 \%$ | $53 \%$ | $72 \%$ |  | 64 \% | 59\% | $55 \%$ |
| Question 11 | 113 | X |  | X |  |  |  | 55\% | $44 \%$ | 61\% |  | $66 \%$ | 39\% *, a | $53 \%$ | $53 \%$ | 59\% |  | 50\% | 49\% | 66\% |
| Question 12 | 113 |  |  |  | X |  |  | 77 \% | $72 \%$ | 80\% |  | $78 \%$ | $76 \%$ | 68 \% | 74 \% | 90\% |  | $75 \%$ | 82\% | $74 \%$ |
| Question 13 | 113 | X |  |  |  | X |  | $76 \%$ | $74 \%$ | 77 \% |  | $75 \%$ | $78 \%$ | $65 \%$ | $79 \%$ | $85 \%$ |  | 78 \% | $72 \%$ | $79 \%$ |
| Question 14 | 113 |  |  |  |  |  | X | 64 \% | $62 \%$ | 65\% |  | $61 \%$ | 67\% | $63 \%$ | $53 \%$ | $74 \%$ |  | 67\% | 56\% | 68\% |
| Total score | 114 |  |  |  |  |  |  | 61 \% | 59 \% | 63 \% |  | 62 \% | $61 \%$ | 50 \% | 61 \% | 74 \% | ***, b | 58 \% | $59 \%$ | 66 \% |
| Subscore explicit information | 114 |  |  |  |  |  |  | 56 \% | 54 \% | 57 \% |  | 54 \% | $58 \%$ | 39 \% | 57 \% | 72 \% | ***, b | 50 \% | 54 \% | 62 \% |
| Subscore forming interpretations | 114 |  |  |  |  |  |  | 62 \% | 58 \% | 64 \% |  | 65 \% | $56 \%$ | 54 \% | 61 \% | 70 \% | *, b | 58 \% | 60 \% | 67 \% |

a) chi square test; b) ANOVA; * p<.05, ** $\mathrm{p}<.01$, ${ }^{* * *} \mathrm{p}<.001$

The factor of general reading proficiency in the Hodder Reading Test is responsible for significant differences in questions $1,2,3,4,5,7$ and 8 , with question 7 showing the largest differences. The students with the lowest Hodder score scored 16 percentage points lower than those with the medium Hodder score and those with the highest Hodder score scored 31 percentage points higher than those with a medium score. The differences for the total score (which is the mean of all questions) are also significant as the students with the lowest Hodder score lie 11 percentage points below the students with a medium score. Students with a medium score lie 13 percentage points below those with the highest score.

A similar result can be observed for the sub-score of explicit information (which is the mean of questions 1-3 and 5-7). Students with the lowest score have an 18 percentage point lower score than those with a medium score and those with a medium Hodder score have a result that lies 15 percentage points under that of students with the highest score. For the sub-score of forming an interpretation (which is the mean of questions 4 and $8-11$ ), the differences are again significant. Students with the lowest Hodder score have a score 7 percentage points under the score for students with a medium Hodder score. Students with the highest Hodder score performed better than those with a medium score, and their results were higher by 9 percentage points. For the different modalities, no significant differences can be observed, even though, there is a tendency for the text/image version to have the highest scores.

### 4.1.2 Descriptive results of the second text (second chapter of Huckleberry Finn)

Table 2 shows the results for the second reading text, which is the second chapter of Huckleberry Finn. 106 students answered the questions for the second reading test. There are two single questions that feature very low results. Question number 7 was only answered correctly by $5 \%$ of the students and question number 8 by $6 \%$ of the students. These questions were both open ended. The total score for all questions was $57 \%$. Concerning gender, question 4 and question 9 show a significant difference between the sexes with the boys having scored 12 percentage points higher than the girls in both questions. Concerning the different schools we have two questions where the difference is significant. For question 4 the score for school A is 12 percentage points higher than for school B and for question 8 the score for school A is 10 percentage points higher than for school B.

Table 2: Descriptive results for the second text (second chapter Huckleberry Finn)

|  | Z | $\begin{aligned} & \text { D } \\ & \text { D } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  |  |  | $\stackrel{\sim}{\circ}$ | N | $\begin{aligned} & 4 \\ & \stackrel{3}{8} \\ & \text { O} \\ & 0 \end{aligned}$ |  | $\begin{array}{r} \text { y } \\ 0 \\ 0 \\ 0 \end{array}$ |  |  |  |  | 晃 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Question 1 | 106 | X | X |  |  |  |  | 87\% | $95 \%$ | 83\% | 87\% | 86 \% | $78 \%$ | 85\% | 97\% | *, a | $78 \%$ | 92\% | 91\% |
| Question 2 | 106 |  | X |  |  |  |  | 77 \% | $81 \%$ | $75 \%$ | $73 \%$ | $84 \%$ | $58 \%$ | $91 \%$ | $84 \%$ | **, a | $73 \%$ | $78 \%$ | 82\% |
| Question 3 | 106 |  | X |  |  |  |  | $84 \%$ | $84 \%$ | $84 \%$ | $86 \%$ | $81 \%$ | $78 \%$ | 82\% | $92 \%$ |  | 84 \% | 83\% | $85 \%$ |
| Question 4 | 106 |  |  | X |  |  |  | 12\% | $11 \%$ | 13\% | $17 \%$ | $5 \%$ *, a | 14\% | $6 \%$ | 16 \% |  | 11 \% | 14\% | 12\% |
| Question 5 | 106 | X | X |  |  |  |  | 89\% | 89 \% | 88\% | 90\% | 86\% | $83 \%$ | $88 \%$ | $95 \%$ |  | $89 \%$ | 92\% | 85\% |
| Question 6 | 106 |  | X |  |  |  |  | 92\% | $95 \%$ | 90\% | $94 \%$ | 88\% | 83\% | 94\% | 97\% |  | $95 \%$ | 86\% | 94\% |
| Question 7 | 106 |  | X |  |  |  |  | $5 \%$ | $8 \%$ | $3 \%$ | $5 \%$ | $5 \%$ | $0 \%$ | $12 \%$ | $3 \%$ | *, a | $3 \%$ | $6 \%$ | $6 \%$ |
| Question 8 | 106 | X |  | X |  |  |  | 6\% | $3 \%$ | $7 \%$ | 10\% | $0 \% *$, | $6 \%$ | $6 \%$ | $5 \%$ |  | $3 \%$ | 11\% | $3 \%$ |
| Question 9 | 106 |  |  | X |  |  |  | $55 \%$ | $51 \%$ | 57 \% | $56 \%$ | 53\% | $33 \%$ | 58\% | $73 \%$ | **, a | 57 \% | 58\% | 48\% |
| Question 10 | 106 |  |  | X |  |  |  | 50\% | $51 \%$ | 49\% | $48 \%$ | $53 \%$ | $31 \%$ | 64\% | $57 \%$ | *-- ${ }^{-}$ | $51 \%$ | 64\% | 33\% |
| Question 11 | 106 | X |  | X |  |  |  | $77 \%$ | 78 \% | 77 \% | $76 \%$ | $79 \%$ | $69 \%$ | $76 \%$ | $86 \%$ |  | 70 \% | 83\% | $79 \%$ |
| Question 12 | 106 |  |  |  | X |  |  | 92\% | 100\% | $88 \% *, \mathrm{a}$ | $92 \%$ | 93\% | 86\% | 94\% | $97 \%$ |  | $97 \%$ | 89\% | $91 \%$ |
| Question 13 | 106 | X |  |  |  | X |  | 20\% | $24 \%$ | 17\% | 22\% | 16\% | 19\% | 15\% | 24 \% |  | 27 \% | 17\% | 15\% |
| Question 14 | 106 |  |  |  |  |  | X | $51 \%$ | 43 \% | $55 \%$ | $51 \%$ | $51 \%$ | $58 \%$ | $39 \%$ | $54 \%$ |  | 49 \% | $44 \%$ | $61 \%$ |
| Total score | 106 |  |  |  |  |  |  | $57 \%$ | $58 \%$ | 56\% | $58 \%$ | 56\% | 50\% | 58\% | $63 \%$ | ***, b | $56 \%$ | 58\% | $56 \%$ |
| Subscore explicit information | 106 |  |  |  |  |  |  | 73 \% | 76 \% | 72 \% | 75 \% | 72 \% | 66 \% | 74 \% | 80 \% | ***, b | 72 \% | 74 \% | 75 \% |
| Subscore forming interpretations | 106 |  |  |  |  |  |  | $38 \%$ | $38 \%$ | $39 \%$ | 39 \% | $38 \%$ | 28 \% | 43 \% | $45 \%$ | ***, b | 37 \% | 44 \% | $34 \%$ |

a) chi square test; b) ANOVA; * p<.05, ** $\mathrm{p}<.01$, ${ }^{* * *} \mathrm{p}<.001$

As could already be observed in the results for the first text, the performance in the Hodder reading test is linked to significant differences in test scores for the second reading test. We can observe significant differences for questions $1,2,7,9$ and 10 as well as for the total score, the sub-score for "explicit information" and the sub-score for "forming an interpretation". For question 7 we can observe that students with a medium Hodder score performed best. The differences for the single questions are smaller than for the first text, and the biggest difference can be observed for the sub-score for forming an interpretation. The difference between students with the lowest Hodder score and those with the highest score accounts for 17 percentage points. Concerning the modalities, there are no significant differences to be observed. The clear trend in favour of the text/image version cannot be observed either, but the results for text/audio have a tendency to be higher than for text only.

### 4.1.3 Descriptive results of the third text (first chapter of Oliver Twist)

100 students set out to work with the third reading text, but the figure shows that only one question, namely question 1 , was answered by all these students whereas some questions were only answered by 90 students. Concerning gender no significant differences could be found and for the schools significant differences show for questions 10 and 14. For question 10 the difference was 39 percentage points in favour of school A and for question 14 it was 24 percentage points in favour of school B.

The Hodder score accounts for significant differences in questions $7,11,14$ as well as for the total score and the sub-score for "explicit information". The biggest difference can be observed for the total score where the difference for students with the lowest score and those with the highest score is 17 percentage points.

No significant differences can be observed for the modalities. There is a trend for the text/audio version to have rendered better results than the text only version, but the results for text/picture show a wide range and make it impossible to see a trend.

Table 3：Descriptive results for the third text（first chapter Oliver Twist）

|  | Z |  |  |  |  |  |  |  | $\overbrace{0}^{\infty}$ | n | $\begin{aligned} & \mathbb{3} \\ & \stackrel{\rightharpoonup}{0} \\ & \text { O} \\ & \text { U } \end{aligned}$ | $\begin{aligned} & \text { 合 } \\ & \frac{0}{0} \\ & 0 \end{aligned}$ |  | $\begin{array}{r} \text { y } \\ \\ 0 \\ 0 \end{array}$ |  | $\begin{array}{r} \text { y } \\ 0 \\ 0 \\ 0 \end{array}$ |  |  | 显 | 菏 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Question 1 | 100 | X | X |  |  |  |  | 22\％ | $21 \%$ | $23 \%$ | $18 \%$ | 27 \％ |  | 17 \％ | 18 \％ | $31 \%$ |  | $20 \%$ | $21 \%$ | $25 \%$ |
| Question 2 | 99 |  | X |  |  |  |  | 90\％ | 82 \％ | $94 \%$ | $91 \%$ | $89 \%$ |  | 86 \％ | $93 \%$ | 92 \％ |  | 88 \％ | $\begin{gathered} 100 \\ \% \end{gathered}$ | 83 \％ |
| Question 3 | 98 |  | X |  |  |  |  | 93\％ | 88 \％ | 95\％ | $93 \%$ | $93 \%$ |  | 86 \％ | $96 \%$ | 97 \％ |  | $91 \%$ | $\begin{gathered} 100 \\ \% \end{gathered}$ | 89 \％ |
| Question 4 | 97 |  |  | X |  |  |  | 40\％ | 27 \％ | 47\％ | 38 \％ | $43 \%$ |  | $26 \%$ | $44 \%$ | $51 \%$ |  | $44 \%$ | $38 \%$ | $39 \%$ |
| Question 5 | 97 | X | X |  |  |  |  | $69 \%$ | 64 \％ | 72\％ | $70 \%$ | 68 \％ |  | $60 \%$ | $63 \%$ | $83 \%$ |  | $59 \%$ | $79 \%$ | $69 \%$ |
| Question 6 | 97 |  | X |  |  |  |  | $71 \%$ | $76 \%$ | 69\％ | 68\％ | 75\％ |  | 63\％ | $78 \%$ | $74 \%$ |  | $63 \%$ | 86\％ | $67 \%$ |
| Question 7 | 97 |  | X |  |  |  |  | 76\％ | $73 \%$ | $78 \%$ | $70 \%$ | $84 \%$ |  | $57 \%$ | 85\％ | $89 \%$ | ＊，a | 72 \％ | $72 \%$ | $83 \%$ |
| Question 8 | 95 | X |  | X |  |  |  | 44\％ | $39 \%$ | 47\％ | $47 \%$ | $41 \%$ |  | $42 \%$ | $33 \%$ | 54 \％ |  | $55 \%$ | $29 \%$ | $47 \%$ |
| Question 9 | 94 |  |  | X |  |  |  | 88\％ | $81 \%$ | 92\％ | 86\％ | 91\％ |  | $79 \%$ | 89\％ | $97 \%$ |  | $84 \%$ | 93\％ | 89\％ |
| Question 10 | 91 |  |  | X |  |  |  | 48\％ | $56 \%$ | $44 \%$ | 67 \％ | 28\％ | ＊＊＊＊，a | 37\％ | 48\％ | $59 \%$ |  | $55 \%$ | 54\％ | $39 \%$ |
| Question 11 | 91 | X |  | X |  |  |  | $34 \%$ | $34 \%$ | $34 \%$ | $33 \%$ | $35 \%$ |  | $20 \%$ | $30 \%$ | $50 \%$ | ＊， a | $43 \%$ | $41 \%$ | $22 \%$ |
| Question 12 | 90 |  |  |  | X |  |  | 88\％ | $90 \%$ | 86\％ | $89 \%$ | 86\％ |  | $80 \%$ | $89 \%$ | $94 \%$ |  | $89 \%$ | 96\％ | $81 \%$ |
| Question 13 | 90 | X |  |  |  | X |  | 80\％ | $81 \%$ | 80\％ | $72 \%$ | 88\％ |  | $73 \%$ | $74 \%$ | $91 \%$ |  | $82 \%$ | 85\％ | $75 \%$ |
| Question 14 | 90 |  |  |  |  |  | X | $71 \%$ | $68 \%$ | 73\％ | $60 \%$ | $84 \%$ | ＊， a | $57 \%$ | 67 \％ | 88\％ | ＊， a | $79 \%$ | 81\％ | $58 \%$ |
| Total score | 100 |  |  |  |  |  |  | $64 \%$ | 61 \％ | $65 \%$ | $62 \%$ | 66 \％ |  | $56 \%$ | $63 \%$ | $73 \%$ | ＊＊，b | 61 \％ | $69 \%$ | $62 \%$ |
| Subscore explicit information | 100 |  |  |  |  |  |  | 63 \％ | $58 \%$ | 66 \％ | $61 \%$ | 66 \％ |  | 56 \％ | 63 \％ | 70 \％ | ＊＊，b | $58 \%$ | 71 \％ | 62 \％ |
| Subscore forming interpretations | 97 |  |  |  |  |  |  | $58 \%$ | 57 \％ | $59 \%$ | $61 \%$ | 56 \％ |  | 49 \％ | 57 \％ | 70 \％ |  | $61 \%$ | 59 \％ | 56 \％ |

a）chi square test；b）ANOVA；＊p＜．05，＊＊p＜．01，＊＊＊ $\mathrm{p}<.001$

### 4.2 Main results of the reading test (literary texts)

I will now present the main findings for the reading comprehension test of the first text. All numbers presented in the following tables and figures show the estimated marginal means for the test results in the different modalities, which means that these scores are corrected for the difference in the Hodder score. By applying this control, noise from the data caused by differences in Hodder scores between the groups is being eliminated.

### 4.2.1 The first text (first chapter of Huckleberry Finn)

Figure 1 displays the marginal means for the three modalities for text 1 . The results for the written text only and text/audio are almost identical with the difference only occurring in the first digit after the comma. The result for text/picture is about 8 percentage points higher than for the written text alone. Carrying out an ANCOVA test provided the results displayed in Table 4.


Figure 1: Results for the first literary text (first chapter Huckleberry Finn)

The results for the reading text show that the score in the Hodder reading proficiency test has a significant influence on performance in the multimodal reading test for text 1. It is significant at the $0.1 \%$ level. According to the effect size eta-squared this effect is medium to strong (Field, 2013). Modality has a marginally significant influence on the test results, indicating a trend that the text with the picture leads to better results as compared to the other two conditions when the influence of the Hodder score is controlled for. The effect size indicates a small effect. The interaction between the modalities and the Hodder score shows
no significant relationship, which means that the effect of the modality is not different for students with different Hodder scores.

