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Faculty of Humanities, Social Science and Education

Pupils as producers of visual texts

A mixed-method study on implementing visual literacy and its effects on pupils' multimodal texts

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Acknowledgement

This master's thesis ends a five year long roller-coaster ride. Going through trials and errors by being a part of the new teacher education at UiT – the Arctic University of Norway. Where our class have been given the nickname “guinea pigs”. Going through a pandemic with restrictions which made the education become digital, and people became more isolated. And the reopening of society, where the things we had taken for granted, became so much more important.

As a soon to be teacher, specialized in the subjects of English, social science, and arts & crafts, I wanted my master's thesis to contain elements of all these subjects. Which is why I chose to focus on visual literacy and multimodal texts which are both multidisciplinary. Reading the literature and earlier research on these two subjects, further strengthened my opinion on its importance in education today, and it is something I will take with me into my own classroom.

Through these five years I have gained many friends and lost two loved ones. It is thanks to the emotional support from the friends that I already have, the friends that I have gained and my family, that I could get through these periods of hardship and create memories that I will keep with me.

I would also like to thank my teacher educators for their support and their teachings, my supervisors, who helped me through this master's thesis, the LAB TEd project for following me through this process, and my fellow students for the many memories made.

Thank you.

Abstract

This master's thesis is the result of a mixed-method study on the implementation of visual literacy and its effects on pupils' attitude to images and their production of multimodal texts. While simultaneously, it reviewed how teachers can assess multimodal texts where the focus is on the visuals.

The research question for this masters' thesis is as followed:

To what extent can working with visual literacy make a positive impact on the pupils' attitude to/and production of multimodal texts, and how can teachers assess multimodal texts where the focus is on the visual?

This research was conducted on a class of 29 pupils in the English specialization subject. And the action research implemented in this masters' thesis involves introducing the pupils to the term visual literacy, while simultaneously teaching them of what it means to be visually literate. They were also assigned the task of producing a multimodal text where they were instructed to focus on the visuals.

Furthermore, this masters' thesis is part of the project called *Learning, Assessment and Boundary crossing in Teacher Education* (LAB TEEd), where the main goal is for a masters' thesis, and the process, to be beneficial for all three parties.

This research resulted in finding which showed that the implemented action may have had some form of positive impact on the pupils' attitude, in terms of their future need and use of visual literacy. The findings also showed that the implemented action had some form of impact on the pupils production of multimodal texts, where they to some degree produced texts where the visual and the verbal text complimented each other and worked together conveying the message. And the evaluation process resulted in findings involving how one as a teacher may evaluate multimodal texts where the pupils have been instructed to focus on the visuals. Which involves possible criteria a teacher may follow, in terms of the teacher's own competence, and the necessity of having the pupils reflections on their usage of images in order to not over interpret them.

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1 Introduction

This chapter will provide the basis for this master's thesis. It will begin with part 1.1 where the background and the motivation that brought forward the research question, which will then be introduced and explained in detail in part 1.2. How this master's thesis will contribute to the field will be explained in part 1.3. As a participant in the LAB TEd project, how this affects this research and what it involves will be explained in part 1.4. Lastly, the limitations that framed this research will be explained in part 1.5.

1.1 Background

According to the English subject specialization curriculum, one of its key values is to provide pupils with the tools to communicate and interact through digital media and technology (Udir, 2020). On these digital media platforms, we communicate mostly through images or texts, or a combination of both. An example of such a platform is Snapchat or TikTok. One can say that multimodal texts are the form of communication of our time and that we live in a world where we are surrounded by pictures and images.

One may then argue that providing pupils with the knowledge of how to communicate through the combination of texts and images is important. In school, pupils learn how to read and write literal texts and how to use and analyze images. They learn how the angles of an image can affect the object it is portraying. They learn how to be somewhat critical of what they see, but do they really learn how to be critical of what they themselves produce? And do teachers have the competence to educate this? Visual literacy involves the ability to read and produce visual images. According to Cohen, Manion & Morrison (2018, p. 628), anything we see, watch, or look at counts as a visual image. These visual images provoke a response in the audience, which results in the creation of a narrative (Abbott, 2021, p. 6). Images can be used to illustrate something, to convey a message or to compel and convince its audience.

In the form of multimodal texts which consists of image and written text, they can vary on how the two modes work together. In some multimodal texts, the image only illustrates what

the verbal text is stating. While in other multimodal texts, the two modes work together to convey its statement or story, for example, memes, graphic novels, and comics. Reading texts such as these, require the ability to make links between the various elements, compared to texts which are merely illustrated (Rimmereide, 2013, p. 134). Being able to produce such texts where the two modes are equal, requires extensive training and positive exposure. Furthermore, the pupils have already learned some of it implicitly, through the use of social media.

In the core elements of English subject curriculum (Udir, 2020), the term text is used in a broad sense, and that by “*reflecting on, interpreting and critically assessing different types of texts in English, the pupils shall acquire language and knowledge of culture and society*”. Which means that reading multimodal texts have a central part in the English subject and the teaching of English. According to Rimmereide (2013, p. 134), the images used in a multimodal text can help the reader understand the story and fill in the gaps that arise when the language level of the reader is deficient. This implies that pupils can communicate on a higher level through the use of the combination of visual and verbal text.

1.2 Research question

The objective in this master’s thesis is to see how teaching pupils’ visual literacy can affect the multimodal texts the pupils produce and read. With this in mind and feedback from a teacher supervising this thesis, the research question is formulated as follows:

To what extent can working with visual literacy make a positive impact on the pupils’ attitude to/and production of multimodal texts, and how can teachers assess multimodal texts where the focus is on the visual?

This research question is divided into three sections. The first section involves the pupils’ own opinion and attitude on how working with visual literacy have affected them. The second section revolves on the impact this research has on the actual products the pupils have produced. And the third and last section is based on feedback from a supervisor and the process of this research on how the pupils’ multimodal texts can be evaluated.

1.3 Contribution to the field

Multimodal texts are multidisciplinary by nature, which means that this research have the potential to be used in subjects other than English, such as science, arts & crafts, social studies, and the Norwegian subject. Earlier research on visual literacy has focused on pupils as recipients/readers of multimodal texts, where the image has played a significant part of the intake of knowledge and information. Compared to this master's thesis which focuses on the pupils as producers and their personal attitude to visual literacy. Furthermore, there is earlier research on pupils as producers, but is partially outdated due to the rapid development of social media and how it has radically changed how we communicate, acquire, form ideas and store information.

1.4 LAB TEd

This master's thesis is part of the project LAB TEd, which stands for Learning, Assessment and Boundary crossing in Teacher Education. Where the overall goal is that the master's thesis' of the students participating will contribute to increased research competence in primary school teacher education and the field of practice, and to new models for task supervision and assessment (ProTed, w/y). This project takes place in the partnership between universities (teacher educators), schools (teachers and school leaders) and students in primary school education. This project also includes the R & D assignments, written on the students' third year of study, where the research also happens on the participating schools.

As a participant in this project, the feedback given from the teacher educators and teachers from the schools, is vital in order for this master's thesis to be beneficial for all three parties. This all began when the students presented their general plan and theme for their master's thesis to the participating schools' teachers in northern Norway. Each school gave feedback and input into how it could benefit them and how they could contribute to the research. It is important to disclose that the master's degree subjects involved in this project were mathematics and English. In this project, the two schools participating were both lower secondary schools.

After the general plan and theme were presented, the students participating had the opportunity to choose which school they would like to cooperate with, and they were given a

teacher educator as an additional supervisor. Here, both the teacher educator and the teacher from the school were assigned the job as supervisors for this master's thesis. It is also important to note that it is expected of the students participating in this project to implement action research, based in the classroom. This clear is guidance that not all master's students have, but which is guaranteed to give something back to the school and the field of practice.

1.5 Limitations

In every research there are some limitations. Through the LAB TED project, this research was assigned to a class in the English specialization subject by the teacher supervisor, which consisted of 29 pupils, where they ranged from 8th to 10th grade, which limits the selection of pupils and this study to the level of lower secondary school. Furthermore, there was the covid-19 epidemic, where the highly contagious omicron variant was raging, and the Norwegian government had minimal restrictions. This virus caused a degree of absence from the pupils, which further caused a void in the research. Furthermore, this research focuses on multimodal texts where the pupils are instructed to concentrate on the visuals they are producing, which means that the result of the assessment would not be compared to past multimodal texts because of the considerable difference in the instructions they have been given.

Another limitation to this research is the frames in the perspective of time that was available. Because the group assigned to this research were in the English specialization subject, there was only two hours available every week. In order to plan, implement, collect, and analyze the data, the action research was planned to last over the period of three weeks. Furthermore, the second lesson was delayed a week due to a change of plans in the school schedule.

2 The theoretical approach

This chapter will go through the theoretical aspect of this master's thesis and review the research areas and relevant literature which explores visual literacy and multimodal texts in educational settings. It will begin with the review of the English subject curriculum and its focus on visuals in part 2.1. The earlier research and theoretical background for visual literacy will be explored in part 2.2. And the theoretical background and research on multimodal texts will be reviewed in part 2.3.