Table 4: ANCOVA test applied to the total score of the first text

|  | Df | MS | F | p |  | eta $^{2}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Modality | 2,114 | , 106 | 2,942 | , 057 | $\#$ | , 052 |
| Hodder score | 1,114 | 1,102 | 30,636 | $<.001$ | $* * *$ | , 221 |
| Modality * Hodder score | 2,114 | , 072 | 2,012 | , 139 |  | , 036 |
| *** $\mathrm{p}<.001 ; * * \mathrm{p}<.01 ; * \mathrm{p}<.05, \# \mathrm{p}<.10$ |  |  |  |  |  |  |

The following table shows the marginal means for the five sub-dimensions of reading categories for the first text and the three text modalities.

Table 5: Sub-scores for the categories of reading differentiated by modalities (text 1)
Text Text \& Audio Text \& Pictures

| explicit information | $51 \%$ | $53 \%$ | $62 \%$ |
| :--- | :--- | :--- | :--- |
| forming interpretation | $58 \%$ | $59 \%$ | $67 \%$ |
| general understanding | $76 \%$ | $82 \%$ | $74 \%$ |
| knowledge content | $78 \%$ | $71 \%$ | $79 \%$ |
| knowledge structure | $67 \%$ | $56 \%$ | $68 \%$ |

For the reading category of "explicit information", the text/audio version shows slightly better results than for the written text alone. The text/picture version provides results that are 9 percentage points higher than for the text/audio version and 11 percentage points higher than for the written text. A similar trend can be observed for the category "forming an
interpretation" with slightly better results for the text/audio version and results that lie 8 percentage points above text/audio for the text/picture version of the reading text. For the category general understanding text/picture got the lowest score whereas for the last two categories text/picture gets marginally better results than the text only version. However, it has to be kept in mind that the analyses for the last three categories were based on only one question each. Figure 2 illustrates the results. Table 6 shows the results that five separate ANCOVAs provided for the different categories of text comprehension. The predictors tested were again the modality, the Hodder score and the interaction between the two.


Figure 2: Results for the first text sorted after reading categories and modalities

Table 6 shows that for questions that ask for explicit information, the influence of the text version or the modality is significant on the $5 \%$ level with a weak effect size. The result in the Hodder reading test is significant at the 0.1 \% level with a strong effect size. The interaction of the two variables showed no significant results. For the category of forming an interpretation, modality has no significant influence and the influence of the Hodder score is significant at the $5 \%$ level, and the effect is weak. The interaction between the two categories again is not significant. For the category of general understanding, only the Hodder score's influence is significant. The significant level is $1 \%$ and the effect size weak to medium. For the category of knowledge content, the Hodder score alone had a significant influence on the test results; the result is significant at the $5 \%$ level, and the effect size is weak. For the last reading category none of the variables had a significant influence.

Table 6: Results of the ANCOVA tests for reading categories, modality, and Hodder score (text 1)

|  | df | MS | F | p |  | eta ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| explicit information |  |  |  |  |  |  |
| Modality | 2, 114 | ,189 | 3,220 | ,044 | * | ,056 |
| Hodder score | 1,114 | 2,060 | 35,069 | <. 001 | *** | ,245 |
| Modality * Hodder score | 2,114 | ,127 | 2,167 | ,119 |  | ,039 |
| forming interpretations |  |  |  |  |  |  |
| Modality | 2,114 | ,078 | 1,223 | ,298 |  | ,022 |
| Hodder score | 1,114 | ,399 | 6,230 | ,014 | * | ,055 |
| Modality * Hodder score | 2,114 | ,070 | 1,085 | ,341 |  | ,020 |
| general understanding |  |  |  |  |  |  |
| Modality | 2,113 | ,119 | ,704 | ,497 |  | ,013 |
| Hodder score | 1,113 | 1,597 | 9,428 | ,003 | ** | ,081 |
| Modality * Hodder score | 2,113 | ,083 | ,488 | ,615 |  | ,009 |
| knowledge content |  |  |  |  |  |  |
| Modality | 2,113 | ,301 | 1,689 | ,190 |  | ,031 |
| Hodder score | 1,113 | ,791 | 4,435 | ,038 | * | ,040 |
| Modality * Hodder score | 2,113 | ,245 | 1,372 | ,258 |  | ,025 |
| knowledge structure |  |  |  |  |  |  |
| Modality | 2,113 | ,308 | 1,332 | ,268 |  | ,024 |
| Hodder score | 1,113 | ,629 | 2,723 | ,102 |  | ,025 |
| Modality * Hodder score | 2,113 | ,204 | ,885 | ,416 |  | ,016 |

### 4.2.2 The second text (second chapter of Huckleberry Finn)

For this text, the result for the text only combination is worst followed by the result of the text/picture combination. The text/ audio version gained the best result but lies only a few percentage points (4\%) above that for the text only combination. Figure 3 illustrates these results. The ANCOVA test showed the results displayed in table 7.


Figure 3: Results for the second literary text (second chapter Huckleberry Finn)

The results for the ANCOVA test show that again the Hodder score has a significant influence on test results on the $0.1 \%$ level with a medium to strong effect. Neither the modalities nor the interaction between the two variables provided significant results.

Table 7: ANCOVA test applied to the total score of the second text

|  | Df | MS | F | p | eta $^{2}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Modality | 2,106 | , 008 | 0,562 | , 572 |  |
| Hodder score | 1,106 | 0,337 | 23,592 | $<.001$ | $* * *$ |
| Modality * Hodder score | 2,106 | , 007 | 0,518 | , 597 | , 191 |
| *** p<.001; ** p<.01; * p<.05, \# p<.10 |  |  |  | , 010 |  |

Table 8 presents the results for sub-scores for the different reading categories differentiated according to text modalities.

Table 8: Sub-scores for the categories of reading differentiated by modalities (text 2)

|  | Text | Text \& Audio | Text \& Pictures |
| :--- | :---: | :---: | :---: |
| explicit information | $71 \%$ | $75 \%$ | $75 \%$ |
| forming interpretation | $35 \%$ | $45 \%$ | $34 \%$ |
| general understanding | $97 \%$ | $89 \%$ | $92 \%$ |
| knowledge content | $26 \%$ | $17 \%$ | $15 \%$ |
| knowledge structure | $50 \%$ | $45 \%$ | $61 \%$ |

For the questions belonging to the category "explicit information", the multimodal texts both show results above the results for the unimodal text. They are 4 percentage points higher than those for the unimodal text. For "forming an interpretation", the text/audio version shows the highest results, it lies 9 percentage point above the one for the text only version, text/picture show a result that lies 1 percentage point below that of the text only version. "General understanding" and "knowledge content" both have the best results for the version with written text alone and for "knowledge structure", the results for text/picture are highest and lie 11 percentage points over those for the unimodal text and 17 percentage points above those for the text/audio version. Figure 4 illustrates these results. The ANCOVA tests for these variables showed the results displayed in Table 9.


Figure 4: Results for the second text sorted after reading categories and modalities

When it comes to the category "explicit information", the influence of the result of the Hodder reading test on the results for the second text is significant on the $0.1 \%$ level and the effect size is medium. The other two variables have no significant influence. The same result can be observed for the category "forming an interpretation". Here as well the Hodder score is significant for the outcome of the reading test at the $0.1 \%$ level and the effect size is medium. For "general understanding", the Hodder score is significant at the $5 \%$ level, and the effect is weak. For the other categories, the results are not significant.

Table 9: Results of the ANCOVA tests for reading categories, modality, and Hodder score (text 2)

|  | df | MS | F | p |  | eta ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| explicit information |  |  |  |  |  |  |
| Modality | 2,106 | ,004 | 0,184 | ,832 |  | ,004 |
| Hodder score | 1,106 | 0,421 | 18,634 | <. 001 | *** | ,157 |
| Modality * Hodder score | 2,106 | ,004 | 0,158 | ,854 |  | ,003 |
| forming interpretations |  |  |  |  |  |  |
| Modality | 2,106 | ,077 | 2,183 | ,118 |  | ,042 |
| Hodder score | 1,106 | ,465 | 13,243 | <. 001 | *** | ,117 |
| Modality * Hodder score | 2,106 | ,070 | 1,982 | ,143 |  | ,038 |
| general understanding |  |  |  |  |  |  |
| Modality | 2,106 | ,056 | ,823 | ,442 |  | ,016 |
| Hodder score | 1,106 | 0,383 | 5,615 | ,020 | * | ,053 |
| Modality * Hodder score | 2,106 | ,036 | ,524 | ,594 |  | ,010 |
| knowledge content |  |  |  |  |  |  |
| Modality | 2,106 | ,044 | 0,270 | ,764 |  | ,005 |
| Hodder score | 1,106 | ,043 | 0,265 | ,608 |  | ,003 |
| Modality * Hodder score | 2,106 | ,127 | 0,785 | ,459 |  | ,015 |
| knowledge structure |  |  |  |  |  |  |
| Modality | 2,106 | , 180 | 0,703 | ,498 |  | ,014 |
| Hodder score | 1,106 | ,000 | 0,000 | ,991 |  | ,000 |
| Modality * Hodder score | 2,106 | ,188 | ,733 | ,483 |  | ,014 |

*** $\mathrm{p}<.001 ;$ ** $\mathrm{p}<.01 ; * \mathrm{p}<.05, \# \mathrm{p}<.10$

### 4.2.3 The third text (first chapter of Oliver Twist)

For the third text, the version with text plus audio had the highest result which lies 8 percentage point over those of text and picture and 7 percent over those for text only version. The results are illustrated in figure 5. The ANCOVA-test for the variables "modality", "Hodder score" and the interaction of those two variables are presented in table 10.


Figure 5: Results of the third literary text (first chapter Oliver Twist)

The influence of text modality is significant on the $5 \%$ level with a weak effect and that for the Hodder score on the $0.1 \%$ level with a medium to strong effect. The interaction between modality and Hodder score has a marginally significant influence on text comprehension for the third reading text with a weak effect.

Table 10: ANCOVA test applied to the total score of the third text

|  | df | MS | F | P |  | eta $^{2}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Modality | 2,100 | , 112 | 3,876 | , 024 | $*$ | , 076 |
| Hodder score | 1,100 | 0,658 | 22,762 | $<.001$ | $* * *$ | , 195 |
| Modality * Hodder score | 2,100 | , 074 | 2,558 | , 083 | $\#$ | , 052 |

*** p<.001; ** p<.01; * p<.05, \# p<. 10

Since the interaction was marginally significant, the difference in the effects by the three Hodder score groups used before is presented for illustration in Table 11 and Figure 7. The students with a low Hodder score achieved the best results with the text/audio version of the text and the worst results with the text/picture combination. Students with a medium Hodder score also had the best results with the text/audio version of the text and the weakest results for the text/picture combination. Students with the highest Hodder score achieved better results with the multimodal expression with the text/picture version providing the best results (see Figure 6).

Table 11: Total scores for the three modalities differentiated by Hodder score (text 3)

|  | Text | Text \& Audio | Text \& Pictures |
| :--- | :---: | :---: | :---: |
| low Hodder | $57 \%$ | $66 \%$ | $47 \%$ |
| medium | $60 \%$ | $69 \%$ | $57 \%$ |
| Hodder | $67 \%$ | $72 \%$ | $77 \%$ |
| high Hodder |  |  |  |



Figure 6: Results of the third text sorted after text modality and Hodder score

Table 12 shows the results for the third text including reading comprehension categories and modalities in the different versions. For the categories "explicit information", "general understanding", "knowledge content" and "knowledge structure" the best results were achieved with the text/audio version of the text. For "forming an interpretation" the best result was achieved with the text only version, and the worst was that with text and pictures. For knowledge structure as well the worst result can be observed for the text/picture version. Figure 7 illustrates these results. Table 13 shows the result of a series of ANCOVA tests that took into account modalities, Hodder score and the interaction between these two variables.

Table 12: Sub-scores for the categories of reading differentiated by modalities (text 3)
Text Text \& Audio Text \& Pictures

| explicit information | $58 \%$ | $71 \%$ | $61 \%$ |
| :--- | :--- | :--- | :--- |
| forming interpretation | $62 \%$ | $59 \%$ | $55 \%$ |
| general understanding | $89 \%$ | $97 \%$ | $80 \%$ |
| knowledge content | $82 \%$ | $85 \%$ | $74 \%$ |
| knowledge structure | $79 \%$ | $81 \%$ | $57 \%$ |



Figure 7: Results for the third text sorted after reading categories and modalities

For the third reading test, the modality shows to have a marginally significant influence on the reading result when it comes to "explicit information" (weak effect). For the other reading categories, the Hodder score also explains variance on a significant level (weak to medium effect sizes). For the category of "knowledge structure," the text version explains variance on a marginally significant level (weak effect).

Table 13: Results of the ANCOVA tests for reading categories, modality, and Hodder score (text 3)

|  | df | MS | F | p |  | eta ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| explicit information |  |  |  |  |  |  |
| Modality | 2, 100 | ,117 | 2,718 | ,071 | \# | ,055 |
| Hodder score | 1,100 | 0,420 | 9,739 | ,002 | ** | ,094 |
| Modality * Hodder score | 2,100 | ,067 | 1,560 | ,215 |  | ,032 |
| forming interpretations |  |  |  |  |  |  |
| Modality | 2, 97 | ,083 | 1,728 | ,183 |  | ,037 |
| Hodder score | 1,97 | ,875 | 18,307 | <. 001 | *** | ,167 |
| Modality * Hodder score | 2,97 | ,067 | 1,396 | ,253 |  | ,030 |
| general understanding |  |  |  |  |  |  |
| Modality | 2, 90 | ,091 | ,881 | ,418 |  | ,021 |
| Hodder score | 1,90 | 0,462 | 4,491 | ,037 | * | ,051 |
| Modality * Hodder score | 2, 90 | ,027 | ,258 | ,773 |  | ,006 |
| knowledge content |  |  |  |  |  |  |
| Modality | 2, 90 | ,218 | 1,396 | ,253 |  | ,032 |
| Hodder score | 1,90 | ,562 | 3,598 | ,061 | \# | ,041 |
| Modality * Hodder score | 2, 90 | ,147 | 0,940 | ,395 |  | ,022 |
| knowledge structure |  |  |  |  |  |  |
| Modality | 2, 90 | ,505 | 2,842 | ,064 | \# | ,063 |
| Hodder score | 1,90 | 1,530 | 8,613 | ,004 | ** | ,093 |
| Modality * Hodder score | 2, 90 | ,231 | 1,303 | ,277 |  | ,030 |

*** $\mathrm{p}<.001 ;$ ** $\mathrm{p}<.01 ; * \mathrm{p}<.05, \# \mathrm{p}<.10$

### 4.3 Results for the self-reporting questionnaire

In addition to the reading test, the students also answered a questionnaire about their subjective perception of the additional pictures and audio files. Students were asked to indicate their level of agreement to the statements summarized in Table 14 on a Likert-scale from $1=$ totally disagree to $7=$ totally agree.

A total of 89 students started to fill in the self-reporting questionnaire with only 76 students working with the statement "The audio file helped me to answer the questions". Only one statement shows a significant difference between the schools with school A having an average score of 3.5 and school B one of 4.6. Concerning the Hodder score, there are two statements that turn out with significant different results. The statement "Pictures helped me to answer the questions" got the strongest agreement with students having scored at the medium level and the lowest agreement with students that scored highest in the Hodder Reading Test. The statement "I prefer to read to myself (instead of having someone read to me)" got the highest score of agreement from students with a high Hodder score, a medium score from students with a medium Hodder score and the lowest score of agreement from students with a low Hodder score.

Figure 8 illustrates the results. Even if only two questions were answered significantly differently for students from the different Hodder score groups, a trend can be seen that students with high Hodder scores regarded both pictures and audio files as less helpful than weaker students. Furthermore, it can be seen that all three groups did neither consider the audio files nor the pictures as confusing.

## Table 14: Results of the self-reporting questionnaire

|  | Z |  | $\underset{\sim}{\infty}$ | 荷 | $\begin{aligned} & \mathbb{1} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $n$ 0 0 0 0 0 |  | 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 3 <br> 3 <br> 0 <br> 1 | 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0.0 0.0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pictures helped me understand the text | 89 | 4,3 | 4,1 | 4,4 | 4,5 | 4,1 |  | 4,6 | 4,3 | 4,0 |  |
| Pictures helped me answering the questions | 88 | 3,4 | 3,5 | 3,3 | 3,5 | 3,2 |  | 3,8 | 3,5 | 2,8 | * |
| Pictures confused me | 87 | 1,9 | 1,9 | 1,8 | 1,8 | 1,9 |  | 2,1 | 1,9 | 1,6 |  |
| I prefer to imagine persons and settings myself | 87 | 4,2 | 4,2 | 4,2 | 4,1 | 4,3 |  | 3,7 | 4,6 | 4,3 |  |
| Audio file helped me understand the text | 82 | 5,1 | 4,9 | 5,1 | 5,4 | 4,8 |  | 5,3 | 5,3 | 4,7 |  |
| Audio file helped me answering the questions | 76 | 4,6 | 4,7 | 4,6 | 4,8 | 4,5 |  | 5,0 | 5,0 | 4,0 |  |
| Audio file confused me | 77 | 1,8 | 1,8 | 1,8 | 1,7 | 1,9 |  | 1,8 | 1,7 | 2,0 |  |
| I prefer to read myself | 79 | 4,1 | 4,0 | 4,1 | 3,5 | 4,6 | * | 3,3 | 4,1 | 4,8 | * |



Figure 8: Results of the self-reporting questionnaire

## 5 Discussion

In this section, I will discuss the results of my data analysis with regard to theory and my research questions. I will moreover elaborate on the challenges for my study which include organisational as well as ethical aspects and how I would meet these challenges in the future if I was to conduct a similar study again. Furthermore, I will discuss how multimodal texts could be included into the English classroom in order to meet the needs of the students and to lift reading performance.

### 5.1 Discussing the results

I will discuss the influence of the different variables like Hodder score and modality of the texts on the outcome of the reading tests. The tests for the different texts did not show conclusive results, as the effects of the modalities differed considerably from text to text. The results for first reading text, for example, showed slightly better results for the text/audio version than for the unimodal text and the text/picture version rendered the best results. In the second text, however, the text/picture version rendered better results than the unimodal text and the text/audio version showed the best results. In the third text the text/audio version got the best results, but only for students with lower Hodder scores, whereas the group with the best Hodder scores benefited most from the text/picture combination. I will, therefore, look into the results of the reading test for each of the texts (first two chapters of Huckleberry Finn and first chapter of Oliver Twist) individually. These discussions will then be linked to different theoretical concepts.

### 5.1.1 The first text (first chapter Huckleberry Finn)

I had hypothesized that students' reading performance would be supported by multimodal text expressions. The results of the first reading test were those that were most in accordance with this hypothesis. Here the results for the texts with modalities did, in general, get the best results and the text/image version got better results than the text/audio version which is in agreement with both Dual Coding Theory (Clark \& Paivio, 1991; Sadoski \& Paivio, 2004) and the Cognitive Theory of Multimedia Learning (Mayer, 2002; Mayer \& Sims, 1994). It has to be taken into account though that the results for the modalities were not significant for the first analyses and only marginally significant for the ANCOVA test which included modalities and Hodder score. The Hodder score accounts for general reading competency. One of my study questions dealt with other factors that might influence the test results and I
found for the first as well as for the other texts that the Hodder score has a significant influence on the results of my self-devised reading test.

My study question number 6 was: Which other factors in the design are decisive for text comprehension of literary texts? It has been answered conclusively. General reading comprehension is a very reliable predictor for reading comprehension of literary texts. Looking at the results for the descriptive statistics, which included chi-square tests and ANOVAs, it becomes clear that the results for the Hodder reading proficiency test accounted most for the differences in performance in the main reading comprehension test which included the three literary texts. The differences between the groups were significant for 7 out of the 14 questions, as well as for the total score and for the sub-score for explicit information. For all the other questions, there was a clear trend for the Hodder groups having an influence on reading comprehension with the performance in the Hodder score being an indicator of performance in the main reading comprehension test. Thus, students with a low Hodder score generally got results below those with a medium score and those with a medium score performed worse than those with a high Hodder score. This means that general reading proficiency predicts the ability to read and to understand literary texts. These results were determined by the results of the ANCOVAs.

Alderson (2000) claimed that reading literary texts can, on the one hand, be perceived as easy because of "story grammar" but can also due to different layers of meaning be experienced as more difficult. These two aspects seem to have evened out each other at least for this reading test as the results in the Hodder test which featured only one literary text, clearly corresponded with the results in the main reading comprehension test with exclusively literary texts.

The results also answer my first two study questions which were: To which extent do multimodal text expressions support reading comprehension in the L2? In how far do pictures and audio versions of texts differ in influencing text comprehension? Concerning the different modalities, the results are less pronounced than for the Hodder score, but there is a clear trend for especially the text/picture combination to have a supporting effect on text comprehension. These results are especially noticeable for the category of "extracting explicit information". Even though there are also questions of the type "forming an interpretation" where the text/image combination features the best results, these are less distinct and there is even one question where the text/image combination rendered the worst results. The results for the
different modalities became more distinct after the ANCOVA test had been carried out. Here, the influence of the different modalities rendered marginally significant results after eliminating the noise caused by differences in Hodder scores.

The fact that only one question received the worst results for the text/image combination shows that, in general, the pictures, which did not add extra or conflicting information, helped to support text comprehension. This is in accordance with the findings of Carney and Levin (2002) as well as of Liu (2004) and McDonald (2009).

Concerning the different types of questions, it could be expected that the questions that asked for explicit information would benefit most from a multimodal representation and especially from a picture being added to the text. This can be related to the different functions pictures and images have (Nikolajeva \& Scott, 2006, quoted in Rimmereide, 2013) and which resources they use for meaning making (Bezemer \& Kress, 2008). Because images' main function is to describe, they are good at communicating space. They do this by showing instead of telling (Nikolajeva \& Scott, 2006, quoted in Rimmereide, 2013).

Looking at the specific pictures and questions for the first reading text, I can postulate that a lot of information about space, time and characters in the text is being communicated by the pictures. For example, the pictures show us that Huck and Tom are in the backyard, that Jim is sitting under a tree and that the boys meet in a cave. Other things that are being shown are the time of day, the age of the slave Jim and whom they meet in town. One could even argue that the fact that they are having a good time can be deduced from the pictures as they show the boys laughing. Even though I had categorised this question as forming an interpretation, it moves closer to extracting information in the text/image version. For question 9 we have a similar phenomenon. It asked about the relationship between the two boys and was categorised as forming an interpretation. While the written text gives a lot of information about what they had experienced together in the past and is telling us about them, the picture shows us two boys together in two different situations, thus visualizing the abstract construct of friendship. Question 10, on the other hand, asked for something that was difficult to visualize, namely how to characterise the slave Jim. There are limitations as to how images can visualize that a character is superstitious, whereas it is much easier to depict how old this character is or what kind of relationship he has with another character.

Summing up it seems to be important that information that is easier to visualize will be easier to process when combined with pictures that fulfil this function. This is also in accordance with Paivio's Dual Coding theory (Paivio, 2006).

When it comes to listening, my data showed that there is a very slight trend that the text/audio version augmented students' reading comprehension. For some questions the results lay as much as 9 or 10 percentage points over the result for text alone but these were evened out by questions where the results for the audio version lay up to 9 percentage points under the one for text alone. According to Woodall (2010) the audio version should have helped students' text comprehension as it freed cognitive resources. Cognitive resources which are normally used for decoding can be used for comprehension when the students can listen to the same text they are reading (Woodall, 2010). As especially less proficient readers use a lot of their resources for decoding (Durgunoğlu et al., 1993) one possible explanation is that most students were above the level where they spend considerable cognitive resources on decoding. One possible interpretation of the data is that some students became overconfident and only listened and thought they had a good understanding of the text when in reality they had missed important aspects but did not double check with the written version.

In light of theory the results for pictures can be explained as follows: According to dual coding theory and the cognitive theory of multimedia learning, there were two ways of accessing the meaning or at least part of the meaning of the text at hand for the students. When students used information from both the written text and the images, they would activate both systems accessing information or prior knowledge from logogens and imagens. This information could be used to understand the text and form an integrated mental presentation that would be stored in both subsystems. When confronted with the questions, they could activate this knowledge and access both sub-systems or the dually coded information to answer the questions. When uneasy about the correct answer they could look at the picture and still access information from both systems, as visual information is also encoded in the verbal system. They could also read passages of text again to access information stored in both systems as both retrieval routes work for dually encoded information.

When students had problems with comprehending the written text and failed to create a useful mental representation of it they could still look at the pictures and activate their imagens in order to perceive the message of the image and also access information stored there and the
logogen prior to having read this particular text. These pieces of information could then be used to form a mental representation of the text and to answer the questions.

Due to the theory, the students did not have to form a mental representation in the verbal code alone (as they had to when only presented with the written text) but could form part of their mental model in a visual form which allows direct mapping and works without language (Schnotz \& Grzondiel, 1996, quoted in Chun and Plass, 1997).

According to Eitel and Scheiter (2014) we could also say that the data indicates that the pictures worked as a scaffold for the students. This scaffolding made it easier for the students to connect what they had gathered from the text by looking at the pictures to their existing mental models and helped to integrate other information into this model.

The use of audio representations did not seem to have the same beneficial effect as the images. This might be explained by the fact that speech and text are more similar than text and image as they share several aspects of meaning making (Bezemer \& Kress, 2008). The additional resources like pitch and tonal quality (Bezemer \& Kress, 2008) did not seem to have a great beneficial effect on text comprehension at least for the first text and the questions that I asked. This is also in accordance with Dual Coding Theory and the theory of multimedia learning which both claim that spoken language and verbal language is perceived via the same channels and stored as part of the same mental model (Clark \& Paivio, 1991; Mayer, 2002). Schnotz and Grzondiel (1996, quoted by Chun and Plass, 1997) postulate that processing spoken and written texts involve the same cognitive processes so that no benefit can be expected from adding auditory information.

One of my study questions was concerned with individual differences. It was: What kind of students benefit from multimodal text expressions? As only a few students carried out the questionnaire about learning style, I could not determine whether the effects of the multimodal texts could be related to possible learning styles of the students. I conducted some analyses with the few questionnaires I received, but they did not provide any conclusive results and have therefore not been presented in this thesis. A reason for this could be that only the most able students made it all through the last questionnaire which, of course, made an impact on the results. Assuming that learning styles do make a difference, the results could have been very different depending on which students ended up in the different groups. The results for the texts supported by audio could, for example, have been much better with many students who got this version leaning towards an auditory learning style. This still leaves the
question open whether individual differences connected with learning styles make a difference and if so how important this difference might be.

### 5.1.2 Results second text (second chapter of Huckleberry Finn)

The data from the second reading text confirmed the results of the first reading text concerning the influence of general reading proficiency. The result of the Hodder test proved once more to be more relevant for the test results for text comprehension than text modalities. While this is not as clear as for the first text (the first chapter of Huckleberry Finn) it still shows a rather clear picture indicating that general reading competency plays a very important role for successful reading of literary texts. That the results are not as clear-cut as for the first text could be due to the fact that 8 students less had answered the questions. This could be explained by the fact that some of the weakest students had already resigned and decided to not answer the questions.

The results for modalities seem to indicate that for this particular text the text/audio version supported reading comprehension most. This is however just a trend that I could observe in the data and no significant result. This could be due to the fact that those students who benefitted most from the text/picture version did not come as far as reading the second test or at least to answering the corresponding questions. Another reason could be that there was a greater amount of students who benefit from an audio version for the second text in relation to those who do not benefit from this kind of representation. If this was the case, that would support the point made by Salomon (1989, quoted by Chun and Plass, 1997) that individual differences, here the preference for a certain representation or modality, are a decisive factor when it comes to reading comprehension in a foreign language.

I find it quite unlikely that the quality of the pictures had anything to do with the relatively weak results for the text/image version. The pictures feature a lot of details, for example they show that Huck is alone in his room with his father, they show that Huck is not happy to see his dad and that the place where Huck's father takes him is a remote one and lies by a river. There are other aspects, of course, that were not supported by the pictures but that was true for the first text as well. In a follow up study a qualitative interview before constructing an actual reading test might help to determine the usefulness of pictures for the comprehension process.

Woodall (2010) reports of a very positive effect of listening while reading for text comprehension and that student who had listened while they read felt themselves that listening to a text while reading helped them to understand the text. Graves and Fitzgerald
(2003) say that having students listen to someone else read the text for them would mean making use of their zone of proximal development (Vygotsky, 1978) as the voice carried them through the text. According to Woodall (2010) a reason for this phenomenon could be that when students listen to a text while reading, it frees them in part from using most of their cognitive resources for the decoding of the text. Instead they can use more of their resources for the actual comprehension process. Especially less proficient readers normally use a lot of their cognitive resources for decoding (Durgunoğlu et al., 1993).

What might have happened therefore is that students were - due to being exhausted - no longer able to integrate knowledge from visual and written text into a cohesive mental model but that their cognitive resources still were sufficient to let someone read the text and extract at least some of the central information.

The ANCOVA test for the second reading text (the second chapter of Huckleberry Finn) showed again no significance influence of modality and confirmed the results of the chisquare tests. Moreover, the results for the multimodal texts lay only slightly above those of the unimodal text. While most students might have tried to read the first text and integrate the information they gained from different representations or to form a mental model only from the written text, reading the second text might have required cognitive resources that some students did not have any more at this point. Those who had to deal with only the written text and were unable to benefit from another source of information were not able to create a mental model as they had for the first text, and their results declined. One possible explanation could be that those who dealt with the text/image version were not able to integrate information coming in from the two different channels. It seems as if listening still worked quite well for many students which supports the view that listening to a text while reading frees cognitive resources which are normally used for decoding. Those students with only the text and the text/picture version still had to use a big part of their resources for decoding which could then not be used for comprehension.

My data suggests that the audio file had the greatest positive effect on the category of explicit information. One possible explanation is that there was information contained in the way the text was spoken, maybe a stress on important words or pause before significant information that helped to decide which words to pay attention to when thinking about information that lay between the lines.

### 5.1.3 The third text (first chapter of Oliver Twist)

Only 100 students started out answering the questions for the third reading text, and some questions were not answered by more than 90 students. That means that 24 students less answered some questions compared to the questions for the first text. This could have been an issue of time as 14 students did not even answer a single question for the third text. In general, questions that were not answered in between were counted as wrong and were included into the mean of correctly answered questions whereas missing questions at the end were coded as "not finished" and were excluded from the mean score calculation. The lower number of students might also be responsible for the fact that even though there is a strong tendency for the Hodder score to have an important influence on reading comprehension results, the results are only significant for three of the individual questions as well as for the total score and the total score for explicit information.

Across the different categories, the text/audio version of the text gained the best results, and the text/picture version showed the worst results. These findings could have to do with differences in the pictures that featured fewer details than some of the pictures for the first two texts. It is also possible that the pictures, in general, were less suited to support the comprehension process. Bezemer and Kress (2008) emphasises that pictures have other functions than words and, therefore, unfold their meaning potential best when they are used to communicate certain aspects. This view is supported by Nikolajeva and Scott (2006, quoted by Rimmereide, 2013) who claim that pictures are bested suited to communicate space.

Since there was a marginally significant interaction between Hodder score and modalities for the last test, the results of the last text were also analysed differentiating the test results according to Hodder score and modalities: It becomes clear that especially the students with a low Hodder score could not make use of the pictures anymore. Since the score for the text/picture combination is actually lowest for this group, it might be concluded that the picture even interfered with text comprehension, binding resources that were not enough to comprehend the text in the first place. It seems that the students did not have the cognitive resources any longer to extract the relevant information from the pictures and integrate it with the information from the written text. The audio/text version worked best which again supports the hypothesis that cognitive resources are being freed for comprehension. It seems reasonable to assume that the weaker students were at their limit but could make use of the information they got from the text when someone else decoded the pronunciation of the words for them.

Students with a medium Hodder score as well had the best results for the text/audio version and the worst for the text/image version. This seems to indicate that integrating information from two different channels and making decisions about what might be relevant for answering the questions exceeded also their capability at the end of the test. Students with the highest Hodder score had the lowest score for text alone, a medium score for text/audio and the highest for the text/picture category. It is possible that those students could make use of an audio version because it freed some of their cognitive resources and that this had a positive effect even though it was received via the same channel. They also had enough resources left to encode the information in the pictures.

Maybe spoken versions of the words were more familiar than the written versions or the tone and pitch supplied additional information (Bezemer \& Kress, 2008). Again, the fact that cognitive resources were being freed might also have helped those students. The positive effects of the text/image version can on the one hand be explained again with Dual Coding theory as both channels were used to access information about the text and to create a mental representation of it. When answering the questions students could access both their imagens and their logogens to access information about the text. While I had predicted that multimodal texts would even out some of the differences between students with a higher and lower Hodder scores, this was only true for the text/audio version so it may be the best choice for a combination of modalities when students become exhausted, and some do not have the cognitive resources to deal with reading. This, however, might be worth looking into in a follow-up study. This also strengthens the hypothesis that students with lower reading proficiency use more of their cognitive resources for decoding than more proficient readers. Having them saving up these resources by someone else providing the pronunciation of the words for them lifts their performance and evens out some of the differences between proficient and less proficient readers.

As especially the numbers for questions that refer to forming an interpretation show very low results, it could also be possible that the text was considered more difficult. This would correspond with the categorization by the publisher as this text was of a higher level than the first two texts. This would also explain why for this text the text/picture version had the best results for the students with the best Hodder score. According to Liu (2004) the level of the written text needs to be above the students reading competency in order for the visual representation to have an effect on performance of the reading text. This partly answers my study question: What kind of students benefit from multimodal text expressions?