2.1 The English subject curriculum and its focus on visuals

In research that focuses on education, it is important to review what attitudes the curriculum has and how it covers the chosen theme which is visual literacy and multimodal texts. It is important to note that the sessions implemented in this research happened in the subject of English specialization, which is unusual in this field of education and research. However, this subject advances the skills learned in the general English subject. Meaning, that the competence and skills the pupils learn in the general English subject is relevant to the English specialization subject. Which is why the curriculum in the English subject is also reviewed in this chapter.

As part of the primary school education, and that the participants in this research are ranging from 8th to 10th grade, the attention will be given to the competence goals after 7th and 10th grade in the English subject. In both of these curriculums (Udir, 2020), words such as images, see, multimodal and visual were searched, but are not directly mentioned. For example: the term composite text, which is a synonym for multimodal texts, was mentioned in both curriculums.

Furthermore, the competence aims shows a lot of openness on how the pupils can be educated towards these achievements. An example of this is found in the competence aims in English after 10th grade, where the pupils must “*use a variety of strategies for language learning, text creation and communication*” (Udir, 2020). Which can be achieved through working with visual literacy and multimodal texts.

Under the subject's relevance and central values in the English curriculum, the keywords images, see, multimodal and visual are not mentioned, but can be linked to the where the subject “*shall develop the pupils’ understanding that their views of the world are culture-dependent*” (Udir, 2020). This is because images open for pupils’ self-knowledge related to their life situation, and one cannot read an image without basing it on their own culture (Sæverot & Ulvik, 2018, p. 46).

In the core elements of the English subject during encounters with English-language texts (Udir, 2020), the term text is used in a very broad sense, where both the visual and the verbal can stand alone or together. This opens opportunities for work with visual literacy, where students will become familiar with messages through the visual.

2.1.1 English specialization subject

In the English specialization subject curriculum, there are numerous competence aims which can be implemented through the teaching of visual literacy and multimodal texts. It is important to note, that these competence aims asks the pupils to use different mediums in terms of production and communication (Udir, 2020).

In terms of production of texts, the pupils are expected to “*create different types of oral and verbal texts with self-selected themes that presents, relates, or explains through different types of medias*” (My translation) (Udir, 2020). This can be implied that the pupils are expected to produce multimodal texts of their self-selected theme. They are also expected to be able to “*produce digital products which combines different types of media*” (My translation) (Udir, 2020). Which further proves that this research is relevant to the subject.

In terms of communication, the pupils are expected to learn how to “*research and compare the use of language and tools used in different media and context*” (My translation) (Udir, 2020). Here, they are expected to implement critical visual literacy, a term which is not directly mentioned.

2.2 Visual literacy

The word *visual* originates from the Latin word *videre*, which means *to see*. While the origin to the word *literacy* comes from the late 19th century English word *literate*, which means the ability to read and write. The term visual literacy is most commonly used in the Art subject, but it can be flexible, and its definition can change depending on which context it is used in (Stafford, 2011, p. 6). Brian Kennedy, who is the former director of the Toledo Museum of Art, described visual literacy as “*the ability to construct meaning from images*” (TEDx Talks, 2010, 02:26). In the world of Art, visual literacy involves a complex multitude of concepts such as texture, lines, colors, dimensions, values, and contrasts, which takes time and experience to understand.

According to the Visual Literacy Standard Task Force (2011) in the International Visual Literacy Association (2022), the term visual literacy involves “*a set of abilities that enables an individual to effectively find, interpret, evaluate, use and create images and visual media*”. These abilities enable an individual to understand and analyze the fundamentals involved when producing and using visual materials. Duchak (2014, p. 41) describes visual literacy as the ability to “*interpret digital, visual and audio media in the form of literacy which is as basic as reading and writing skills*”.

All of these definitions have strong similarities and can form an idea as to what visual literacy generally means and what it involves and can be illustrated together in figure 1.1 where we see the visual literacy array which is based on ACRL’s visual literacy standards. This array is divided into seven skills: finding images, interpret and analyze images, evaluate images, create visual media, use images ethically and cite visuals, and define image need. Each of these skills are further divided into five, subcategories. This illustration shows that visual literacy involves a complex multitude of abilities, and one can assume that achieving visual literacy implicates an indicate process involving critical thinking. And that all these definitions have more in common with each other than what separates them.

Visual literacy competence is defined by Fransecky & Debes (1972, p. 12), as the ability to read visuals, to strategically use visuals, to produce visuals, and combine verbal and visuals all with the intention to communicate. Which further supports the fundamental aspects of visual literacy where one can read and write visuals.

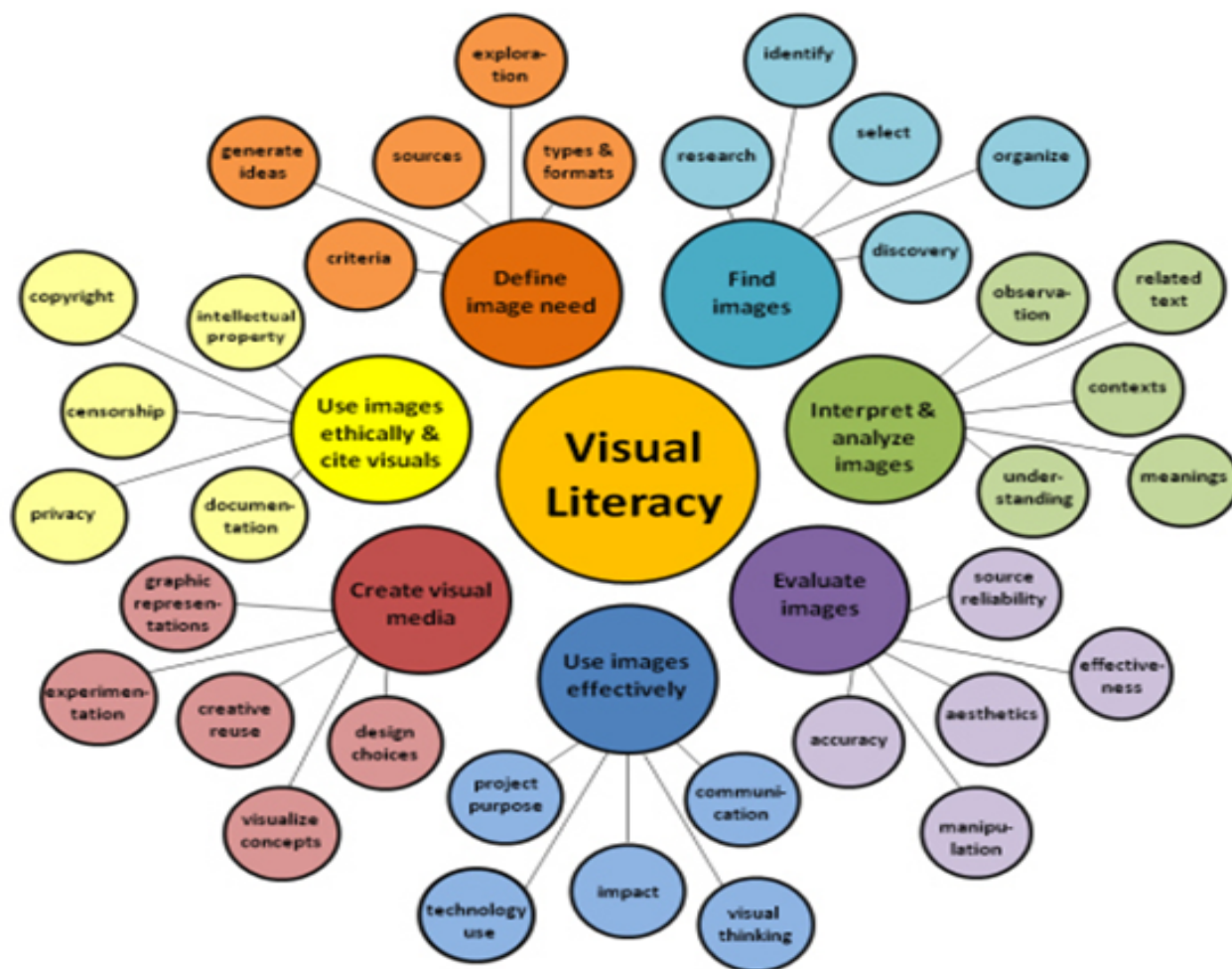


Figure 1.1 Visual Literacy Array based on ACRL’s Visual Literacy Standards by D. Hattwig, K. Bussert, and A. Medaille (2013)

2.2.1 John L. Debes and the four types of learning experiences

John L. Debes was one of the leading educators of and promoters of visual literacy and was the first to use the term. During his life, he developed the four types of learning experiences which contribute to the development of visually literate individuals (Duchak, 2014, p. 43). These four learning experiences are described as followed: a learning experience where the individual is allowed to do something in such a way that there is a meaningful interaction between the individual and what he/she sees, the learning experience should practice choosing specific visual phenomena from the individual's environment that are important to him/her, it should inspire and give opportunities for the individual to make meaningful visual statements, and it should motivate the individual to practice his/her ideas visually (Debes, 1968, p. 964).