One of my study questions was concerned with how students themselves experienced the possibility to rely on multimodal text representations. It was: Which students experience multimodal expressions as helpful? My results show that especial students with medium and low Hodder score experienced the multimodal texts as helpful and that they supported reading comprehension. None of the reading groups reported the multimodal texts as being confusing but the better students expressed a preference for unimodal texts. Thus if we want to support students in reflecting about and organizing their own learning, we should give students the choice between uni- and multimodal text expressions.

### 5.2 Challenges for the study

I am going to refer to some of the challenges I met during my study under three main headlines which are organizational or practical challenges, those challenges that are of a pedagogical or ethical nature and challenges that arise from the fact that two different systems, that of university or science and that of school sometimes have different needs and different focus in their work.

### 5.2.1 Organisational challenges

Concerning organizational challenges there was on the one hand a problem which I have faced as a teacher many times before that is to make sure information about the study actually reached the home and then the information about consenting to participate reached me again. The time, shortly before Christmas, did not work in my favour. This of course had the effect that not as many students participated as I had hoped for and that this had not always to do with their unwillingness to participate but with the fact that they just forgot to hand in the admission slip. There were quite a number of students who told me in person that they would not mind participating but that they just kept forgetting to hand in the slip and while the parents might also not be opposed to it, the study was just not that important to them.

Another problem I faced was that of equipment. While I had made some inquiries concerning the availability of material, I especially at one school was confronted with the problem that many of the PCs did not work which made it difficult to give access to the audio files and caused some of the students not to be finished which frustrated them understandably. The fact that in one session one member of staff was missing caused some disturbance because I had to be constantly moving between the classrooms, and some students might not have the support and the clarifications they would have needed. This might have caused slightly worse results
than could have been possible especially for students that are a little bit uneasy about their own performance.

The results of my study suggest that insetting exhaustion might have had an effect on performance during the second reading test. If this is so, then the fact that the tests were carried out at different times of the day, some of the students taking the test at 8 o'clock and some starting as late as 13 o'clock, might have had effect that distorted my focus.

### 5.2.2 The needs of two different systems

This leads me to the next point, which is that me and the teachers representing the two systems of university and school had a different focus and prioritized different aspects of the process and made different decisions on this basis. While for me the study was the most important thing and I focused most of my energy on this, the teachers had to fit in my project into all the other things they had to organise and keep in mind. While it was obvious that the teachers tried to be very helpful, different perspectives let to situations that were not optimal. Teachers were, for example, interested in carrying out the test in large groups so that other teaching resources could be freed which made the organization more difficult for me. When teachers could not come due to illness, I was not informed even though I made have had to adapt to this situation. Moreover, teachers changed the groups so that I lost time rearranging material for the students. In an attempt to be respectful to the teachers, I had sometimes failed to communicate clearly enough what I need and why.

### 5.2.3 Pedagogical concerns and ethical challenges

The last point is maybe the most important one, and it deals with pedagogical concerns or ethical challenges. This is of course again linked to different needs of students and teachers and mine as a researcher. I had started out with the premise to find out how multimodal texts could especially support students with low reading proficiency so that I could adapt my teachings to their needs in my future teachings. My motive had thus been driven very much by the needs of these students, and my aim was to make school life a little bit easier for them. Those students who would have fallen into this category though were, maybe not surprisingly, not very enthused about taking part in my study. Obviously, they have realized by now that they are not performing as well as other students and did not feel like having this determined one more time. This meant that many of those students, as reported by the teachers, did not participate in the study to begin with. I think that those with lower reading proficiency who did participate in the end were to different degrees frustrated which had been anticipated by
one of the teachers. Especially the Hodder test lead to a negative experience for some students because they got very few items right and were, of course, aware of this. While it was positive for my purposes to have very diverse results with a great range of results, some students experienced taking the test as very stressful and experienced a sense of failure. Explaining that they were not graded and that low results would not have any negative consequences did not seem to help to soften this. Considering that a very important goal of the Norwegian school system is that every student experiences success and a sense of achievement, this has to be seen quite critical.

### 5.2.4 Meeting the challenges

In case I would carry out a similar study, there are certain aspects I would try to remedy that challenged my study this time. These have to do with the number of participants, communication, organization and ethical aspects of my study. Moreover, I would choose a design that includes more methodological approaches.

In case parents need to give their permission, I would address them directly at a parentteacher evening and would take good time to communicate what the study is actually about and how this could benefit their own child and future students of English. Moreover, I would plan in more time to very precisely communicate what my study is about to the teachers, as well as my needs, and to give room to accommodate the teacher's wishes.

I assume that the organization would be less of a problem if the parameters would have been made very clear from the beginning. When it comes to ethical challenges, I would probably choose an easier reading proficiency test or a test that can be carried out electronically and that adapts to the level of the test-taker. This would give all the students a possibility to experience a sense of achievement while at the same time helping science.

### 5.3 Implications for teaching reading in the EFL classroom

Looking at the results of my study so far I think there is enough ground so say that students benefit from multimodal text representations when several important aspect are being considered. First, the pictures or illustrations have to fulfil certain criteria. I had chosen pictures that supported the message thus following the conclusions of other studies and theoretical concepts (Carney \& Levin, 2002; Liu, 2004; McDonald, 2009). Still, my findings could also be interpreted in a way that suggests that not all the pictures accompanying the text
were equally suitable when it came to supporting text comprehension. When choosing texts accompanied by pictures teachers should, therefore, use some preparation and think carefully if those pictures actually offer details about the texts which are relevant for comprehension. In order to determine whether the illustrations work for students, the teachers should - at least in the beginning - attempt to get some feedback from the students as to how helpful they find the illustrations.

Even though the main reading comprehension test had not shown conclusive results considering whether the Hodder score predicted how beneficial the multimodal texts were for students, the students with a low Hodder score themselves reported that pictures had been very helpful to them. My findings suggest that teachers would, therefore, be well advised to consider illustrated texts especially for weaker students. Stronger students, on the other hand, might not appreciate this because they feel that this is a restriction to their imagination. Since the aim of reading in school is that students experience reading as pleasurable the teachers should not risk taking away any of this enjoyment which often includes visualizing the events in a story. Illustrations would only make sense if the text cannot be comprehended without an illustration or if it adds another dimension to the reading experience, for example, an enhanced aesthetical experience.

This leads of course to the question how the implementation of illustrated texts to support weaker students can be achieved practically on a day to day basis. The literature distinguishes between extensive and intensive reading in the language classroom (Nation, 2008). Extensive reading refers to reading that is done by students on their own, for the purpose of for example vocabulary, language learning, increased reading comprehension as well as to gain cultural competence (Birketveit \& Williams, 2013; Collie \& Slater, 1987). Because the students read on their own, the texts should not be too difficult because otherwise they would not be able to follow the story and the result would neither be pleasurable nor would it lead to language learning (Nation, 2008). Extensive reading implies that students can read different texts, and these texts are not individually discussed in class. For this kind of reading, it would be beneficial to discuss the effect of illustrations on text comprehension with students before they choose a text. Since many graded readers are illustrated it might be worth to not only take into consideration whether topics are interesting or the readers were on the right level but also whether illustrations might be helpful and thus increase the number of possible choices for students. To choose an illustrated text would be the choice of the students but the teacher can, of course, make suggestions concerning suitable texts. Stronger students could of course
also make use of illustrated texts, and the different functions of pictures could be discussed with them and how they might also lift the reading experience.

Many graded readers come with an audio file or can be bought separately. As my study indicates, exhaustion seems to play an important role when reading for a longer time so students should be encouraged to use the audiobook when they feel they get tired so that they are able to read longer passages and can experience how a story unfolds. The results of my study suggest that audio books could be a good way to help the students push their own limits when reading in English and develop their decoding skills and which would support their reading comprehension.

In case intensive reading is the aim and a class, or a bigger group of students should read the same text together, both illustrated texts and audio books are a good way to differentiate between different proficiency levels. This clearly meets the requirement of the core curriculum for Norwegian schools which emphasizes that "education must be adapted to the needs of the individual" (Utdanningsdirektoratet, 2006).

As with the Huckleberry Finn text, there are often more than one version of a text with and without illustrations and the teacher could choose different versions for the students from very easy to advanced. Students could even switch between different versions in the course of a longer period to make sure the level of the text really matches their ability. This would lead to a more rewarding reading experience for the students and would ensure a sense of achievement. While the work would be differentiated there would moreover exist a certain level unity in a program as students would have a basis for group discussions across the different text versions.

One important result of my study is that general reading proficiency is a good indicator of the ability to read literary texts in the L2. Knowing this, the teacher can give students the choice what they actually want to read when they read extensively. Reading texts of other genres will still give them a lot of practise and teach them skills that they can then transfer to the situations in which they read literary texts.

### 5.4 Questions and methods for further research

The study I have carried out provided some inconclusive answers to my original questions which need to be addressed again in a modified design. Moreover, the results suggest other aspects that need to be looked into and other paths to follow. I will in the following suggest a
modified design and some questions that can be addressed by it. In general I would keep the quantitative part of the study and supplement it with a qualitative part.

In further research the following questions could be addressed: Which features of a text determine whether it supports reading comprehension or not? Different voices in the literature claim that it is merely a question of the relationship between written text and illustration. My research suggests, on the other hand, that also other factors such as the richness of detail or which aspects of the story are being featured might play a role. Other aspects might be aesthetic quality or the personal taste of students as well as their experience with illustrated texts in and outside of school. Whether these aspects play a role and if to what extent could be the focus in a new study. To look into this a much wider choice of texts, both graded readers, and authentic texts would be necessary to exclude the possibility that the results for single texts are random.

Another question would be how students actually use illustrations when they read. Do they look at the picture first and start constructing a mental representation of the picture right away using the visual aid as a scaffold for their own reading process as Eitel and Scheiter (2014) suggest? Or do they start reading the text and only refer to the pictures when they start to struggle with the text? Are there students, in general, who ignore the pictures and solely focus on the verbal text? How many cognitive resources are being used for integrating the information from the two channels? These questions could be addressed with eye-tracking studies that record what students look at which time when reading and answering questions.

To determine which pictures are perceived as especially helpful, qualitative research in the form of semi-structured interviews, read aloud protocols or a combination of both could be carried out. In an interview, students could also help to pinpoint exactly how illustrations support them in their reading process and to which degree. Another method to find out about how the different parts of the texts are being used by the students would be to look at eyetracking protocols as these would also account for processes the students are not themselves aware of. As there are no scores for correct or wrong answers, those interviews could also be carried out with weaker students without them experiencing failure or a sense of underachievement. Intensive work with interviews would moreover give them a better sense of what the study is about and they might be more willing to participate as well in the qualitative part of such a study.

Interviews could also be used to pre-test and to develop questions for the comprehension test which would still comprise the qualitative part of the study. This would make it easier to exclude questions that are ambiguous or were the wording or the format of the question is the problem but does not reflect comprehension or miscomprehension. Once questions in different formats are developed, they would have to be pre-tested with a large number of students to make sure that they sufficiently differentiate between students with different levels of proficiency.

To answer the question if fatigue plays an important role for the ability to make use of different multimodal expressions the study would have to pay attention to how results for a reading test differ depending on whether a student reads an illustrated text first, or a text plus audio file or after he has read other texts. To do this the reading test would have to be quite extensive, and I would count in much more time than for my test.

Another interesting aspect would be whether students get better at using multimodal expression with some practice. To study this effect, students would have to read longer texts with and without multimodal expressions and to read tests would be administered several times while the book is being read. This would, of course, have to be an integral part of a reading program and be wholeheartedly supported by the school or the teacher in question.

## 6 Conclusions

Multimodal text expressions can be a way to support text comprehension when reading literary texts. However, as always in education several factors play an important role if this strategy is to be successful. Illustrations should be suitable for this purpose and teachers should therefore be careful when choosing illustrated texts. They are not a simple "slap on". While illustrated can texts support text comprehension, this effect seems to decrease with exhaustion and is therefore no "cure all" for weaker students. Not everybody appreciates multimodal text expressions and out of the respect for our students' autonomy, we should give them a choice as to whether they want to read multimodal texts or not.

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## 8 Appendix

- Information letter for the parents
- Main reading test (version 1 )
- Main reading test (version 2)
- Main reading test (version 3)
- Additional questionnaire (not used in the analysis due to low response rate)
- Clearance from data protection agency (NSD)


# Forespørsel om deltakelse i forskningsprosjektet 

## "Hvordan fremmer sammensatte tekster leseforståelse i engelsk?"

Til foreldrene og foresatte til elever i 9. trinn,
Jeg heter Silke Leismann og er masterstudent ved lærerutdanning på NTNU og vil gjerne arbeide sammen med elvene i 9 . trinn for i min masteroppgave.

## Bakgrunn og formål

Formålet med studien min er å undersøke om multimodale tekster (sammensatte tekster for eksempel tekst pluss bild eller lyd) fremmer tekstforståelse og motivasjon i lesing på engelsk. Jeg vil også se på om elever som har problemer med tekstforståelse i engelsk vil har større utbytte av multimodale tekster enn elever med bedre leseferdigheter. Denne studien er grunnlaget for min masteroppgave i fremmedspråkdidaktikk ved Program for Lærerutdanning på NTNU. Veilederen min er Inger Langseth. Alle elever i 9. trinn skal delta hvis de og deres foreldre samtykker.

## Hva innebærer deltakelse i studien?

Elevene skal først ta en standardisert, vanlig lesetest på engelsk for å kartlegge deres nivå av leseforståelse i engelsk. Etterpå skal de ta en lesetest til, hvor jeg vil finne ut om leseforståelse av multimodale tekster. Det betyr at elevene i denne andre testen skal få tre forskjellige korte litterære tekster hvorav en er bare tekst, en kommer med bild og en kommer med lyd itillegg. Hvilken tekst kommer med bild og hvilken med lyd blir tilfeldig variert for hver elev. Jeg vil se på om de tekstene som kommer med bild eller lyd blir forstått bedre enn de uten. Lesetesten skal inneholde spørsmål om innhold og om dybdeforståelse. I tillegg skal elevene få spørsmål om motivasjon for å lese multimodale tekster og erfaring med sånne slags tekster privat eller på skole. Undersøkelsen vil ta to ganger en time og skal gjennomføres i to engelsktimer.

Dere som foreldrene har mulighet til å se på spørsmålene i undersøkelsen min. Du kan kontakte meg via e-post.

## Hva skjer med informasjonen om ditt barn?

Alle personopplysninger vil bli behandlet konfidensielt. Bare jeg og veilederen min får tilgang til data. Navnelister for å koble sammen data fra den ene lesetesten med resultatene fra den andre blir lagret adskilt og skal tilintetgjøres etter at sammenkoblingen er gjennomført. I masteroppgaven og en mulig publikasjon vil deltakerne ikke kunne gjenkjennes. Prosjektet skal etter planen avsluttes senest 31.12.2015.

## Frivillig deltakelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke inntil data er anonymisert uten å oppgi noen grunn. Dersom du trekker samtykke før anonymisering av data, vil alle opplysninger om ditt barn slettet.

Dersom du har spørsmål til studien, ta kontakt med enten Silke Leismann (silke.leismann@trondheim.kommune.no) eller Inger Langseth (Inger.Langseth@ntnu.no)

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

## Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er gir samtykke at sønnen/datteren min
$\qquad$ (navne til elev) kan delta i studien.
(Signert av foreldre eller foresatte, dato)

## Les denne teksten nøye og svar på spørsmålene så godt du kan. Les instruksjonene nøye.

## The Tom Sawyer Gang

You don't know me if you haven't read The Adventures of Tom Sawyer. Mr. Mark Twain wrote that book, and most of it was true. Some things weren't exactly true, but everybody lies sometimes. Maybe not Tom's Aunt Polly or the Widow Douglas, though. They were in that other book.

The book ended like this. Tom and I found some money in a cave and it made us rich. We got $\$ 6,000$ each-in gold! That's a lot of money. So we gave it to Judge Thatcher to keep it safe.

The Widow Douglas made me her son. 'I'll teach you to be polite,' she said.
But I didn't want to be polite. I didn't like living in a house all the time. She even dressed me in nice clothes, but I really didn't like them. So one night I put on my old clothes and ran away.

But Tom Sawyer found me. He said, 'I'm going to start a gang of robbers. If you go live with the Widow again, you can join the gang.'

So I went back.
When I got home, the Widow cried with happiness. She kissed me and said, 'My poor lost baby has come home.' I didn't like that, but she meant it in a nice way.

Then it all started again. I had to sleep in a bed and I had to wear new clothes. I even had to be polite at dinner.

One night, I went to my room, feeling really lonely. Then I heard something. It sounded like a cat: 'Me-yow, me-yow.' I went to the window and looked down. It was Tom, waiting for me.

I climbed out the window to meet him. We went toward the trees in the Widow's backyard. We had to be very quiet. But when we passed the kitchen, I fell. The Widow's old slave Jim heard the noise and said: 'Who's that?'

He listened carefully, but we didn't say anything. Then he came out into the backyard. He stood very near us. But we were very quiet, so he never saw us.

Then my foot began to itch, but I couldn't move-I didn't want him to hear me. The itch moved to my ear. Next, it moved to my back, right between my shoulders. This happens a lot. When I have to be quiet, I start to itch in a thousand places.

Soon Jim said, 'Hey, where are you? Who's there? I know I heard something. I'm going to sit right here until you come out.'

And he sat down between me and Tom, but still he didn't see us. He sat against a tree and waited.

My nose began to itch. Then I scarred to itch on the inside! I itched in eleven different places now. But then Jim fell asleep, and all my itches stopped.

Tom came to me very quietly. 'Let's tie Jim to the tree, just for fun,' he said.
'That's too dangerous,' I said.
So then Tom went to Jim really carefully. He didn't want Jim to wake up. He took Jim's hat and hung it in the tree above his head. Then Tom and I ran as fast as we could into the woods.

The next day, Jim told everybody the story. 'Ghosts put me to sleep,' he said. 'They picked me up and rook me all over the state of Missouri. And then they brought me back, and hung my hat in the tree.'

Later, when he told the story again, 'all over the state of Missouri' changed to 'all over the USA.' The next time, it was 'all over the world.' Jim loved to tell stories, and people loved to hear them, too. Black people walked for miles to hear his story of the ghosts.

When we left Jim, he was still asleep. We ran all the way to town and found some other boys. Then we all followed Tom to his secret hiding place. There was a small hole in a hill and we climbed through, into a big cave. Tom told everybody about his gang of robbers. 'We'll call it Tom Sawyer's Gang,' he said, 'and this will be our hiding place."

We all had to sign our names in blood. We also promised not to tell anybody about the gang.

Tom said, 'If anybody tells, the gang will kill his family.'
'Then Huck can't join because he doesn't have a family’ somebody said.
'You can kill the Widow. She's almost my family,' I suggested.
Everybody thought that was a good idea. So I joined the gang.
Then somebody asked, 'What do robbers do?'
Tom said, 'They steal things, of course. And they ransom people.'
'Ransom? 'What does that mean?'
'I don't know,' said Tom. 'But robbers do it—I read it in a book. So we've got to do it. We have to bring prisoners to the cave and ransom them. Then we kill the men. But we keep the women until they fall in love with us.'

I said, 'Soon we'll have a cave full of women. There won't be any room for us robbers.'
But we all agreed to be robbers.
'You can go home now,' Tom told us. 'We'll meet next week. Then we can rob somebody and kill some people.'

So we all went home.
I climbed in my bedroom window just before the sun came up. My new clothes were all dirty but I was very tired. I couldn't worry about that.

1) Når møtes guttene? (kort svar)
2) Hvor gammel er Jim?
a) Han er et barn på same alder som Huck og Tom.
b) Han er en voksen man.
c) Han er yngre en Tom og Huck.
d) Vi vet ikke.
3) Hvor satte Jim seg ned?
a) På trappene til huset
b) Ved siden av et tre
c) Han lente seg mot et tre
d) På en benk i hagen.
4) Hva tror du gutten føler når de dra til byen?
a) De er redde.
b) De angrer seg.
c) De er spente.
d) De kjeder seg litt.
5) Hvem møter guttene i byen? (kort svar)
$\qquad$
6) Hvor drar de når de er i byen?
a) Til en gammel låve.
b) Til en hule.
c) Til et tomt hus.
d) Til elva.
7) Hvem forteller denne historien?
a) Mark Twain
b) Huck Finn
c) Tom Sawyer
d) Noen vi ikke skjenner
8) Tom plasserer hatten til Jim fordi han...(kort svar)
9) Hva kan du si om relasjonen mellom Tom og Huck?
a) De er brødre.
b) De er gode venner.
c) De kjenner nesten ikke hverandre.
d) De liker ikke hverandre.
10) Hvilket ord beskriver Jim best
a) Dum
b) Overtroisk
c) Morsom
d) Engstelig
11) Hvorfor liker svarte mennesker å høre på Jims fortellinger? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Tom og Huck er lei av å gå på skole og vil rømme fra enken.
b) Tom og Huck lister seg ut fordi de vil danne en gjeng.
c) Tom og Huck tilbringer hele dagen med å lure Jim.
d) Tom og Huck møter Jim som forteller dem en historie om spøkelser.
13) Hvor finner historien sted? Nevn et land eller en region i verden.
14) Hva slags historie tror du dette er?
a) fantasy
b) spenningshistorie
c) krim
d) biografi

## Les denne teksten nøye og svar på spørsmålene så godt du kan. Les instruksjonene nøye.

## Pap Comes to Town

The next morning, the Widow Douglas was very angry at me because of my dirty clothes. So I decided to be good. I went out with the Tom Sawyer Gang for about a month, but we never robbed anybody and we never killed anybody. We only played. After a time I stopped going to the meetings. The other boys stopped going, too.

Three or four months went past and it was winter time. The Widow sent me to school every day. I could spell and read and write a little. They wanted to teach me numbers, but I didn't like them and I didn't learn very much.

At first I hated school, but after that it was OK. When I got really bored with it, I didn't go. The teacher hit me the next day, but I didn't mind. Soon I even liked living with the Widow. Sometimes I still slept in the woods, but most of the time I liked sleeping in a bed.

I didn't know where Pap was. Pap's my dad. He came to town sometimes. I always hid in the woods when he came to town. One day, I heard that he was dead. But you could never be sure about Pap.

One morning, I was going to school. When I saw some footprints in the snow in front of the house, I looked closely at them. There was a small cross on the left foot. That was Pap's shoe! The cross was there because it kept away bad luck.

I thought, 'If Pap's here, I'm in trouble. He probably wants my gold.'
So I ran to the Judge's house.
'Do you still have my $\$ 6,000$ of gold?' I asked.
'I do,' he answered. 'Do you want it?'
'No, sir!' I said. 'I don't want it! I want you to have it. I want to give it to you!'
The Judge looked surprised. I said, 'Don't ask me any questions about it. You just keep the gold.'

He thought about this for a minute. He didn't know Pap was in town. But he was a smart man and he understood. 'I'll buy your gold from you,' he said. 'r'll give you one dollar for it.'

I agreed, and I signed a piece of paper. He gave me my dollar and I left.


That night, I went to bed early. When I opened my bedroom door, there was Pap! He was sitting on my bed.

Pap was almost fifty years old. He had long, dirty black hair. His face was white-like a ghost. But he wasn't dead. He looked at me and said, 'You think you're a big man now, boy. And people say you can read and write, too.' I didn't say anything. Then he said, 'I can't read or write. Your mother couldn't read or write. So why do you need it?'
'I have to go to school,' I told him. 'The Widow sends me.'
But he was angry and didn't want to listen to me. He asked me about my gold.
'I don't have any gold,' I said. 'I sold it to the Judge for a dollar.'
Then he got really angry. 'I'll talk to the Judge in the morning,' he said. He took my dollar and left.

Things were OK after that. I didn't see Pap again until the spring. Then he took me away from the Widow. He took me three miles up the river in a boat.


On the other side of the river, he had a cabin. He kept me there and I couldn't leave. Before bed, he always locked the door and put the key under his head.
'I don't want you to run away in the night,' he said.
Sometimes he went away, but he always locked the door. He had a gun, too, and he kept it near him. So there was nothing that I could do.

I lived in the cabin with Pap for two months and I started to like it there. I didn't have to go to school, so I went hunting and fishing and swimming.

But sometimes Pap got angry and hit me. I didn't like that. Then he started hitting me all the time. Sometimes he went away and locked me in the cabin for two or three days. Then I got really lonely. So I decided that I had to escape.

I tried everything, but I couldn't get out of the cabin. I couldn't get through the small window and I couldn't break the door. I looked everywhere for a way out.

Then one day, when Pap was in town, I found an old knife in the roof. Pap didn't know it was there. So I went under the bed and I started to cut a hole in the wall. It took a long time. I was almost finished when I heard a gunshot in the woods. It was Pap's gun! He was coming home. I stopped, hid my knife and waited.

Pap sent me to the river to catch some fish for dinner. I could see that the water was getting higher. This always happened in the spring and it was always fun. Things fell in the river. You could keep anything that you found. Sometimes I found big pieces of wood and I sold them to a man in town.

That day I was lucky. I looked up the river and saw a canoe. I jumped in the river and swam over to it. There was nobody in it, so I got in. I paddled back to the riverside and hid it in the trees.

The next day, Pap went to town again, so I finished cutting the hole in the wall. Now I could escape! I didn't want him to follow me. So I broke down the door of the cabin from outside. Then I went into the woods and found a wild pig. I caught it and killed it with my knife. I took the pig back to the cabin and put its blood on the ground. There was blood everywhere. I put the pig in a big bag with some rocks. Then I pulled the bag to the river. There was blood from the cabin to the river. When I threw the bag into the river, it went all the way down to the bottom.
'Everybody will think I was killed by robbers,' I thought happily. 'And they threw me in the river.'

Then I put some food in my canoe and paddled away.

1) Når Huck bor hos enken...
a) deler Huck et rom med andre barn.
b) sover han på samme rom som enken.
c) deler han et rom med Jim.
d) Har han et eget rom.
2) Hucks far...
a) overbeviste Huck til å bo med ham utenfor byen.
b) tok Huck med seg fordi Huck ikke ville gå på skolen lengre.
c) bortførte Huck og tok ham til et gammelt hus utenfor byen.
d) en dag fant Huck hjemme hos seg fordi Huck hadde rømt fra enken.
3) Når Huck bor hos faren sin bruker han tiden sin til å ...(kort svar)
4) Mens Huck bor sammen med faren $\sin .$. .
a) møter han mange mennesker.
b) møter han aldri noen.
c) må han dra til byen for å møte andre mennesker.
d) møtes han med Tom når de begge klarer å liste seg ut.
5) Huck klarte å flykte fordi han... (kort svar)
6) Huck forsikret seg at han ikke ble forfulgt ved å.
a) låse faren inn i hytta.
b) synke båten til faren sin.
c) late som at han var blitt drept.
d) legge ut feil spor.
7) Hvilke av de følgende setninger om faren til Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han er overtroisk.
b) Han er velutdannet.
c) Han er grådig.
d) Han er ensom.
8) Hvilke av de følgende setninger om Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han liker friheten sin.
b) Han er smart.
c) Han er rik.
d) Han gir opp fort.
9) Huck syns at dommeren er smart fordi...
$\qquad$
10) Huck har ikke kontakt med mora si fordi...(kort svar)
$\qquad$
11) Hva føler Huck om faren sin?
a) Han savner ham.
b) Han er redd for ham.
c) Han er glad i ham.
d) Han er sint på ham.
12) Hvilken setning beskriver best hva som skjer i dette avsnittet?
a) Hucks far ønsket å ta Huck bort fra hvor han bor men klarte det ikke.
b) Huck drar med faren sin fordi han heller vil jakte og fiske hele tiden.
c) Hucks far tar ham bort fra hvor han bor men Huck klarer å flykte.
d) Huck leter etter faren $\sin$ og finner ham til slutt utenfor byen.
13) Hvordan tror du historien fortsetter?
a) Huck går tilbake til enken.
b) Huck drar til dommeren for å fortelle ham hva som har skjedd
c) Huck drar ikke tilbake til enken fordi han er redd for faren sin.
d) Hucks far klarer å få tak i Huck igjen.
14) Teksten er skrevet iførste person entall fordi...
a) Alle disse tingene skjedde med Huck og han bare skrev dem ned.
b) Det gjør det mer interessant og troverdig for leseren.
c) Dette er sånn alle historier er skrevet.
d) Huck fortalte det til noen som skrev det ned slik han fortalte det.

Til den neste teksten er det en lydfil. Du kan bestemme selv om du ønsker å lese teksten først, lytte til den først, eller lytte og lese samtidig. Du kan lytte til teksten så ofte du ønsker.

## Oliver Asks for More

Among other buildings in a town in England, there was a house for poor people who had no money and nowhere to live. This was called the workhouse.

Oliver Twist was born in the workhouse. His mother, a young woman, lay ill in bed. A doctor and an old woman stood by her side. She lifted her head from the pillow.
'Let me see the child and die,' she said.
'Oh, you mustn't talk about dying yet,' said the doctor.
'No, dear,' said the old woman. 'You are too young to die.'
The young woman shook her head and held out her hand towards the child.
The doctor put the child in her arms. She pressed her cold white lips to its face, and then fell back.
'She is dead,' said the doctor.
'Yes, poor dear,' said the old woman, as she took the child away from its dead mother. 'Poor dear.'
'She was a good-looking girl,' said the doctor, as he put on his hat and gloves. 'Where did she come from?'
'She was brought here last night,' said the old woman. 'She was lying in the street. She had walked a long way and her shoes had holes in them. Nobody knows where she came from, or where she was going to.'

The doctor raised the dead woman's left hand.
'The usual story,' he said. 'I see that she has no ring on her finger. She wasn't married. Good night!'

He went home to his dinner. The old woman sat down on a chair in front of the fire and began to dress the baby. She dressed him in the very old clothes used for babies who were born in the workhouse. The child was an orphan, born into a world which had no love or pity for him.

No one was able to discover who the baby's father was, or what his mother's name was. Mr Bumble, an important officer in the town, invented a name for the baby. He chose the name Oliver Twist.
'We name the new babies here in order from A to $Z$,' he explained when people asked. 'I named the last one Swubble. This one is Twist. The next one will be Unwin.'

At the age of nine, Oliver was a pale, thin child. He and the other workhouse boys never had enough warm clothes or food. They were given only three meals of thin soup every day. On Sundays they had a small piece of bread.

They were fed in a big hall. A large pot stood at one end of the room, and the soup was served by the master. Each boy had one small bowl of soup and no more. The bowls never needed washing, because the boys cleaned them with their spoons until they shone.

One day Oliver and his friends decided that one boy would walk up to the master after supper and ask for more soup. Oliver was chosen.

In the evening, the boys sat down at the tables. The master stood by the pot, and the soup was served. It disappeared quickly. The boys whispered and made signs to Oliver. He stood up from the table and went to the master, with his bowl and spoon in his hands.
'Please, sir,' he said, 'I want some more.'
The master was a fat, healthy man, but he went very pale. He looked with surprise at the small boy.
'What?' said the master at last in a quiet voice.
'Please, sir,' repeated Oliver, 'I want some more.'
The master hit Oliver with his spoon, then seized him and cried for help. Mr Bumble rushed into the room, and the master told him what Oliver had said.
'He asked for more?' Mr Bumble cried. 'I cannot believe it. One day they will hang the boy.'

He took Oliver away and shut him in a dark room. The next morning a notice appeared on the workhouse gate. Five pounds were offered to anybody who would take Oliver Twist.

Oliver was a prisoner in that cold, dark room for a whole week. Every morning he was taken outside to wash, and Mr Bumble beat him with a stick. Then he was taken into the large hall where the boys had their soup. Mr Bumble beat him in front of everybody. He cried all day. When night came he tried to sleep, but he was cold, lonely and frightened.

But one day, outside the high workhouse gate, Mr Bumble met Mr Sowerberry. Mr Sowerberry was a tall, thin man who wore black clothes and made coffins. Many of his coffins were for the poor people who died in the workhouse.
'I have prepared the coffins for the two women who died last night,' he said to Mr Bumble.
'Good,' said Mr Bumble. 'You will be rich one day, Mr Sowerberry! Do you know anybody who wants a boy? And five pounds?' He raised his stick and pointed to the notice on the gate.

1) Hvilke av de følgende setninger om Olivers mor er riktige? Det er mulig at flere er sanne eller at ingen er sann.
a) Hun var ung.
b) Mannen hennes var død.
c) Hun var gravid når hun kom til London.
d) Hun var vakker.
2) Oliver er et tynt barn fordi...( kort svar)
3) Mesteren ble sint på Oliver fordi...
a) Oliver tar mat fra en av de andre guttene.
b) Oliver vasker ikke suppebollen sin.
c) Oliver ber om mer suppe.
d) Oliver vil ha mer enn de andre guttene.
4) Hvilken av de følgende setninger stemmer?
a) De andre guttene ble sinte på Oliver.
b) Mesteren slo Oliver.
c) Mesteren sendte Oliver til rommet sitt.
d) Mesteren var lei at han skrek til Oliver.
e) Mesteren $\emptyset$ nsket å selge Oliver.
5) Hvor lenge må Oliver være på et mørkt sted? (kort svar)
$\qquad$
6) Oliver kommer ut av det mørket rommet for ...
a) å møte vennene sine.
b) å bli slått med en kjepp.
c) a arbeide i fattighuset.
d) å hjelpe mesteren servere suppe.
7) Olivers mor hadde rømt fordi ...
a) Noen hadde behandlet henne veldig dårlig.
b) Hun var gravid uten å være gift.
c) Hun var en lovbryter.
d) Noen hadde truet Oliver.
8) Guttene bestemte seg for at bare en av dem skulle spørre etter å få mer suppe fordi ...(kort svar)
9) Hva får vi vite om mesteren?
a) Han liker guttene men er streng med dem.
b) Han får mer å spise enn guttene.
c) Han behandler guttene bra.
d) Han deler maten sin med guttene.
10) Mesteren behandler Oliver dårlig fordi...
a) han er veldig sint mot Oliver.
b) han vil skremme de andre guttene.
c) han tenker de andre guttene ville like det.
d) han ble fortalt å gjøre det.
11)I teksten står det:»Mr Sowerberry was a tall thin man who wore black clothes and made coffins. Many of the coffins were for the poor people who died in the workhouse."