2.2.2 Critical visual literacy

Even though the pupils in school today spend a considerable amount of time on gaming and social media, they are not considered to be visually literate. The pupils do not have the skill on how to interpret an image and make ethical decisions about its validity and value (Metros, 2008, p. 98). People today have a tendency to take images as “*credible representation of reality and are often not subjected to the same critique as verbal text*” (Sherwin, 2008, in Brown, w/y). Which puts them at risk of accepting that as their reality. Examples to this can be fake news and fake advertisement people see and believe on the internet.

Visual literacy and critical thinking go hand in hand (Toledo Museum of Art, 2015, 1:02). Which means one cannot practice visual literacy without practicing critical thinking. This is because they both involve a set of cognitive processes, where one identifies, interprets, and analyzes the object they are reading (Dominguez Romero & Bobkina, 2021, p. 1). They both follow the flow which goes from vision, to cognition, and then to memory.

Critical visual literacy involves the ability to examine the social practices, the cultural significance and the power relations in visual texts and the context it is used in (Rose, 2001, p. 3). The individual accommodates for and understands multiple interpretations of an image. Behind every image, there is a message to be conveyed. It can try to convince you of its truth or compel you to its advice.

Critical thinking is an essential part of the basic skills of the English subject curriculum. Here, the pupils are expected to learn how to be critical of their sources, how to critically reflect different types of texts, how to be critical of the digital forms of expression, and how to critically assess information from sources in the English language (Udir, 2021).

2.2.3 The benefits of teaching visual literacy

Teaching visual literacy in an educational setting provides the pupils with several benefits in terms of language learning, communication, and their learning of basic skills such as reading. Earlier research states that visual literacy can improve the teacher’s quality of teaching. Which is shown in the work of Duchak (2014, p. 41), where she states that visual literacy

“gives educators a chance to increase the quality of their teaching and to connect with the learners in a more interesting way” and that it is “and essential component of science and technology education today”. The quality of teaching is improved by the teacher’s proper use of images, where the pupils can connect more to the subject at hand and learn through the collaboration between image, verbal text, and oral text. The images can fill in the gaps caused by the pupils’ language barriers as mentioned in Rimmereide (2013, p. 134). In the future, being visually literate can be the new form of what being literate means today. With the rapid development of social media, where communication predominantly happens through the use of the combination of visual and verbal text, it becomes more important to teach this in school.

According to Pettersson (1994, p. 3) the skills taught through visual literacy are “*directly related to academic success, and especially to success in reading*”. Pupils who are visually literate can pull information from both the verbal and visual texts they encounter during their education. They are instinctively critical of what they read and sees a text through multiple lenses. The American organization, NCTE (short for National Council of Teachers of English) (2021) supports this statement, and builds it further by stating that the teaching of visual literacy allows pupils to gradually develop their understanding of what they are reading, which slows the process down and allows them to make their own interpretation based on their critical thinking,

David Hooker, the lead evangelist for Prezi, states in his TEDx Talks (2018, 04:32) that if one can get the right image at the right time, the chance of remembering the event is increased by as much as 50%. This statement that images increase the possibility of remembering is further supported in the field of research. In Avgerinou & Pettersson’s research on a cohesive theory for visual literacy (2011, p. 9), they state that the memory for pictures is superior to the memory for words. Which implies that by using images when educating pupils, it would increase their chances of remembering the content.

Thw NCET (2021) states that implementing visual literacy in teaching gives quiet or reluctant pupils more opportunities to feel comfortable in the classroom. The teaching of the knowledge happens first on a cognitive level and the teacher can then turn it over on to a social level, where the individual interpretation is shared with the class. Which follows the IGP (individual-group-plenum) method.

The implementation of visual literacy provides the teaching of communication exponential benefits. According to Mayer & Fiorella (2021, p. 8), the designers of the technologies such as social platforms for communication, focuses on how to incorporate multimedia. This implies that educating the pupils to be visually literate is crucial in order for them to be able to keep up with the further development of social media.

2.2.4 The challenges of teaching visual literacy

There is no correct translation for the term visual literacy in the Norwegian language, and there are no equivalent terms to be used when discussing it in Norwegian. Which shows that there is deficiency for this term in both the Norwegian language and its usage.

Teachers need considerable competence of visual literacy in order to teach the pupils to be visually literate. In the English subject of the primary school education at UiT, this competence is not being taught to the degree it is needed. According to Barry (2013) in Sæverot & Ulvik (2018, p. 38), teacher who have experienced the use of pictures in their teacher education, are more likely to use their understanding and use of pictures in their own teaching.

This lack of knowledge in teachers is further supported in Sæverot & Ulvik's study (2018, p. 37) on how images can be used in teaching, where they state that one of their challenges is that the teachers lack knowledge in how to use images. In Dominguez Romero & Bobkina's study (2021, p. 10), they also state that despite the importance of visual literacy, the "*21st century learners still lack the critical visual literacy reading skills expected*".

Visual literacy is not universal. This can be explained through the famous saying *A picture is worth a thousand words*. The interpretation of an image is affected by the individual's personal, social, and cultural background (Avgerinou & Pettersson, 2011, p. 12). People with the same social and cultural background might interpret an image the same way, compared to people with different or oppositional backgrounds. In the multicultural society we live in today, the use of images alone as a medium to communicate can create misunderstandings. Which is why Avgerinou & Pettersson (2011, p. 13) states that images need verbal support in order to create a pre-understanding of how the image should be interpreted.

According to Evans, Watson & Willows (1987) in Avgerinou & Pettersson (2011, p. 11), there are also downsides to using images as a tool to remember better, where the negative effect is that “*at some point illustrations move from being engaging motivators to engaging distractors*”. Where their interpretation and narrative are distracting them and pulls them away from the actual message.

2.3 Multimodal text

The word *multimodal* is a combination of the prefix *multi*, which comes from the Latin word *multus* meaning *many*, and *modal* which originates from the Latin word *modus* meaning *mode*. The word *text* derives from the Latin word *texere* meaning *to weave*. Together they become: *many modes to weave*.

Most of the things we read today are multimodal texts. We read them on the internet, on TV, in books, such as graphic novels and comics, and we read them in our textbooks at school. They are predominantly our method of communication and absorption of knowledge. In Bezemer & Kress’ research (2008, p. 167), they discovered that the division of the amount of visual and verbal text in textbooks have changed over the years. Where there has become less verbal text and more visual text as the years progress. Furthermore, the visual texts are gradually gaining more functions in the conveying of the message. Which is supported in Hjukse’ study (2007, p. 1), where she states that due to the development of digital tools such as smartphones and computers, multimodal texts have gained a considerable number of modes to express themselves. The modes can be anything from verbal text, pictures, music, animations, video, oral texts, illustrations, artworks, and physical objects. They are socially and culturally shaped resources for creating meanings (Bezemer & Kress, 2008, p. 171). This implies that the importance of being visually literate is on the increase.

2.3.1 Reading multimodal texts

The pupil encounters a multitude of multimodal texts both inside and outside the school. Their schoolbooks are mostly multimodal, where they combine visual and verbal text. When teachers hold presentations and conduct lessons, they predominantly use the combination of oral text, verbal text and, visual text to transfer their knowledge to the pupils. According to

Haber & Myers (1982) in Pettersson (1994, p. 9), multimodal texts with the combination of visual and verbal text, is superior to texts with either verbal text alone or visual text alone, in terms of remembering its content.

Reading multimodal texts require the ability to navigate, design, interpret and analyze texts in a new and more interactive way, compared to that of verbal texts (Serafini, 2010). When reading multimodal texts, one needs to combine the information given in the verbal and visual text in order to understand the message it is conveying. For example, in comic books and graphic novels, one cannot fully understand the story it is telling on either verbal or visual text alone. Furthermore, visual texts use a multitude of tools to promote their message. For example, graphic novels and comic books uses panels and gutters which amplify both the visual and verbal texts. Memes which contain both visual and verbal text, uses images of famous moments such as movies which gives more context to the message it is conveying. An example to this is in figure 1.2. Here we see the text: *brace yourself, visual literacy is coming*, and the image of the character Eddard Stark from the series Game of Thrones. For those who have watched the series, they would know that this image is from the scene where he sentenced someone to death and beheads that person with the sword he is holding. Furthermore, his family motto is *winter is coming*, which is used as a warning to those it is directed at.

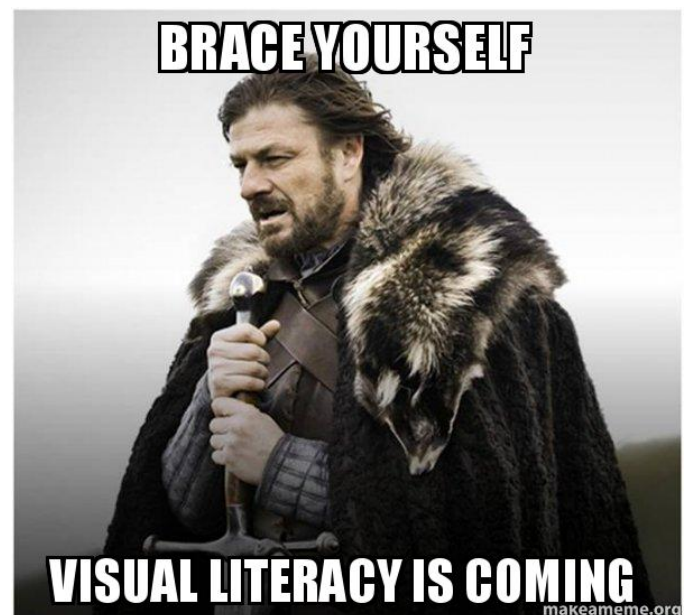


Figure 1.2: Meme implying the soon to come implementation of visual literacy.

(<https://makeameme.org/meme/brace-yourself-visual-puf54b>)

2.3.2 Producing multimodal texts

Writing verbal texts require the pupils to have skills in spelling, grammar, and vocabulary, as well as the ability to organize their trail of thoughts and write in different genres (Munden, 2014, p. 275). Furthermore, they have to fill a blank page with a translated version of what is in their mind. According to Kress & Leeuwen (2006, p. 33), most texts contain a form of

advanced interplay between verbal text, images, visual means, and sound, but the ability to produce such multimodal texts is not taught in school. This implies that there is an extensive need of teaching the pupils how to produce such texts.

Teaching the pupils how to produce multimodal texts which consists of the combination of visual and verbal text, predicts that the teachers themselves have that ability. Munden (2014, p. 275-276) states that teachers vary on whether they view the creation of different types of texts as an important skill, and that the teacher’s confidence and competence of the writing process also affects the teaching of producing multimodal texts. If a teacher views the ability to produce multimodal texts as less important than that of other verbal texts, it is more likely that the pupils would not be taught these skills to the degree they are needed.

2.3.3 Evaluating multimodal texts

Evaluation is a multidimensional term, which is an integral part of all curriculum work and teaching work, that focuses on the questions: why? who? what? how? and when? (Imsen, 2020, p. 493). These questions are part of the eight dimensions of pupil evaluation which is furthered elaborated in figure 1.3 below.

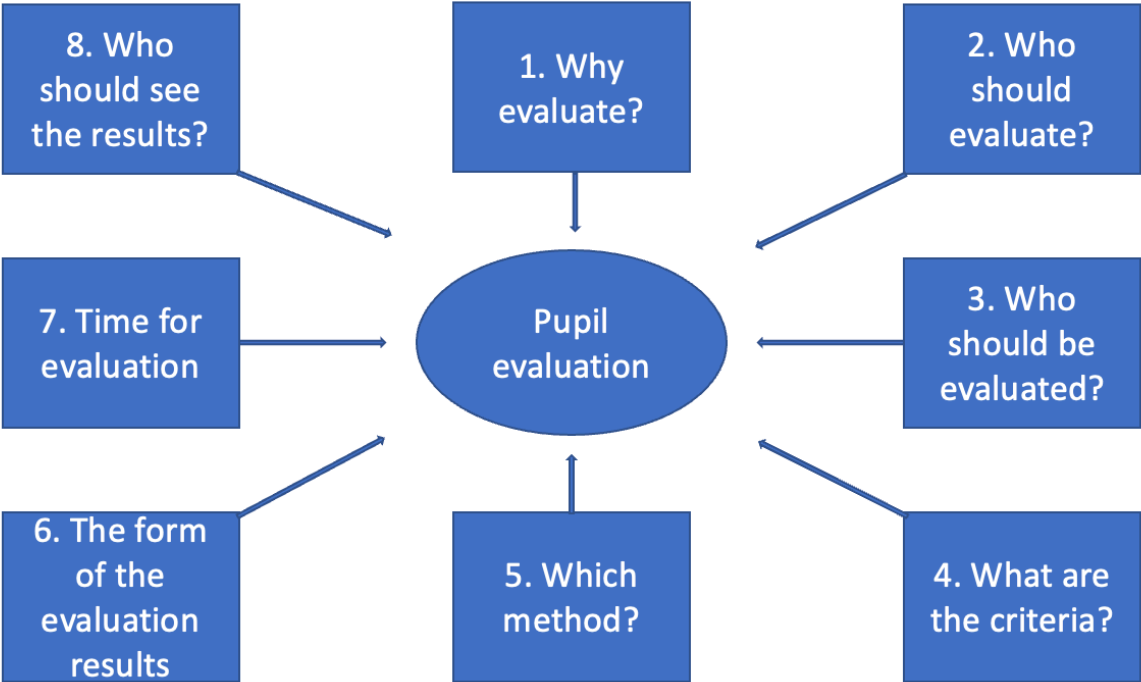


Figure 1.3: The eight dimensions of pupil evaluation (my translation) (Imsen, 2020, p. 493)

According to Lillejord & Hopfenbeck (2013, p. 249), there are three forms of evaluating pupils in school: evaluation for learning, evaluation for reporting and evaluation for accountability. These three forms for evaluation and the correct usage of these are essential for teachers. And teachers need to know which form to use at which time. Because a teacher does not only need to have the knowledge about evaluation, but also the knowledge of how to perform evaluation (Lillejord & Hopfenbeck, 2013, p. 249).

Evaluating multimodal texts presents a great challenge for teachers. In terms of evaluating multimodal texts, teachers need to lay down clear ground rules in terms of assessment for and of learning, where the pupils should participate in creating the criteria, making it easier for the pupils to meet the set criteria, which in turn makes it easier for the teacher to evaluate them (Sønvisen, 2015, p.19). By having a collective goal, both the pupils and the teacher knows the framework they should maintain within.

Bearne (2007, p. 37) states that the key to evaluating multimodal texts is to consider whether the visual and verbal modes do their job in representing or communicating the ideas, and whether the modes fulfil their intended purpose. This implies that the visual and verbal modes used in pupils' multimodal texts are to be evaluated as equals. In contrast to evaluating them separately, which is not recommended in neither school or research. Shown in the statement of Cohen et al. (2018, p. 707), where when interpreting images used in research, the researcher has to be on alert as to not over-interpret the images, and that the images should be accompanied with verbal text.

2.3.4 Richard E. Mayer and multimedia learning

The American educational psychologist Richard E. Mayer developed the theory about learning through the combination of words and pictures, which he named multimedia learning. According to Mayer & Fiorella (2021, p. 5), learning occurs when an individual constructs knowledge from the combination of pictures and texts. Here, the word *text* can be either oral or verbal, and the *picture* can be either an animation, image, a video, or a photo.

The associate professor at the private collage Kristiania, Anette Andersen (2020), states that multimedia learning does not involve the action of just flooding the pupils with texts and

images for them to learn more. That this method of learning is taxing for the pupils' working memory. Where they constantly have to build mental representations of the text and picture.

In consideration to this possible overload of input, there are five principles a teacher can follow to create multimedia lessons which promotes multimedia learning. Mayer & Fiorella (2021, p. 15-14) explains and defines these principles as:

- *Coherence principle*: excluding the words and pictures, which is foreign to the pupils, from the multimedia instructional message.
- *Signaling principle*: adding cues that highlights the important information given in multimedia lessons.
- *Redundancy principle*: presenting the information to the pupils in only one format.
- *Split-attention principle*: physically and temporally combine text and images.
- *Worked example principle*: presenting the pupils with worked-out examples in the learning of cognitive skills.

3 Research strategy

This chapter will explain and justify the research design and methods used to collect data in this master's thesis. To find an answer to this research question, it would need an empirical approach, where the data collected will be used as a link between reality, the analysis, and the interpretation of reality (Christoffersen & Johannessen, 2018, p. 21). The research question points its spotlight on how working with visual literacy can make an impact on the pupils' own production of multimodal texts, and it demands providing the pupils knowledge and work with visual literacy in the classroom. This master's thesis explores the research question through school sessions/actions on a school connected to the LAB Ted project, and uses mixed methods, where the data collected will be a mix of both quantitative and qualitative, which makes it possible to go more in breadth and depth than using just one of these types of data collection (Brevik & Mathé, 2021, p. 49). Furthermore, by mixing quantitative and qualitative data, it gives one access to either strengthen or weaken the findings in this research (Dalland, & Andersson-Bakken, 2021, p. 49). Through physical data, in the form of questionnaires, pupils' reflection notes and the pupils' multimodal texts, it would be possible to interpret, analyse and consider what impact the teaching given about visual literacy has on the pupils. This chapter will begin with action research in part 3.1. It will then explain the assessment of multimodal texts in part 3.2. Using questionnaires as a method to collect data for this research will be explained in part 3.3. The description of action implemented in this research will be presented in part 3.4. Using reflection notes as data will be justified in part 3.5. The ethical obligations for this research will be presented in part 3.6. And lastly, the validity and reliability of this research will be explained in part 3.7.