Hvorfor tror du er det sånn? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Olivers mor sørger for at Oliver vokser opp på fattighuset fordi der vil han bli tatt godt vare på.
b) Oliver vokser opp på fattighuset og kommer i trøbbel fordi han gjør mesteren sint.
c) Oliver vokser opp på fattighuset og kommer i trøbbel med de andre guttene fordi han ikke vil dele.
d) Oliver er født på fattighuset men sendes vekk fordi han spiser for mye.
13) Hvilke av de følgende setninger om denne teksten er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Den forteller oss hvordan livet er for barn nå for tida.
b) Den forteller oss hvordan livet var for barn før i tida.
c) Den forteller oss at voksne er alltid slemme mot barn.
d) Den forteller oss hva Oliver skulle har gjort annerledes.
14) Teksten er et utklipp fra en roman. Hvor i romanen tror du at vi finner tekstutklippet?
a) Ved slutten
b) I midten
c) Nesten ved slutten
d) I begynnelsen

Nå er du nesten ferdig! Det finnes noen siste spørsmål om hvordan du opplevde denne lesetesten.

1) Bildene i teksten hjalp meg å forstå teksten.
Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
2) Bildene i teksten hjalp meg med å finne svar på spørsmålene.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
3) Bildene i teksten forvirret meg.
Helt uenig
( )
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4) Jeg foretrekker å forestille meg personene og omgivelsene i en historie selv.
Helt uenig
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( ) Helt enig
5) Lydfilen hjalp meg med å forstå teksten.
Helt uenig
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Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig

## Tusen takk for hjelpen!

## Les denne teksten nøye og svar på spørsmålene så godt du kan. Les instruksjonene nøye.

## The Tom Sawyer Gang

You don't know me if you haven't read The Adventures of Tom Sawyer. Mr. Mark Twain wrote that book, and most of it was true. Some things weren't exactly true, but everybody lies sometimes. Maybe not Tom's Aunt Polly or the Widow Douglas, though. They were in that other book.

The book ended like this. Tom and I found some money in a cave and it made us rich. We got $\$ 6,000$ each-in gold! That's a lot of money. So we gave it to Judge Thatcher to keep it safe.

The Widow Douglas made me her son. 'I'll teach you to be polite,' she said.
But I didn't want to be polite. I didn't like living in a house all the time. She even dressed me in nice clothes, but I really didn't like them. So one night I put on my old clothes and ran away.

But Tom Sawyer found me. He said, 'I'm going to start a gang of robbers. If you go live with the Widow again, you can join the gang.'

So I went back.
When I got home, the Widow cried with happiness. She kissed me and said, 'My poor lost baby has come home.' I didn't like that, but she meant it in a nice way.

Then it all started again. I had to sleep in a bed and I had to wear new clothes. I even had to be polite at dinner.

One night, I went to my room, feeling really lonely. Then I heard something. It sounded like a cat: 'Me-yow, me-yow.' I went to the window and looked down. It was Tom, waiting for me.


I climbed out the window to meet him. We went toward the trees in the Widow's backyard. We had to be very quiet. But when we passed the kitchen, I fell. The Widow's old slave Jim heard the noise and said: 'Who's that?'

He listened carefully, but we didn't say anything. Then he came out into the backyard. He stood very near us. But we were very quiet, so he never saw us.

Then my foot began to itch, but I couldn't move-I didn't want him to hear me. The itch moved to my ear. Next, it moved to my back, right between my shoulders. This happens a lot. When I have to be quiet, I start to itch in a thousand places.

Soon Jim said, 'Hey, where are you? Who's there? I know I heard something. I'm going to sit right here until you come out.'

And he sat down between me and Tom, but still he didn't see us. He sat against a tree and waited.

My nose began to itch. Then I scarred to itch on the inside! I itched in eleven different places now. But then Jim fell asleep, and all my itches stopped.

Tom came to me very quietly. 'Let's tie Jim to the tree, just for fun,' he said.
'That's too dangerous,' I said.
So then Tom went to Jim really carefully. He didn't want Jim to wake up. He took Jim's hat and hung it in the tree above his head. Then Tom and I ran as fast as we could into the woods.

The next day, Jim told everybody the story. 'Ghosts put me to sleep,' he said. 'They picked me up and rook me all over the state of Missouri. And then they brought me back, and hung my hat in the tree.'

Later, when he told the story again, 'all over the state of Missouri' changed to 'all over the USA.' The next time, it was 'all over the world.' Jim loved to tell stories, and people loved to hear them, too. Black people walked for miles to hear his story of the ghosts. When we left Jim, he was still asleep. We ran all the way to town and found some other boys.


Then we all followed Tom to his secret hiding place. There was a small hole in a hill and we climbed through, into a big cave. Tom told everybody about his gang of robbers. 'We'll call it Tom Sawyer's Gang,' he said, 'and this will be our hiding place."

We all had to sign our names in blood. We also promised not to tell anybody about the gang.

Tom said, 'If anybody tells, the gang will kill his family.'
'Then Huck can't join because he doesn't have a family' somebody said.
'You can kill the Widow. She's almost my family,' I suggested.
Everybody thought that was a good idea. So I joined the gang.
Then somebody asked, 'What do robbers do?'
Tom said, 'They steal things, of course. And they ransom people.'
'Ransom? 'What does that mean?'
'I don't know,' said Tom. 'But robbers do it—I read it in a book. So we've got to do it. We have to bring prisoners to the cave and ransom them. Then we kill the men. But we keep the women until they fall in love with us.'

I said, 'Soon we'll have a cave full of women. There won't be any room for us robbers.'
But we all agreed to be robbers.
'You can go home now,' Tom told us. 'We'll meet next week. Then we can rob somebody and kill some people.'

So we all went home.
I climbed in my bedroom window just before the sun came up. My new clothes were all dirty but I was very tired. I couldn't worry about that.

1) Når møtes guttene? (kort svar)
2) Hvor gammel er Jim?
a) Han er et barn på same alder som Huck og Tom.
b) Han er en voksen man.
c) Han er yngre en Tom og Huck.
d) Vi vet ikke.
3) Hvor satte Jim seg ned?
a) På trappene til huset
b) Ved siden av et tre
c) Han lente seg mot et tre
d) På en benk i hagen.
4) Hva tror du gutten føler når de dra til byen?
a) De er redde.
b) De angrer seg.
c) De er spente.
d) De kjeder seg litt.
5) Hvem møter guttene i byen? (kort svar)
$\qquad$
6) Hvor drar de når de er i byen?
a) Til en gammel låve.
b) Til en hule.
c) Til et tomt hus.
d) Til elva.
7) Hvem forteller denne historien?
a) Mark Twain
b) Huck Finn
c) Tom Sawyer
d) Noen vi ikke skjenner
8) Tom plasserer hatten til Jim fordi han...(kort svar)
9) Hva kan du si om relasjonen mellom Tom og Huck?
a) De er brødre.
b) De er gode venner.
c) De kjenner nesten ikke hverandre.
d) De liker ikke hverandre.
10) Hvilket ord beskriver Jim best
a) Dum
b) Overtroisk
c) Morsom
d) Engstelig
11) Hvorfor liker svarte mennesker å høre på Jims fortellinger? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Tom og Huck er lei av å gå på skole og vil rømme fra enken.
b) Tom og Huck lister seg ut fordi de vil danne en gjeng.
c) Tom og Huck tilbringer hele dagen med å lure Jim.
d) Tom og Huck møter Jim som forteller dem en historie om spøkelser.
13) Hvor finner historien sted? Nevn et land eller en region i verden.
14) Hva slags historie tror du dette er?
a) fantasy
b) spenningshistorie
c) krim
d) biografi

Til den neste teksten er det en lydfil. Du kan bestemme selv om du ønsker å lese teksten først, lytte til den først, eller lytte og lese samtidig. Du kan lytte til teksten så ofte du onsker.

## Pap Comes to Town

The next morning, the Widow Douglas was very angry at me because of my dirty clothes. So I decided to be good. I went out with the Tom Sawyer Gang for about a month, but we never robbed anybody and we never killed anybody. We only played. After a time I stopped going to the meetings. The other boys stopped going, too.

Three or four months went past and it was winter time. The Widow sent me to school every day. I could spell and read and write a little. They wanted to teach me numbers, but I didn't like them and I didn't learn very much.

At first I hated school, but after that it was OK. When I got really bored with it, I didn't go. The teacher hit me the next day, but I didn't mind. Soon I even liked living with the Widow. Sometimes I still slept in the woods, but most of the time I liked sleeping in a bed.

I didn't know where Pap was. Pap's my dad. He came to town sometimes. I always hid in the woods when he came to town. One day, I heard that he was dead. But you could never be sure about Pap.

One morning, I was going to school. When I saw some footprints in the snow in front of the house, I looked closely at them. There was a small cross on the left foot. That was Pap's shoe! The cross was there because it kept away bad luck.

I thought, 'If Pap's here, I'm in trouble. He probably wants my gold.'
So I ran to the Judge's house.
'Do you still have my $\$ 6,000$ of gold?' I asked.
'I do,' he answered. 'Do you want it?'
'No, sir!' I said. 'I don't want it! I want you to have it. I want to give it to you!'
The Judge looked surprised. I said, ‘Don't ask me any questions about it. You just keep the gold.'

He thought about this for a minute. He didn't know Pap was in town. But he was a smart man and he understood. 'I'll buy your gold from you,' he said. 'I'll give you one dollar for it.'

I agreed, and I signed a piece of paper. He gave me my dollar and I left.

That night, I went to bed early. When I opened my bedroom door, there was Pap! He was sitting on my bed.

Pap was almost fifty years old. He had long, dirty black hair. His face was white-like a ghost. But he wasn't dead. He looked at me and said, 'You think you're a big man now, boy. And people say you can read and write, too.' I didn't say anything. Then he said, 'I can't read or write. Your mother couldn't read or write. So why do you need it?'
'I have to go to school,' I told him. 'The Widow sends me.'
But he was angry and didn't want to listen to me. He asked me about my gold.
'I don't have any gold,' I said. 'I sold it to the Judge for a dollar.'
Then he got really angry. 'I'll talk to the Judge in the morning,' he said. He took my dollar and left.

Things were OK after that. I didn't see Pap again until the spring. Then he took me away from the Widow. He took me three miles up the river in a boat.

On the other side of the river, he had a cabin. He kept me there and I couldn't leave. Before bed, he always locked the door and put the key under his head.
'I don't want you to run away in the night,' he said.
Sometimes he went away, but he always locked the door. He had a gun, too, and he kept it near him. So there was nothing that I could do.

I lived in the cabin with Pap for two months and I started to like it there. I didn't have to go to school, so I went hunting and fishing and swimming.

But sometimes Pap got angry and hit me. I didn't like that. Then he started hitting me all the time. Sometimes he went away and locked me in the cabin for two or three days. Then I got really lonely. So I decided that I had to escape.

I tried everything, but I couldn't get out of the cabin. I couldn't get through the small window and I couldn't break the door. I looked everywhere for a way out.

Then one day, when Pap was in town, I found an old knife in the roof. Pap didn't know it was there. So I went under the bed and I started to cut a hole in the wall. It took a long time. I was almost finished when I heard a gunshot in the woods. It was Pap's gun! He was coming home. I stopped, hid my knife and waited.

Pap sent me to the river to catch some fish for dinner. I could see that the water was getting higher. This always happened in the spring and it was always fun. Things fell in the river.

You could keep anything that you found. Sometimes I found big pieces of wood and I sold them to a man in town.

That day I was lucky. I looked up the river and saw a canoe. I jumped in the river and swam over to it. There was nobody in it, so I got in. I paddled back to the riverside and hid it in the trees.

The next day, Pap went to town again, so I finished cutting the hole in the wall. Now I could escape! I didn't want him to follow me. So I broke down the door of the cabin from outside. Then I went into the woods and found a wild pig. I caught it and killed it with my knife. I took the pig back to the cabin and put its blood on the ground. There was blood everywhere. I put the pig in a big bag with some rocks. Then I pulled the bag to the river. There was blood from the cabin to the river. When I threw the bag into the river, it went all the way down to the bottom.
'Everybody will think I was killed by robbers,' I thought happily. 'And they threw me in the river.'

Then I put some food in my canoe and paddled away.

1) Når Huck bor hos enken...
a) deler Huck et rom med andre barn.
b) sover han på samme rom som enken.
c) deler han et rom med Jim.
d) Har han et eget rom.
2) Hucks far...
a) overbeviste Huck til å bo med ham utenfor byen.
b) tok Huck med seg fordi Huck ikke ville gå på skolen lengre.
c) bortførte Huck og tok ham til et gammelt hus utenfor byen.
d) en dag fant Huck hjemme hos seg fordi Huck hadde rømt fra enken.
3) Når Huck bor hos faren sin bruker han tiden sin til å ...(kort svar)
4) Mens Huck bor sammen med faren $\sin .$. .
a) møter han mange mennesker.
b) møter han aldri noen.
c) må han dra til byen for å møte andre mennesker.
d) møtes han med Tom når de begge klarer å liste seg ut.
5) Huck klarte å flykte fordi han... (kort svar)
6) Huck forsikret seg at han ikke ble forfulgt ved å.
a) låse faren inn i hytta.
b) synke båten til faren sin.
c) late som at han var blitt drept.
d) legge ut feil spor.
7) Hvilke av de følgende setninger om faren til Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han er overtroisk.
b) Han er velutdannet.
c) Han er grådig.
d) Han er ensom.
8) Hvilke av de følgende setninger om Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han liker friheten sin.
b) Han er smart.
c) Han er rik.
d) Han gir opp fort.
9) Huck syns at dommeren er smart fordi...
$\qquad$
10) Huck har ikke kontakt med mora si fordi...(kort svar)
$\qquad$
11) Hva føler Huck om faren sin?
a) Han savner ham.
b) Han er redd for ham.
c) Han er glad i ham.
d) Han er sint på ham.
12) Hvilken setning beskriver best hva som skjer i dette avsnittet?
a) Hucks far ønsket å ta Huck bort fra hvor han bor men klarte det ikke.
b) Huck drar med faren sin fordi han heller vil jakte og fiske hele tiden.
c) Hucks far tar ham bort fra hvor han bor men Huck klarer å flykte.
d) Huck leter etter faren $\sin$ og finner ham til slutt utenfor byen.
13) Hvordan tror du historien fortsetter?
a) Huck går tilbake til enken.
b) Huck drar til dommeren for å fortelle ham hva som har skjedd
c) Huck drar ikke tilbake til enken fordi han er redd for faren sin.
d) Hucks far klarer å få tak i Huck igjen.
14) Teksten er skrevet i første person entall fordi...
a) Alle disse tingene skjedde med Huck og han bare skrev dem ned.
b) Det gjør det mer interessant og troverdig for leseren.
c) Dette er sånn alle historier er skrevet.
d) Huck fortalte det til noen som skrev det ned slik han fortalte det.

Les nå den neste teksten nøye og svar på spørsmålene så godt du kan. Les instruksjonene nøye.

## Oliver Asks for More

Among other buildings in a town in England, there was a house for poor people who had no money and nowhere to live. This was called the workhouse.

Oliver Twist was born in the workhouse. His mother, a young woman, lay ill in bed. A doctor and an old woman stood by her side. She lifted her head from the pillow.
'Let me see the child and die,' she said.
'Oh, you mustn't talk about dying yet,' said the doctor.
'No, dear,' said the old woman. 'You are too young to die.'
The young woman shook her head and held out her hand towards the child.
The doctor put the child in her arms. She pressed her cold white lips to its face, and then fell back.
'She is dead,' said the doctor.
'Yes, poor dear,' said the old woman, as she took the child away from its dead mother. 'Poor dear.'
'She was a good-looking girl,' said the doctor, as he put on his hat and gloves. 'Where did she come from?'
'She was brought here last night,' said the old woman. 'She was lying in the street. She had walked a long way and her shoes had holes in them. Nobody knows where she came from, or where she was going to.'

The doctor raised the dead woman's left hand.
'The usual story,' he said. 'I see that she has no ring on her finger. She wasn't married. Good night!'