3.1 Action research

According to Postholm & Moen (2018, p. 32), action research is about "*changing practice, about developing an understanding of practice, and about changing the situation in which the actions or practice take place*" (My translation). The goal for this master's thesis is to try out something new which can contribute to change in a positive direction, and that the teacher trainees, the university, and the schools involved in the research project LAB TEd can benefit from it. One of the main objectives of action research is to test out what is "*studied in a scientific sense with the intention of contributing to theory development around the current*

challenge" (My translation) (Øgreid, 2021, p. 215). This master's thesis will build on the existing research on the use of visual literacy in teaching contexts. Gleiss & Sæther (2021, p. 53) claim that action research also means that the researcher and those who participate in this research collaborate over a longer period with what is being researched and further develop practice. Furthermore, it is not always possible to do such a comprehensive form of action learning when producing a master's thesis, but the elements from such a collaboration can still be useful (Gleiss & Sæther, 2021, p. 53).

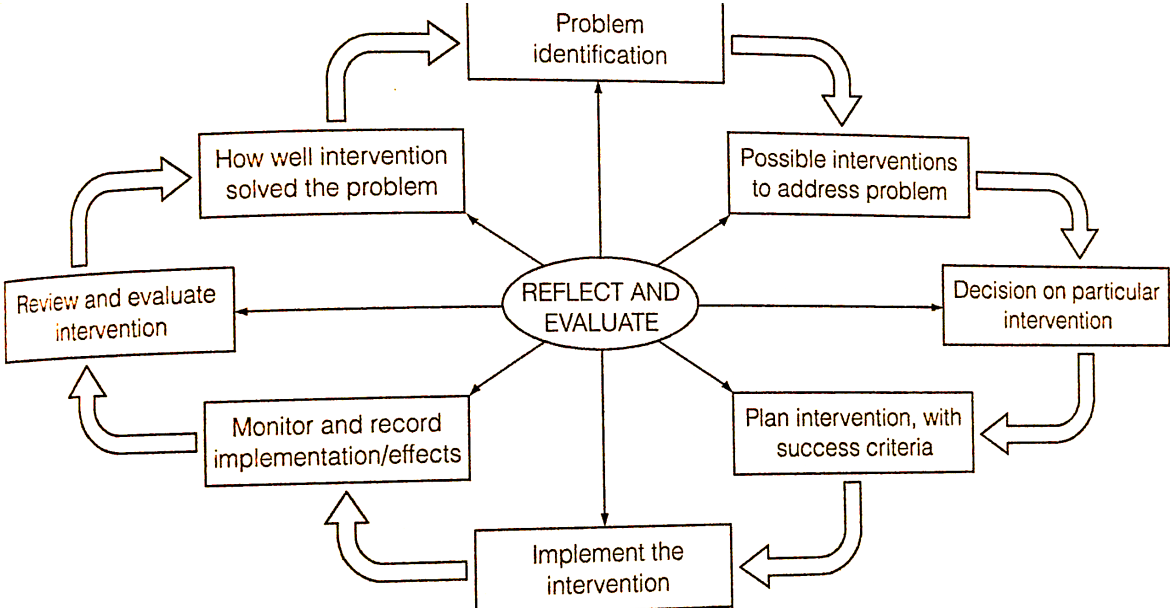


Figure 1.4 A framework for action research (Cohen et al., 2018, p. 451)

This master's thesis followed the eight-step procedure of action research by Cohen et al. (2018, p. 450-451), which is illustrated in figure 1.4. The first step involves formulating a problem that needs innovation. Where the problem was the deficiency of focus on the visuals in pupils' education. The second step involves the preliminary discussion and negotiation amongst the interested parties. Which was discussed through the LAB TEd project. The third step involves the review of research literature, both Norwegian and English. Where in this case was that in terms of visual literacy and multimodal texts, the earlier research has mainly focused on pupils as recipients instead of producers. The fourth step involves modifying the initial statement, which resulted in the formulation of this thesis' research question. The fifth step is where one plans the procedures of research and methods of collecting data. The sixth step involves the evaluation procedure, which is continuous. The seventh step is where one implements the intervention. In this research, the intervention was the teachings of and

accumulation of visual literacy. And lastly, the eight step where the interpretation of data and the overall evaluation of the project to be drawn, which is the presentation of findings, the discussion of the said finding and the conclusion of this master's thesis.

Furthermore, the aim in action research is to change a practice on a local level (Cohen et al., 2018, p. 440). Considering that this master's thesis will be linked to the research project LAB TEEd, both teacher students, the university and the school can take the result further. After the physical lessons were completed, and the data was collected, the teacher trainees who had their practice period at the same time as this research, based the later teachings on what had been performed in this research.

3.2 Questionnaire/ survey

By using a questionnaire as a tool to collect data, it gives this research the insight of the perception the pupils themselves have about how working with visual literacy has been for them, and how they view the combination of visual images and written text. Mapping their attitudes and experience of visual literacy. This method gives the advantage of being less time consuming than that of using interviews, because the exact information is already registered by the time the informant responds (Bjørndal, 2017, p. 115). In this study, the pupils answered a questionnaire both before and after the teaching of visual literacy, so that these answers could be used for data to see if there had been a change in their attitudes and experience. These surveys consisted of standardized questions. Which means that all pupils received the same questions in the same order and with fixed answer alternatives (Frønes & Pettersen, 2021, p. 167). The fixed answers were variables of ordinal level, where they could be ranked in a logical manner (Gleiss & Sæther, 2021, p. 147). To the questions the pupils had five options: Not at all, very little, sometimes, very often, and all the time. To the assertions in the questionnaire, they had the options to answer: completely disagree, slightly disagree, neutral, slightly agree, and completely agree.

In addition, one question and one assertion were added to the last questionnaire to collect data on their opinion of the importance of visual literacy. The question was *Have this project made a change in how you look at pictures?* Where they had the options to answer: not at all, very little, I don't know/neutral, a small change, and a clear change. The assertion stated that: *It is*

important to have competence in visual literacy, where the options to answer were the same as the other assertions.

The disadvantage of using this method lies in the fact that it prevents one collect more in-depth information about the question at hand (Bjørndal, 2017, p. 115). This disadvantage is solved by using other methods to collect similar data, which in this case is the reflection notes.

3.3 Reflection notes

At the end of each of these three sessions, the pupils were asked to answer reflection questions on OneNote about how their experience of each session was for them. In these reflection questionnaires the pupils were asked what they had learned, what was new for them, what did they know from before, what was difficult, if they understood everything and if there was something they wanted to learn more about. These questions were asked repeatedly after every session. In the last session the pupils were given additional reflection questions to answer, which was their opinion on the usefulness of what they had learned, and if they thought they were visually literate.

These reflection notes can be viewed as a form of questionnaire where the answer options are open for the informants. In this form of questionnaire, the answers are more nuanced and contain more information than that of a questionnaire with fixed answers (Bjørndal, 2017, p. 116). With these reflection notes, this research may fill in some of the gaps in the data from the questionnaires. The disadvantage of using this method lies in the fact that it is more time-consuming, and difficult to compare results to each other (Bjørndal, 2017, p. 116).

3.4 Assessment of multimodal texts

The assessed multimodal texts produced in this research can provide data on the pupils' visual literacy competence. The assignment given to the pupils involved them creating instruction manuals/guide on how to follow the covid-19 restrictions and stay safe when staying in their commune. The instructions given for this assignment was to focus on the visuals they used.

Gleiss & Sæther (2021, p. 120) states that using texts as a way to collect data builds on the assumption that it can reveal something new to the research. In this case, it would show to some degree the pupils' visual literacy competence. The process of assessing and analyzing these multimodal texts can then be used as data on how a teacher can evaluate such texts in the future.

The method used to analyze the data collected from these texts will happen through a semiotic analysis. Where the aim is to analyze, understand and interpret the signs, find the meanings of the signs, and the interaction of the signs and the sign systems (Gleiss & Sæther, 2021, p. 122). Furthermore, the texts will be going through a formative assessment. Where the reflection notes and the multimodal text are combined to give the pupils assessment for learning (Munden, 2016, p. 98).

3.5 Description of action

The gradual implementation of visual literacy happened in three sessions over the period of four weeks. These sessions were implemented in the English specialization subject with a class of 29 pupils, ranging from the 8th to 10th grade. The theoretical background for the teachings in these sessions followed the four types of learning experience developed by John L. Debes, and the five principles of multimedia teaching developed by Richard E. Mayer.

3.5.1 First session

The first session was used as an introduction into what this research involved, and the first questionnaire was given. The one leading this session was the teacher, but the teaching arrangements were made by the student who conducts this research. In this introduction, the pupils became acquainted with the term visual literacy and what it means to be visually literate through watching a video from the Toledo Museum of Art (see attachment A). This was a three-minute video of different people giving their definition of visual literacy. One person in the video defined visual literacy as what happens “*when I look at something, a scene, a picture and how I interpret that within the context of my own personality*” (Toledo Museum of Art, 2015, 0:29). Another person in the video defined visual literacy as “*understanding form, shape, color, and understanding the context which in it is used*”

(Toledo Museum of Art, 2015, 0:57). The content of this video was then used as discussion material, where the pupil shared their interpretation of the content.

After watching and discussing the video, the pupils were given the assignment to analyze three different images: Scream by Edvard Munch, Uncle Sam army recruitment poster, and a picture of Utøya days after 22 July. Each image had questions the pupils would answer in plenum. The questions were: what do you see? how does it make you feel? what makes you feel that way? what do you think the creator wanted to convey? and what kinds of tools have the creator used to express their message? Here, the pupils answered that the painting Scream made them feel uneasy, the propaganda poster of Uncle Sam reminded them of memes and made some pupils feel special while others felt intimidated. The picture of Utøya awakened the feelings of sadness, anxiousness, emptiness, and anger. And the pupils mentioned the tools that were used that provoked these feelings which were the cloudy gray sky and the picture being taken from far away from the island, making it feel out of reach. These three images were selected due to their fame, and the high probability of the pupils having seen them before in other subjects. Scream by Edvard Munch is one of the most iconic masterpieces in the world and is considered one of Norway's national treasures. The Uncle Sam army recruitment poster is also an icon which is frequently used in the history subject when teaching about the world war one and two. And the image of Utøya taken after the 22 July terror attack, is loaded with emotions due to how it made a mark in Norwegian history.

After this assignment, the pupils then discussed social media platforms such as Snap Chat and Instagram, where text and image are used to communicate and what types of tools they use when they communicate on these platforms.

3.5.2 Second session

Due to a change of schedule at the school, there was a two-week interval between the first and second session. The student conducting this research, was the one leading and arranged the second session.

In this session, the pupils created a word cloud of what they associated with the term visual literacy (see attachment F). This word cloud was used in order for the pupils to recollect what was talked about in the first session, to share their knowledge with the rest of the class, and to

use it as a discourse starter of what they all remembered from the first session. After the discussion, the pupils watched a video about visual literacy and critical thinking from the Toledo Museum of Art (see attachment B). In this video, individuals with different occupational backgrounds in art and museums industry expressed the importance of visual literacy and critical thinking. One of the noticeable messages given in this video was that in contemporary culture *“it’s become all too endemic to take things at face value, to not think, to not probe, to not ask for evidence, to be manipulated as a result of that”* (Toledo Museum of Art, 2015, 0:43).

After watching the video, it opened the opportunity for another discussion about how images can be used to communicate and influence its audience. Afterwards, the pupils were then given an assignment to create an instruction manual/guide about the covid-19 restrictions and rules in the commune the pupils live in. Here, they had the option to work in groups or individually. This instruction manual/guide was supposed to be for a fictional old lady who was on vacation (see attachment F). This fictional old lady had poor digital skills and needed the pupils’ help to stay safe while traveling. Before the pupils began with this assignment, they were shown a real instruction manual on how to pay bills online (see attachment G), which was created for a real grandmother whose spouse newly passed away and did not have great digital skills. In this assignment the pupils were instructed to use Power Point to create instruction manuals which consisted of images and text, where the focus was on the visuals.

3.5.3 Third session

The third and final session of this action research was used for one final assignment and the last questionnaire. This session was also arranged and conducted by the student who is doing this research.

This session began with the pupils finishing up their assignment about creating an instruction manual for the fictional old lady. The pupils were then shown a video on how colors can influence people's emotions and how they are used for commercial purposes. Which was an introduction to the last assignment where the pupils watched three different commercials and discussed the pre-planned questions. For this assignment, the pupils got a color table which shows what emotions specific colors are associated with.

The first video was a Pepsi MAX commercial (Attachment C). The second video was a Lancôme mascara commercial (Attachment D). The third video was a Peugeot 5008 car commercial (Attachment E). These commercials were chosen in order to create variety in terms of product and directed audience, and to introduce the pupils to the different compelling tools mostly used in commercials. In the Pepsi MAX commercial, the producers used close ups and made their product tempting and tried to induce the feeling of thirst. It also tried to appeal to a young audience interested in watching sports and gaming. The Lancôme mascara commercial used the celebrity Zendaya in order to gain credibility and the color pink which is commonly known as a feminine color which represents beauty. In the Peugeot 5008 car commercial, they used young people in order to promote their product to a young audience, they placed a woman behind the car, which goes against the old gender rolls and the color of the car was blue which symbolizes trust, competence, and loyalty. The questions the pupils were asked revolved around what they saw, what colors were used, who the commercials were dedicated for and what other tools were used to influence the audience.

3.6 Research ethics

In all forms of research, the researcher has ethical obligations towards those who participate in the research, to other researchers, and to society in general (Gleiss & Sæther, 2021, p. 43). As a researcher, one must adhere to the research ethics guidelines that can be summarized in three types of considerations a researcher must consider: "*the informants' right to self-determination and autonomy, the researcher's duty to respect the informants' privacy and the researcher's responsibility to avoid harm*" (My translation) (Christoffersen & Johannessen, 2018, p. 41). In accordance with these guidelines, the applications for consent from both parents and pupils were collected before this project started. The pupils have the right to give their consent or not, even if they are under the age of 15 (Gleiss & Sæther, 2021, pp. 44-45).

This study was prepared for the fact that some pupils or parents may have refused to participate, or that some pupils would change their minds and withdraw their consent in the middle of the project, which was respected. Furthermore, all the personal information such as name, gender and age were anonymized, where each individual pupil was referred to a nickname made by initials from their names when collecting data, and further anonymized in the presentation of findings in this master's thesis. This project will also not shed light on

personal information that will identify them in retrospect, and that it will focus on exposing the participants to the least possible strain, with a view to physical and mental health (Christoffersen & Johannessen, 2018, p. 42). To ensure that the personal data collected was processed in accordance with the legislation, an advance assessment was applied for to NSD (short for the Norwegian Center for Research Data) (Gleiss & Sæther, 2021, p. 47).

3.7 Validity and reliability

In order to trust the findings and the conclusions drawn in this study, the quality of the research implemented needs a review of its validity and reliability (Frønes & Pettersen, 2021, p. 200). This involves reflecting on the methods in which the data is collected by and review their strengths and weaknesses.

3.7.1 Validity

Validity is used as the concept that shows whether the research has sufficient grounds to presume and interpret its findings and results (Postholm & Jacobsen, 2016, p. 126). This involves choosing the correct methods to collect data on findings which best represents the reality one tries to study and having sufficient data to answer the research question.

This research examines both the seen and unseen. Which calls for the use of mixed methods, which involves the use of both qualitative and quantitative methods, to collect the data necessary to answer the research question. The physical aspect, what can be seen of this research, is the pupils' products which is produced thorough the implementation of visual literacy, which is collected through the approach of assessing the pupils' multimodal texts. The unseen aspect of this research is the pupils' attitudes and experience of visual literacy. Where this data is collected through the combination of the reflection notes and the first and second questionnaire.

It is important to note that in the planning of the implementation of action, the effects of having a stranger come into the classroom and leading the sessions, which is a variable every researcher in an educational setting has to consider, was argued. Where the original plan was to have the teacher supervisor lead the session while the researcher arranged the material and

observed. However, after the first session, it was noted that the quality of the session was affected due to the fact that the supervising teacher was implementing an arrangement which was not his. In addition, the teacher supervisor was absent at the day of the second session, which caused the researcher to gain the role as both arranger and leader of the session. After this alternating change of who leads the session, it was decided that the researcher would lead the last session too. The reasoning behind this decision, was the fact that the pupils have already had one session where the researcher was leading, and that the quality of the content of the session would not be affected by having someone else implementing it. This argument includes that the value of the sessions' quality outweighs the value of the pupils not having a stranger lead their sessions.

In this mixed methods research, the internal and external validity of the qualitative and quantitative methods needs to be addressed.

3.7.1.1 Internal validity

The term internal validity involves the conclusions one draws and whether these conclusions are valid, based on what has been studied, and requires accuracy and correctness (Cohen et al., 2018, p. 252). This implies one examines the connection between two variables. The internal validity in the quantitative research in this master's thesis involves the variables which affects the questionnaire. Where one of the most notable variables that affects the questionnaire, is absence of the pupils in the second questionnaire, which caused this research to be unable to implement a correlation test. Furthermore, this absence has caused some pupils to not be present at the second session, which may have caused them to lose some crucial teachings about visual literacy, and they missed the instruction manual/guide assignment. However, the results of these questionnaires could still be in use for this research as it builds a baseline for this group of pupils, and that the answers can be combined with the results of the other methods used.

The internal validity of the qualitative research in this master's thesis involves the reflection notes and the multimodal texts the pupils produced during the implemented action. Hammersley (1992, p. 71) states that here, the researchers need to direct the attention to the plausibility and credibility, the amount of evidence that is required, and to have clarity to the kinds of data made from the research. In this research, it has resulted in a total of eight

multimodal texts created either individually or in groups by the pupils, where each text consists of range of two to eight pages. And reflection notes from a total of 22 pupils. One of the intended purposes for the reflection notes, was to support some of the answers from the questionnaire. One example to this was the additional question and assertion to the second questionnaire about the possible further use of visual literacy. This turns out to be impracticable to some degree due to the absents in the questionnaire.

3.7.1.2 External validity

The term external validity indicates the extent to which the results are valid under other conditions and for other samples, meaning to what degree the results can be generalized to wider populations, cases, settings, times, or situations (Cohen et al., 2018, p. 254).