He went home to his dinner. The old woman sat down on a chair in front of the fire and began to dress the baby. She dressed him in the very old clothes used for babies who were born in the workhouse. The child was an orphan, born into a world which had no love or pity for him.

No one was able to discover who the baby's father was, or what his mother's name was. Mr Bumble, an important officer in the town, invented a name for the baby. He chose the name Oliver Twist.
'We name the new babies here in order from A to $Z$,' he explained when people asked. 'I named the last one Swubble. This one is Twist. The next one will be Unwin.'

At the age of nine, Oliver was a pale, thin child. He and the other workhouse boys never had enough warm clothes or food. They were given only three meals of thin soup every day. On Sundays they had a small piece of bread.

They were fed in a big hall. A large pot stood at one end of the room, and the soup was served by the master. Each boy had one small bowl of soup and no more. The bowls never needed washing, because the boys cleaned them with their spoons until they shone.

One day Oliver and his friends decided that one boy would walk up to the master after supper and ask for more soup. Oliver was chosen.

In the evening, the boys sat down at the tables. The master stood by the pot, and the soup was served. It disappeared quickly. The boys whispered and made signs to Oliver. He stood up from the table and went to the master, with his bowl and spoon in his hands.
'Please, sir,' he said, 'I want some more.'
The master was a fat, healthy man, but he went very pale. He looked with surprise at the small boy.
'What?' said the master at last in a quiet voice.
'Please, sir,' repeated Oliver, 'I want some more.'
The master hit Oliver with his spoon, then seized him and cried for help. Mr Bumble rushed into the room, and the master told him what Oliver had said.

[^2]1) Hvilke av de følgende setninger om Olivers mor er riktige? Det er mulig at flere er sanne eller at ingen er sann.
a) Hun var ung.
b) Mannen hennes var død.
c) Hun var gravid når hun kom til London.
d) Hun var vakker.
2) Oliver er et tynt barn fordi...( kort svar)
3) Mesteren ble sint på Oliver fordi...
a) Oliver tar mat fra en av de andre guttene.
b) Oliver vasker ikke suppebollen sin.
c) Oliver ber om mer suppe.
d) Oliver vil ha mer enn de andre guttene.
4) Hvilken av de følgende setninger stemmer?
a) De andre guttene ble sinte på Oliver.
b) Mesteren slo Oliver.
c) Mesteren sendte Oliver til rommet sitt.
d) Mesteren var lei at han skrek til Oliver.
e) Mesteren $\emptyset$ nsket å selge Oliver.
5) Hvor lenge må Oliver være på et mørkt sted? (kort svar)
$\qquad$
6) Oliver kommer ut av det mørket rommet for ...
a) å møte vennene sine.
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c) å arbeide i fattighuset.
d) å hjelpe mesteren servere suppe.
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a) Noen hadde behandlet henne veldig dårlig.
b) Hun var gravid uten å være gift.
c) Hun var en lovbryter.
d) Noen hadde truet Oliver.
8) Guttene bestemte seg for at bare en av dem skulle spørre etter å få mer suppe fordi ...(kort svar)
9) Hva får vi vite om mesteren?
a) Han liker guttene men er streng med dem.
b) Han får mer å spise enn guttene.
c) Han behandler guttene bra.
d) Han deler maten sin med guttene.
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c) han tenker de andre guttene ville like det.
d) han ble fortalt å gjøre det.
11) I teksten står det:»Mr Sowerberry was a tall thin man who wore black clothes and made coffins. Many of the coffins were for the poor people who died in the workhouse."

Hvorfor tror du er det sånn? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Olivers mor sørger for at Oliver vokser opp på fattighuset fordi der vil han bli tatt godt vare på.
b) Oliver vokser opp på fattighuset og kommer i trøbbel fordi han gjør mesteren sint.
c) Oliver vokser opp på fattighuset og kommer i trøbbel med de andre guttene fordi han ikke vil dele.
d) Oliver er født på fattighuset men sendes vekk fordi han spiser for mye.
13) Hvilke av de følgende setninger om denne teksten er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Den forteller oss hvordan livet er for barn nå for tida.
b) Den forteller oss hvordan livet var for barn før i tida.
c) Den forteller oss at voksne er alltid slemme mot barn.
d) Den forteller oss hva Oliver skulle har gjort annerledes.
14) Teksten er et utklipp fra en roman. Hvor i romanen tror du at vi finner tekstutklippet?
a) Ved slutten
b) I midten
c) Nesten ved slutten
d) I begynnelsen

Nå er du nesten ferdig! Det finnes noen siste spørsmål om hvordan du opplevde denne lesetesten.

1) Bildene i teksten hjalp meg å forstå teksten.
Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
2) Bildene i teksten hjalp meg med å finne svar på spørsmålene.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
3) Bildene i teksten forvirret meg.
Helt uenig (
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4) Jeg foretrekker å forestille meg personene og omgivelsene i en historie selv.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
5) Lydfilen hjalp meg med å forstå teksten.
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( ) Helt enig
8) Jeg foretrekker å lese selv framfor at noen leser til meg.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig

## Tusen takk for hjelpen!

Kode:

Til denne teksten er det en lydfil. Du kan bestemme selv om du ønsker å lese teksten først, lytte til den først, eller lytte og lese samtidig. Du kan lytte til teksten så ofte du ønsker.

## The Tom Sawyer Gang

You don't know me if you haven't read The Adventures of Tom Sawyer. Mr. Mark Twain wrote that book, and most of it was true. Some things weren't exactly true, but everybody lies sometimes. Maybe not Tom's Aunt Polly or the Widow Douglas, though. They were in that other book.

The book ended like this. Tom and I found some money in a cave and it made us rich. We got $\$ 6,000$ each-in gold! That's a lot of money. So we gave it to Judge Thatcher to keep it safe.

The Widow Douglas made me her son. 'I'll teach you to be polite,' she said.
But I didn't want to be polite. I didn't like living in a house all the time. She even dressed me in nice clothes, but I really didn't like them. So one night I put on my old clothes and ran away.

But Tom Sawyer found me. He said, 'I'm going to start a gang of robbers. If you go live with the Widow again, you can join the gang.'

So I went back.
When I got home, the Widow cried with happiness. She kissed me and said, 'My poor lost baby has come home.' I didn't like that, but she meant it in a nice way.

Then it all started again. I had to sleep in a bed and I had to wear new clothes. I even had to be polite at dinner.

One night, I went to my room, feeling really lonely. Then I heard something. It sounded like a cat: 'Me-yow, me-yow.' I went to the window and looked down. It was Tom, waiting for me.

I climbed out the window to meet him. We went toward the trees in the Widow's backyard. We had to be very quiet. But when we passed the kitchen, I fell. The Widow's old slave Jim heard the noise and said: 'Who's that?'

He listened carefully, but we didn't say anything. Then he came out into the backyard. He stood very near us. But we were very quiet, so he never saw us.

Then my foot began to itch, but I couldn't move-I didn't want him to hear me. The itch moved to my ear. Next, it moved to my back, right between my shoulders. This happens a lot. When I have to be quiet, I start to itch in a thousand places.

Soon Jim said, 'Hey, where are you? Who's there? I know I heard something. I'm going to sit right here until you come out.'

And he sat down between me and Tom, but still he didn't see us. He sat against a tree and waited.

My nose began to itch. Then I scarred to itch on the inside! I itched in eleven different places now. But then Jim fell asleep, and all my itches stopped.

Tom came to me very quietly. 'Let's tie Jim to the tree, just for fun,' he said.
'That's too dangerous,' I said.
So then Tom went to Jim really carefully. He didn't want Jim to wake up. He took Jim's hat and hung it in the tree above his head. Then Tom and I ran as fast as we could into the woods.

The next day, Jim told everybody the story. 'Ghosts put me to sleep,' he said. 'They picked me up and rook me all over the state of Missouri. And then they brought me back, and hung my hat in the tree.'

Later, when he told the story again, 'all over the state of Missouri' changed to 'all over the USA.' The next time, it was 'all over the world.' Jim loved to tell stories, and people loved to hear them, too. Black people walked for miles to hear his story of the ghosts. When we left Jim, he was still asleep. We ran all the way to town and found some other boys.

Then we all followed Tom to his secret hiding place. There was a small hole in a hill and we climbed through, into a big cave. Tom told everybody about his gang of robbers. 'We'll call it Tom Sawyer's Gang,' he said, 'and this will be our hiding place."

We all had to sign our names in blood. We also promised not to tell anybody about the gang.

Tom said, 'If anybody tells, the gang will kill his family.'
'Then Huck can't join because he doesn't have a family' somebody said.
'You can kill the Widow. She's almost my family,' I suggested.
Everybody thought that was a good idea. So I joined the gang.
Then somebody asked, 'What do robbers do?'
Tom said, 'They steal things, of course. And they ransom people.'
'Ransom? 'What does that mean?'
'I don't know,' said Tom. 'But robbers do it—I read it in a book. So we've got to do it. We have to bring prisoners to the cave and ransom them. Then we kill the men. But we keep the women until they fall in love with us.'

I said, 'Soon we'll have a cave full of women. There won't be any room for us robbers.'
But we all agreed to be robbers.
'You can go home now,' Tom told us. 'We'll meet next week. Then we can rob somebody and kill some people.'

So we all went home.
I climbed in my bedroom window just before the sun came up. My new clothes were all dirty but I was very tired. I couldn't worry about that.

1) Når møtes guttene? (kort svar)
2) Hvor gammel er Jim?
a) Han er et barn på same alder som Huck og Tom.
b) Han er en voksen man.
c) Han er yngre en Tom og Huck.
d) Vi vet ikke.
3) Hvor satte Jim seg ned?
a) På trappene til huset
b) Ved siden av et tre
c) Han lente seg mot et tre
d) På en benk i hagen.
4) Hva tror du gutten føler når de dra til byen?
a) De er redde.
b) De angrer seg.
c) De er spente.
d) De kjeder seg litt.
5) Hvem møter guttene i byen? (kort svar)
$\qquad$
6) Hvor drar de når de er i byen?
a) Til en gammel låve.
b) Til en hule.
c) Til et tomt hus.
d) Til elva.
7) Hvem forteller denne historien?
a) Mark Twain
b) Huck Finn
c) Tom Sawyer
d) Noen vi ikke skjenner
8) Tom plasserer hatten til Jim fordi han...(kort svar)
9) Hva kan du si om relasjonen mellom Tom og Huck?
a) De er brødre.
b) De er gode venner.
c) De kjenner nesten ikke hverandre.
d) De liker ikke hverandre.
10) Hvilket ord beskriver Jim best
a) Dum
b) Overtroisk
c) Morsom
d) Engstelig
11) Hvorfor liker svarte mennesker å høre på Jims fortellinger? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Tom og Huck er lei av å gå på skole og vil rømme fra enken.
b) Tom og Huck lister seg ut fordi de vil danne en gjeng.
c) Tom og Huck tilbringer hele dagen med å lure Jim.
d) Tom og Huck møter Jim som forteller dem en historie om spøkelser.
13) Hvor finner historien sted? Nevn et land eller en region i verden.
14) Hva slags historie tror du dette er?
a) fantasy
b) spenningshistorie
c) krim
d) biografi

## Les nå neste teksten og prøv å svare på spørsmålene så godt du kan. Les instruksjonene

 nøye.
## Pap Comes to Town

The next morning, the Widow Douglas was very angry at me because of my dirty clothes. So I decided to be good. I went out with the Tom Sawyer Gang for about a month, but we never robbed anybody and we never killed anybody. We only played. After a time I stopped going to the meetings. The other boys stopped going, too.

Three or four months went past and it was winter time. The Widow sent me to school every day. I could spell and read and write a little. They wanted to teach me numbers, but I didn't like them and I didn't learn very much.

At first I hated school, but after that it was OK. When I got really bored with it, I didn't go. The teacher hit me the next day, but I didn't mind. Soon I even liked living with the Widow. Sometimes I still slept in the woods, but most of the time I liked sleeping in a bed.

I didn't know where Pap was. Pap's my dad. He came to town sometimes. I always hid in the woods when he came to town. One day, I heard that he was dead. But you could never be sure about Pap.

One morning, I was going to school. When I saw some footprints in the snow in front of the house, I looked closely at them. There was a small cross on the left foot. That was Pap's shoe! The cross was there because it kept away bad luck.

I thought, 'If Pap's here, I'm in trouble. He probably wants my gold.'
So I ran to the Judge's house.
'Do you still have my $\$ 6,000$ of gold?' I asked.
'I do,' he answered. 'Do you want it?'
'No, sir!' I said. 'I don't want it! I want you to have it. I want to give it to you!'
The Judge looked surprised. I said, 'Don't ask me any questions about it. You just keep the gold.'

He thought about this for a minute. He didn't know Pap was in town. But he was a smart man and he understood. 'I'll buy your gold from you,' he said. 'I'll give you one dollar for it.'

I agreed, and I signed a piece of paper. He gave me my dollar and I left.

That night, I went to bed early. When I opened my bedroom door, there was Pap! He was sitting on my bed.

Pap was almost fifty years old. He had long, dirty black hair. His face was white-like a ghost. But he wasn't dead. He looked at me and said, 'You think you're a big man now, boy. And people say you can read and write, too.' I didn't say anything. Then he said, 'I can't read or write. Your mother couldn't read or write. So why do you need it?'
'I have to go to school,' I told him. 'The Widow sends me.'
But he was angry and didn't want to listen to me. He asked me about my gold.
'I don't have any gold,' I said. 'I sold it to the Judge for a dollar.'
Then he got really angry. 'I'll talk to the Judge in the morning,' he said. He took my dollar and left.

Things were OK after that. I didn't see Pap again until the spring. Then he took me away from the Widow. He took me three miles up the river in a boat.

On the other side of the river, he had a cabin. He kept me there and I couldn't leave. Before bed, he always locked the door and put the key under his head.
'I don't want you to run away in the night,' he said.
Sometimes he went away, but he always locked the door. He had a gun, too, and he kept it near him. So there was nothing that I could do.

I lived in the cabin with Pap for two months and I started to like it there. I didn't have to go to school, so I went hunting and fishing and swimming.

But sometimes Pap got angry and hit me. I didn't like that. Then he started hitting me all the time. Sometimes he went away and locked me in the cabin for two or three days. Then I got really lonely. So I decided that I had to escape.

I tried everything, but I couldn't get out of the cabin. I couldn't get through the small window and I couldn't break the door. I looked everywhere for a way out.

Then one day, when Pap was in town, I found an old knife in the roof. Pap didn't know it was there. So I went under the bed and I started to cut a hole in the wall. It took a long time. I was almost finished when I heard a gunshot in the woods. It was Pap's gun! He was coming home. I stopped, hid my knife and waited.

Pap sent me to the river to catch some fish for dinner. I could see that the water was getting higher. This always happened in the spring and it was always fun. Things fell in the river. You could keep anything that you found. Sometimes I found big pieces of wood and I sold them to a man in town.

That day I was lucky. I looked up the river and saw a canoe. I jumped in the river and swam over to it. There was nobody in it, so I got in. I paddled back to the riverside and hid it in the trees.

The next day, Pap went to town again, so I finished cutting the hole in the wall. Now I could escape! I didn't want him to follow me. So I broke down the door of the cabin from outside. Then I went into the woods and found a wild pig. I caught it and killed it with my knife. I took the pig back to the cabin and put its blood on the ground. There was blood everywhere. I put the pig in a big bag with some rocks. Then I pulled the bag to the river. There was blood from the cabin to the river. When I threw the bag into the river, it went all the way down to the bottom.
'Everybody will think I was killed by robbers,' I thought happily. 'And they threw me in the river.'

Then I put some food in my canoe and paddled away.