The external validity of the questionnaire involves its results having the possibility to generalized to the bigger population, which it is unable due to the small selection of participants in this study (Creswell, 2014, 203).

The external validity of the qualitative research in this master's thesis involves the interpretations and evaluation of the pupils' multimodal texts and their reflection notes. As mentioned earlier, the evaluation of the multimodal texts will be on alert as to not over-interpret the images used and evaluate them through the accompanied verbal text (Cohen et al., 2018, p. 707).

3.7.2 Reliability

Reliability raises the question on how reliable the data is collected and how it has been processed (Gleiss & Sæther, 2021, s. 202). In quantitative research, which in this case is the questionnaire, the reliability can be tested by performing the same survey with the same group on different times (Christoffersen & Johannessen, 2018, p. 24). As in this research, the pupils were given the same questionnaire before and after the implementation of visual literacy, which was an interval of four weeks. If these results come out the same, or if there is a correlation between these two tests, then there is a sign of high reliability or test-retest reliability (Christoffersen & Johannessen, 2018, s. 24). However, the planned correlation test

could not be implemented, due to the noticeable change and deficiency in participants from the first and second questionnaire.

According to Cohen et al. (2018, p. 43), the use of mixed method may offer great reliability because the quantitative and qualitative each produce some form of reliability. This is where the two methods of collecting data collaborate each other on its findings.

4 Findings

In this chapter, the findings from the three methods used to collect data will be presented. It will begin with the findings from the questionnaire in part 4.1. Then, the findings from the reflection notes will be presented in part 4.2. The findings from the evaluated texts the pupils have produced during this research will be presented in 4.3.

4.1 Questionnaire

The questionnaire used in this research was given in the beginning and at the completion of the implemented action. It had identical questions and was written in Norwegian, with the interest of having questions that could be easily understood, would not create misunderstandings and answers that could be compared to each other. The intention behind using this method to collect data, was to see if the pupils' attitude to images could change over the period of four weeks and implemented action.

At the time for the first questionnaire there were 21 pupils present, where 5 chose not to participate, leaving 16 participants in the beginning of this research method. In the final questionnaire there were only 6 pupils present that had taken the first questionnaire, where one chose to withdraw from the survey, resulting in only 5 participants. This resulted in this research not being able to conduct test-retest reliability, due to the considerable change and deficiency in participants.

However, the collected data resulted in some findings which will be presented below. It is also important to note that the diagrams and questions have been translated from Norwegian to English.

4.1.1 The pupils' initial attitude to images

This research has the possibility to map the pupils' initial attitude to images from the first questionnaire, where it was noted that the pupils participating had a neutral to considerably positive attitude.

In relation to their own learning, the questionnaire asked how images helped them when they were listening to others holding a presentation, and when they themselves were holding a presentation. Out of the 16 participants, they all answered that pictures helped them to some degree to understand other peoples' presentations, as seen below in figure 1.5. The degree of how pictures help them varies, where one pupil answered that it helps very little, three pupils answered that it helps sometimes, seven answered that it helps very often, and five pupils answered that it helps them all the time. It is important to note that none of the pupils answered that pictures did not help them at all.

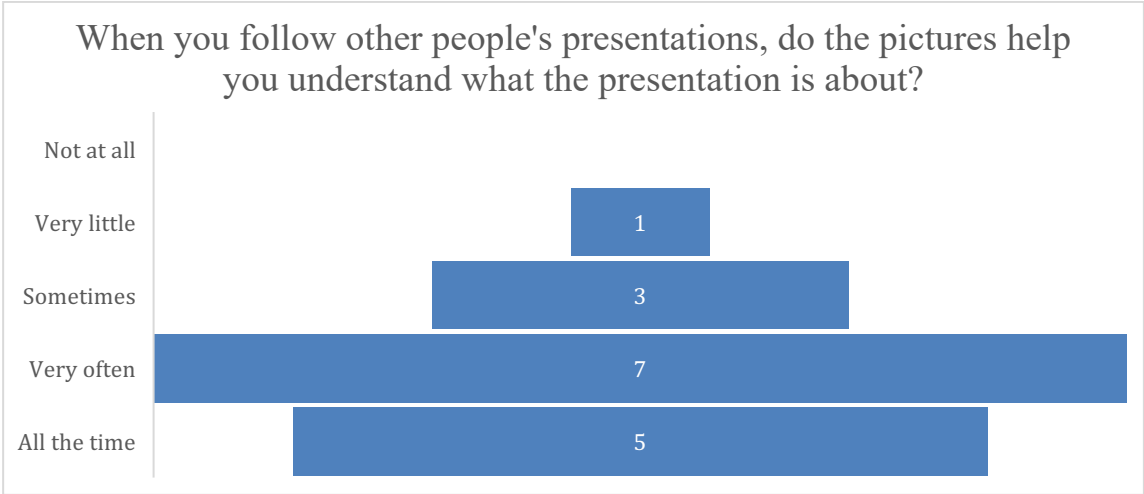


Figure 1.5: Diagram of the answers in the first questionnaire involving pictures and how it helps pupils understand others' presentation.

The same can be seen in figure 1.6, which shows that the pupils generally give pictures the same value as text/keywords in their own presentations to some degree. Where six pupils answered that pictures sometimes have the same value. Eight pupils answered that pictures are very often equivalent to the text in their presentation. And two pupils answered that it is constant in all their presentations.

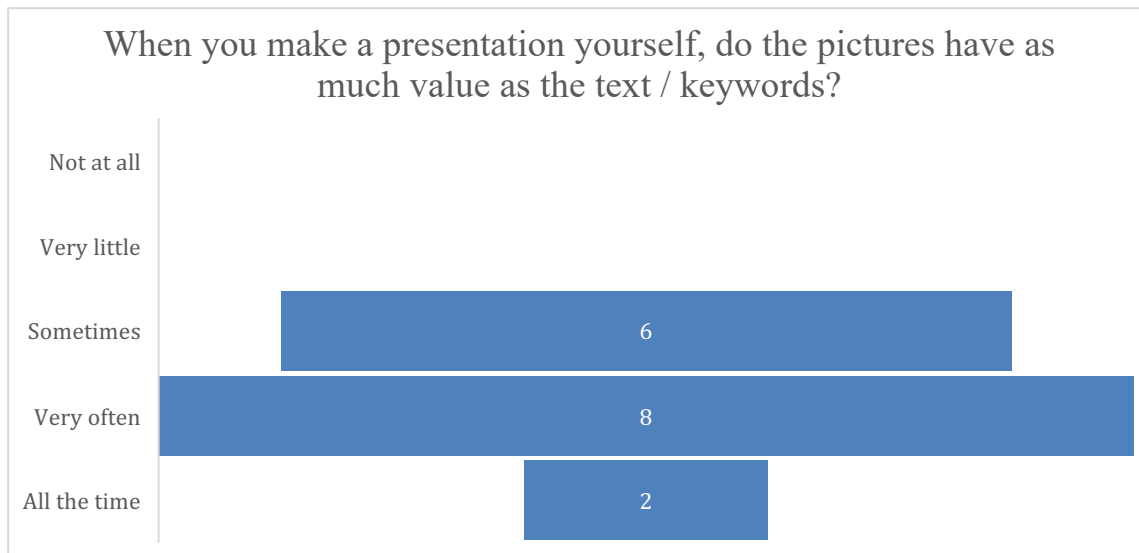


Figure 1.6: Diagram of the answers in the first questionnaire involving the pupils' attitude to pictures value in their own presentation.

In the questionnaire there were assertions, which the pupils could answer from a scale from 1 to 5 on whether they agreed or disagreed to the statements presented to them. To the statement *Pictures make you remember better*, they were either neutral or agreed to some degree, which is showed in the diagram in figure 1.7. Here, none of the pupils disagreed clearly to the statement, three pupils were neutral, seven pupils agreed slightly, and six pupils agreed completely.

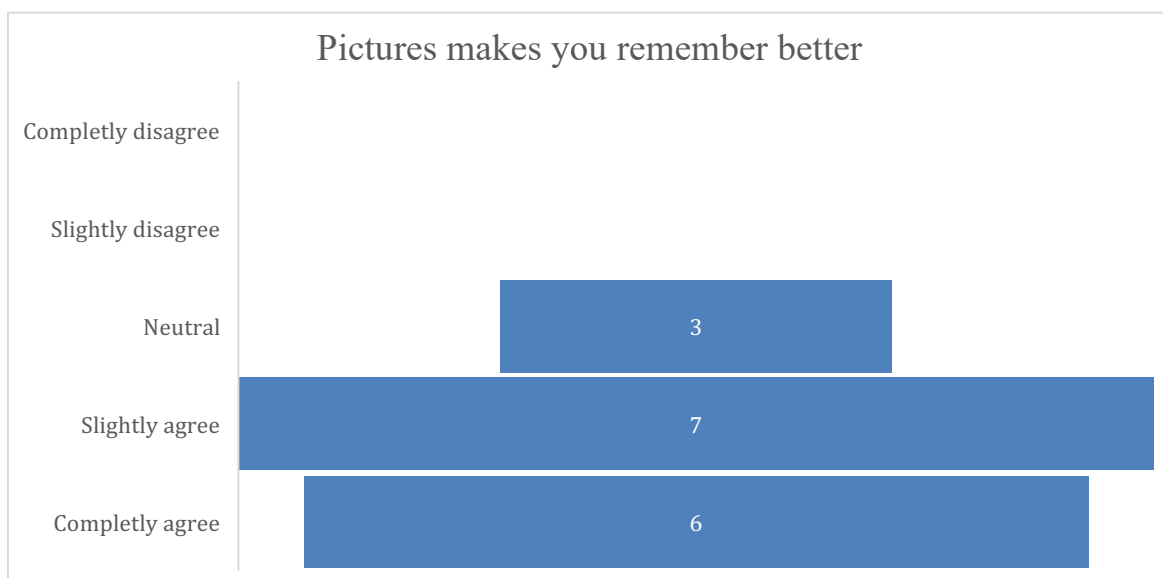


Figure 1.7: Diagram of the answers in the first questionnaire involving the pupils' opinion to the statement that pictures help one remember better.