1) Når Huck bor hos enken...
a) deler Huck et rom med andre barn.
b) sover han på samme rom som enken.
c) deler han et rom med Jim.
d) Har han et eget rom.
2) Hucks far...
a) overbeviste Huck til å bo med ham utenfor byen.
b) tok Huck med seg fordi Huck ikke ville gå på skolen lengre.
c) bortførte Huck og tok ham til et gammelt hus utenfor byen.
d) en dag fant Huck hjemme hos seg fordi Huck hadde rømt fra enken.
3) Når Huck bor hos faren sin bruker han tiden sin til å ...(kort svar)
4) Mens Huck bor sammen med faren $\sin .$. .
a) møter han mange mennesker.
b) møter han aldri noen.
c) må han dra til byen for å møte andre mennesker.
d) møtes han med Tom når de begge klarer å liste seg ut.
5) Huck klarte å flykte fordi han... (kort svar)
6) Huck forsikret seg at han ikke ble forfulgt ved å.
a) låse faren inn i hytta.
b) synke båten til faren sin.
c) late som at han var blitt drept.
d) legge ut feil spor.
7) Hvilke av de følgende setninger om faren til Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han er overtroisk.
b) Han er velutdannet.
c) Han er grådig.
d) Han er ensom.
8) Hvilke av de følgende setninger om Huck er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Han liker friheten sin.
b) Han er smart.
c) Han er rik.
d) Han gir opp fort.
9) Huck syns at dommeren er smart fordi...
$\qquad$
10) Huck har ikke kontakt med mora si fordi...(kort svar)
11) Hva føler Huck om faren sin?
a) Han savner ham.
b) Han er redd for ham.
c) Han er glad i ham.
d) Han er sint på ham.
12) Hvilken setning beskriver best hva som skjer i dette avsnittet?
a) Hucks far ønsket å ta Huck bort fra hvor han bor men klarte det ikke.
b) Huck drar med faren sin fordi han heller vil jakte og fiske hele tiden.
c) Hucks far tar ham bort fra hvor han bor men Huck klarer å flykte.
d) Huck leter etter faren sin og finner ham til slutt utenfor byen.
13) 
14) Hvordan tror du historien fortsetter?
a) Huck går tilbake til enken.
b) Huck drar til dommeren for å fortelle ham hva som har skjedd
c) Huck drar ikke tilbake til enken fordi han er redd for faren sin.
d) Hucks far klarer å få tak i Huck igjen.
15) Teksten er skrevet i første person entall fordi...
a) Alle disse tingene skjedde med Huck og han bare skrev dem ned.
b) Det gjør det mer interessant og troverdig for leseren.
c) Dette er sånn alle historier er skrevet.
d) Huck fortalte det til noen som skrev det ned slik han fortalte det.

Les nå den neste teksten nøye og svar på spørsmålene så godt du kan. Les instruksjonene nøye.

## Oliver Asks for More

Among other buildings in a town in England, there was a house for poor people who had no money and nowhere to live. This was called the workhouse.

Oliver Twist was born in the workhouse. His mother, a young woman, lay ill in bed. A doctor and an old woman stood by her side. She lifted her head from the pillow.
'Let me see the child and die,' she said.
'Oh, you mustn't talk about dying yet,' said the doctor.
'No, dear,' said the old woman. 'You are too young to die.'
The young woman shook her head and held out her hand towards the child.
The doctor put the child in her arms. She pressed her cold white lips to its face, and then fell back.
'She is dead,' said the doctor.
'Yes, poor dear,' said the old woman, as she took the child away from its dead mother. 'Poor dear.'
'She was a good-looking girl,' said the doctor, as he put on his hat and gloves. 'Where did she come from?'
'She was brought here last night,' said the old woman. 'She was lying in the street. She had walked a long way and her shoes had holes in them. Nobody knows where she came from, or where she was going to.'

The doctor raised the dead woman's left hand.
'The usual story,' he said. 'I see that she has no ring on her finger. She wasn't married. Good night!'

He went home to his dinner. The old woman sat down on a chair in front of the fire and began to dress the baby. She dressed him in the very old clothes used for babies who were born in the workhouse. The child was an orphan, born into a world which had no love or pity for him.

No one was able to discover who the baby's father was, or what his mother's name was. Mr Bumble, an important officer in the town, invented a name for the baby. He chose the name Oliver Twist.
'We name the new babies here in order from A to Z ,' he explained when people asked. ' I named the last one Swubble. This one is Twist. The next one will be Unwin.'

At the age of nine, Oliver was a pale, thin child. He and the other workhouse boys never had enough warm clothes or food. They were given only three meals of thin soup every day. On Sundays they had a small piece of bread.

They were fed in a big hall. A large pot stood at one end of the room, and the soup was served by the master. Each boy had one small bowl of soup and no more. The bowls never needed washing, because the boys cleaned them with their spoons until they shone.


One day Oliver and his friends decided that one boy would walk up to the master after supper and ask for more soup. Oliver was chosen.

In the evening, the boys sat down at the tables. The master stood by the pot, and the soup was served. It disappeared quickly. The boys whispered and made signs to Oliver. He stood up from the table and went to the master, with his bowl and spoon in his hands.
'Please, sir,' he said, 'I want some more.'
The master was a fat, healthy man, but he went very pale. He looked with surprise at the small boy.
'What?' said the master at last in a quiet voice.
'Please, sir,' repeated Oliver, 'I want some more.'

The master hit Oliver with his spoon, then seized him and cried for help. Mr Bumble rushed into the room, and the master told him what Oliver had said.
'He asked for more?' Mr Bumble cried. 'I cannot believe it. One day they will hang the boy.'

He took Oliver away and shut him in a dark room. The next morning a notice appeared on the workhouse gate. Five pounds were offered to anybody who would take Oliver Twist.

Oliver was a prisoner in that cold, dark room for a whole week. Every morning he was taken outside to wash, and Mr Bumble beat him with a stick. Then he was taken into the large hall where the boys had their soup. Mr Bumble beat him in front of everybody. He cried all day. When night came he tried to sleep, but he was cold, lonely and frightened.


But one day, outside the high workhouse gate, Mr Bumble met Mr Sowerberry. Mr Sowerberry was a tall, thin man who wore black clothes and made coffins. Many of his coffins were for the poor people who died in the workhouse.

[^3]1) Hvilke av de følgende setninger om Olivers mor er riktige? Det er mulig at flere er sanne eller at ingen er sann.
a) Hun var ung.
b) Mannen hennes var død.
c) Hun var gravid når hun kom til London.
d) Hun var vakker.
2) Oliver er et tynt barn fordi...( kort svar)
3) Mesteren ble sint på Oliver fordi...
a) Oliver tar mat fra en av de andre guttene.
b) Oliver vasker ikke suppebollen sin.
c) Oliver ber om mer suppe.
d) Oliver vil ha mer enn de andre guttene.
4) Hvilken av de følgende setninger stemmer?
a) De andre guttene ble sinte på Oliver.
b) Mesteren slo Oliver.
c) Mesteren sendte Oliver til rommet sitt.
d) Mesteren var lei at han skrek til Oliver.
e) Mesteren $ø$ nsket å selge Oliver.
5) Hvor lenge må Oliver være på et mørkt sted? (kort svar)
$\qquad$
6) Oliver kommer ut av det mørket rommet for ...
a) å møte vennene sine.
b) å bli slått med en kjepp.
c) å arbeide i fattighuset.
d) å hjelpe mesteren servere suppe.
7) Olivers mor hadde rømt fordi ...
a) Noen hadde behandlet henne veldig dårlig.
b) Hun var gravid uten å være gift.
c) Hun var en lovbryter.
d) Noen hadde truet Oliver.
8) Guttene bestemte seg for at bare en av dem skulle spørre etter å få mer suppe fordi ...(kort svar)
9) Hva får vi vite om mesteren?
a) Han liker guttene men er streng med dem.
b) Han får mer å spise enn guttene.
c) Han behandler guttene bra.
d) Han deler maten sin med guttene.
10) Mesteren behandler Oliver dårlig fordi...
a) han er veldig sint mot Oliver.
b) han vil skremme de andre guttene.
c) han tenker de andre guttene ville like det.
d) han ble fortalt å gjøre det.
11)I teksten står det:»Mr Sowerberry was a tall thin man who wore black clothes and made coffins. Many of the coffins were for the poor people who died in the workhouse."

Hvorfor tror du er det sånn? (kort svar)
12) Hvilken setning sammenfatter best det som skjer i historien?
a) Olivers mor sørger for at Oliver vokser opp på fattighuset fordi der vil han bli tatt godt vare på.
b) Oliver vokser opp på fattighuset og kommer i trøbbel fordi han gjør mesteren sint.
c) Oliver vokser opp på fattighuset og kommer i trøbbel med de andre guttene fordi han ikke vil dele.
d) Oliver er født på fattighuset men sendes vekk fordi han spiser for mye.
13) Hvilke av de følgende setninger om denne teksten er sanne? Det er mulig at flere er sanne eller at ingen er sann.
a) Den forteller oss hvordan livet er for barn nå for tida.
b) Den forteller oss hvordan livet var for barn før i tida.
c) Den forteller oss at voksne er alltid slemme mot barn.
d) Den forteller oss hva Oliver skulle har gjort annerledes.
14) Teksten er et utklipp fra en roman. Hvor i romanen tror du at vi finner tekstutklippet?
a) Ved slutten
b) I midten
c) Nesten ved slutten
d) I begynnelsen

Nå er du nesten ferdig! Det finnes noen siste spørsmål om hvordan du opplevde denne lesetesten.

1) Bildene i teksten hjalp meg å forstå teksten.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
2) Bildene i teksten hjalp meg med å finne svar på spørsmålene.
Helt uenig (
( )
( )
(
( )
( ) ( )
( ) Helt enig
3) Bildene i teksten forvirret meg.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
4) Jeg foretrekker å forestille meg personene og omgivelsene i en historie selv.

Helt uenig ( ) ( ) ( ) ( ) ( ) ( ) ( ) Helt enig
5) Lydfilen hjalp meg med å forstå teksten.
Helt uenig
( )
( )
()
( )
( ) ( )
( ) Helt enig
6) Lydfilen forvirret meg.
Helt uenig
( ) ( )
( ) ( )
( ) ( )
( ) Helt enig
7) Lydfilen hjalp meg med å finne svar på spørsmålene.
Helt uenig
( )
( )
( )
( )
( ) ( )
( ) Helt enig
8) Jeg foretrekker å lese selv framfor at noen leser til meg.
Helt uenig
()
( )
( )
( )
( )
( )
( )
Helt enig

## Tusen takk for hjelpen!

LÆRINGSSTIL OG LÆRINGSERFARINGER
ID:


Før du starter med tekstene, vennligst besvar noen spørsmål om hvordan du lærer best, og om dine erfaringer med å lese engelsk.
© NTNU
Kunnskap for en bedre verden

| LES | Skjemaet skal leses maskinelt. Følg derfor disse reglene: |
| :---: | :--- |
| DETTE | $\bullet$ |
| FØR DU | Bruk svart eller blå kulepenn. Skriv tydelig, og ikke utenfor feltene. Kryss av slik: : |
| FT. |  |
| STARTER! | - |

## A. HVORDAN LÆRER DU BEST?

Hvor enig eller uenig er du i hvert av disse utsagnene? Ett kryss for hvert utsagn.

1. Når læreren gir meg instruksjonene muntlig, forstår jeg bedre. $\qquad$

| Svært <br> enig |  | Verken |  | Svert |
| :---: | :---: | :---: | :---: | :---: |
| Enig | leller | Uenig | uenig |  |
| 1 | $\square^{2}$ | $\square^{3}$ | 4 |  |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

2. Når jeg prøver å memorere ting, liker jeg å se dem for meg i hodet mitt.
3. Jeg lærer ting bedre når noen forteller meg hvordan det skal gjøres i timen $\qquad$ $\square$ $\square$
$\square$
4. Jeg husker ting jeg har hørt i timen bedre enn ting jeg har lest $\qquad$
5. Jeg husker instruksjoner bedre når jeg leser dem $\qquad$

6. Jeg forstår bedre når jeg leser instruksjoner. $\qquad$
$\square$

7. Jeg forstår skriftlige instruksjoner bedre når de kommer med en illustrasjon $\qquad$
$\square$
$\square$
8. Jeg lærer bedre i klasserommet når læreren foreleser. $\qquad$
9. Jeg er god til å forstå grafer og diagrammer. $\qquad$
$\square$
$\square$

10. Jeg lærer bedre i klasserommet når jeg lytter til noen $\qquad$
$\square$
$\square$

11. Jeg ser mye på bildene når jeg leser en illustrert bok. $\qquad$
12. Jeg lærer mer av å lese enn av å lytte til noen $\qquad$
13. Jeg ほrer mer av å lese tekstbøker enn av å lytte til forelesninger. $\qquad$
14. Når jeg lærer en ny ferdighet, vil jeg helst at noen demonstrerer det i stedet for bare å fortelle om det $\qquad$ . $\square$

## B. DINE ERFARINGER MED Å LESE ENGELSK

Hvor enig eller uenig er du i hvert av disse utsagnene?

1. Jeg liker å lese engelsk $\qquad$

| Svert <br> enig |  | Verken |  | Svert |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Enig | /eller | Uenig | uenig |
| 1 | $c^{3}$ | 4 |  |  |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

2. Når jeg leser engelsk forstår jeg ofte ordene, men ikke helt hva forfatteren ønsker å si.. $\square$
3. Når jeg leser engelsk blir jeg så forvirret at jeg ikke husker hva jeg leser $\qquad$
4. Jeg er fornøyd med det nivået av leseferdighet som jeg har nådd så langt $\qquad$
$\square$
5. Jeg føler meg ukomfortabel når jeg ser en hel side med engelsk foran meg $\qquad$ $\square$
6. Jeg er nervøs når jeg leser et stykke på engelsk når temaet er ukjent for meg $\qquad$
$\square$
$\square$

$\square$

7. Jeg føler meg trygg/sikker når jeg leser på engelsk $\qquad$
$\square$
8. Jeg blir engstelig når jeg er usikker på om jeg forstår det jeg leser på engelsk. $\qquad$
$\square$
9. Jeg blir engstelig når jeg leser engelsk og kommer over ukjent grammatikk. $\qquad$
$\square$
10. Jeg blir nervøs og forvirret hvis jeg ikke forstår hvert ord når jeg leser engelsk
11. Det plager meg når jeg kommer over ord jeg ikke klarer å uttale når jeg leser engelsk .. $\square$
12. Jeg oversetter vanligvis ord for ord når jeg leser engelsk. $\qquad$
13. Når du blir vant til det, er det ikke så vanskelig å lese engelsk $\qquad$
$\square$
14. Det vanskeligste med å lese engelsk er å $æ r e ~ a ̊ ~ l e s e ~$ $\qquad$ $\square$

Takk for at du ville svare på spørsmålene!

7491 TRONDHEIM

## TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 11.11.2014. Meldingen gelder prosjektet:

| 40689 | Reading English narrative texts with the support of multi modal expressions |
| :--- | :--- |
| Behandlingsansvarlig | NTNU, ved institusionens øverste leder |
| Daglig ansvarlig | Inger Langseth |
| Student | Silke Leismann |

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven $\$ 31$. Behandlingen tilfredsstiller kravene i personopplysningsloven.

Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det giøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/meldeplikt/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://pvo.nsd.no/prosjekt.

Personvernombudet vil ved prosjektets avslutning, 29.12.2015, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen
Katrine Utaaker Segadal
Sondre S. Arnesen

Kontaktperson: Sondre S. Arnesen tlf: 55583348
Vedlegg: Prosjektvurdering
Kopi: Silke Leismann dunkelistdienacht@web.de
Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

## Personvernombudet for forskning

## Prosjektvurdering - Kommentar

Prosjektnr: 40689

Utvalget informeres skriftlig og muntlig om prosjektet og samtykker til deltakelse. Informasjonsskrivet er godt utformet.

Personvernombudet legger til grunn at forsker etterfølger NTNU sine interne rutiner for datasikkerhet. Dersom personopplysninger skal lagres på privat pc/mobile enheter, bør opplysningene krypteres tilstrekkelig.

Forventet prosjektslutt er 29.12.2015. Ifølge prosjektmeldingen skal innsamlede opplysninger da anonymiseres. Anonymisering innebærer å bearbeide datamaterialet slik at ingen enkeltpersoner kan gjenkjennes. Det gjøres ved å:

- slette direkte personopplysninger (som navn/koblingsnøkkel)
- slette/omskrive indirekte personopplysninger (identifiserende sammenstilling av bakgrunnsopplysninger som f.eks. bosted/arbeidssted, alder og kjønn)


[^0]:    ${ }^{1} \mathrm{https}: / /$ www.hoddereducation.co.uk/HodderGroupReadingTests

[^1]:    ${ }^{2}$ Since the significance tests serve only illustration, no Bonferroni correction is conducted.

[^2]:    'He asked for more?' Mr Bumble cried. 'I cannot believe it. One day they will hang the boy.'

    He took Oliver away and shut him in a dark room. The next morning a notice appeared on the workhouse gate. Five pounds were offered to anybody who would take Oliver Twist.

    Oliver was a prisoner in that cold, dark room for a whole week. Every morning he was taken outside to wash, and Mr Bumble beat him with a stick. Then he was taken into the large hall where the boys had their soup. Mr Bumble beat him in front of everybody. He cried all day. When night came he tried to sleep, but he was cold, lonely and frightened.

    But one day, outside the high workhouse gate, Mr Bumble met Mr Sowerberry. Mr Sowerberry was a tall, thin man who wore black clothes and made coffins. Many of his coffins were for the poor people who died in the workhouse.
    'I have prepared the coffins for the two women who died last night,' he said to Mr Bumble.
    'Good,' said Mr Bumble. 'You will be rich one day, Mr Sowerberry! Do you know anybody who wants a boy? And five pounds?' He raised his stick and pointed to the notice on the gate.

[^3]:    'I have prepared the coffins for the two women who died last night,' he said to Mr Bumble.
    'Good,' said Mr Bumble. 'You will be rich one day, Mr Sowerberry! Do you know anybody who wants a boy? And five pounds?' He raised his stick and pointed to the notice on the gate.