In relation to their own production, the pupils were asked the question *When you create multimodal texts that consists of image and text, do you think that the images are equivalent to the text?* And the answers which can be seen in figure 1.8, showed that they varied on their answer, but there was no absolute yes or no. Where one pupil answered that the happened very little, four pupils answered that this happened sometimes, and eleven pupils answered that this happened very often when they were producing multimodal texts.

Furthermore, the pupils were presented the statement *Proper use of images is important*, where one pupil answered that he/she was neutral to the assertion, four pupils agreed to some degree, and a total of eleven pupils agreed completely. The pupils' answers to this statement is shown in the diagram in figure 1.9, which shows that none of the pupils stated that they disagreed to the assertion.

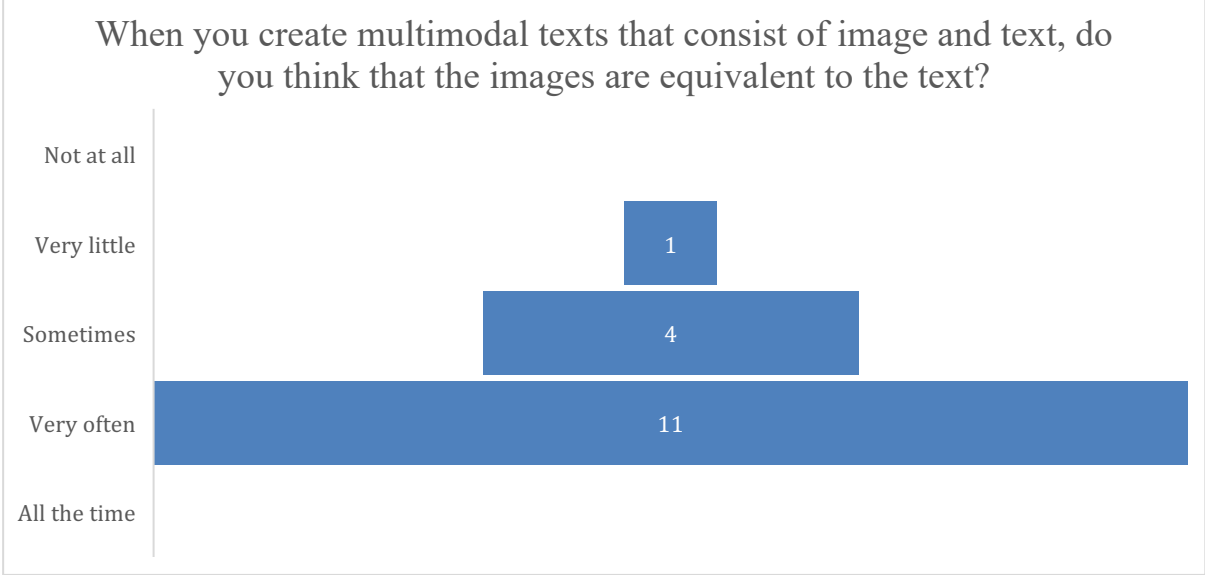


Figure 1.8: Diagram of the answers from the first questionnaire involving the pupils' production of multimodal texts and the value of image and text.

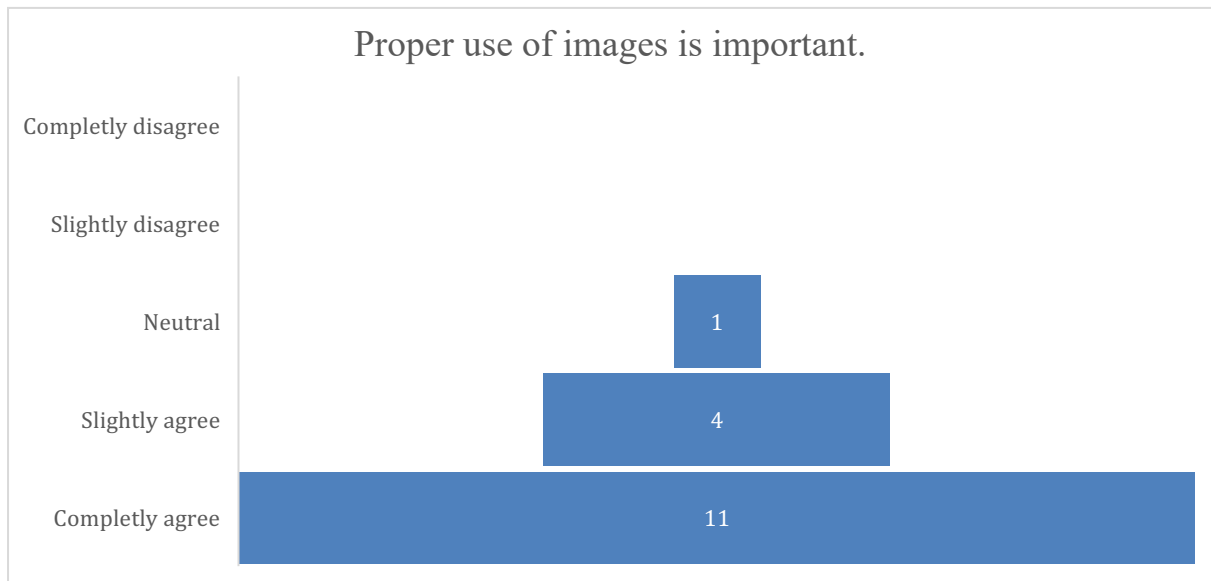


Figure 1.9: Diagram of the answers from the first questionnaire involving the pupils' opinion on the statement that proper use of images is important.

4.1.2 Individual changes in the remaining participants

As there was a considerable change in the number of participants from the first to the second questionnaire, the only way to compare them to each other and analyze the possible changes, is by reviewing the remaining participants' answers individually. Furthermore, only four of the five pupils participating were able to be connected to their answers in the first questionnaire. This is due to the pupil creating and using different nicknames/usernames in each of these questionnaires. The remaining pupils will in this part be referred to as Pupil W, Pupil X, Pupil Y, and Pupil Z In order for them to remain anonymous and for this research to be able to trace their individual answers. The results of their individual answers are shown in a table in attachment K In this presentation of these findings, the designation of negative side involves the pupils decreasing the value in their answers, while the positive side involves the pupils increase the value of their answer.

Pupil W answered differently to five out of the ten questions in the second questionnaire, where the change was mostly on the positive side compared to the negative side. The considerable change was to the questions: *Do you set aside time to look at the pictures others use in their presentations?* Where the pupil answered *sometimes* in the first questionnaire and

all the time in the second. While the decrease happened to the assertion: image is a form of text, where the pupil changed from answering that he/she completely agreed to slightly agree.

Pupil X also answered differently to five of the questions in the second questionnaire. This pupil had a slight change to either the positive side (three questions) and the negative (two questions). This pupil did not have any considerable change, where the answer did not change its value to more than one degree.

Pupil Y answered differently to four of the ten questions in the second questionnaire. And all the changes happened to the slightly positive side.

Pupil Z also answered differently to four of the ten questions in the second questionnaire. In comparison to Pupil Y, all the changes happened to be on the negative side. Here, there were two questions that had a considerable change: *Do you set aside time to look at the pictures others use in their presentation?* And *When you watch other people's presentation, do the pictures help you understand what the presentations are about?* The pupil changed the answer from *all the time* to *sometimes* to both of these questions.

4.1.2.1 Importance of visual literacy

To the additional assertion added to the second questionnaire, the pupils participating answered that they had neutral to slightly positive attitude, which is illustrated in the table below in figure 2.0.

It is important to have competence in visual literacy	Pupil answer
Completely disagree	
Slightly disagree	
Neutral	Y - Z
Slightly agree	W - X
Completely agree	

Figure 2.0: Table showing the answers given to the assertion involving the importance of visual literacy

4.1.2.2 Change of view on pictures

To the additional question about the pupils' personal opinion on the effect of the implemented action, they all answered that there had been some degree of change on their view of pictures. As illustrated in the table below (figure 2.1), four pupils answered that there had been a clear change, while one answered that there had been a slight change.

Has this project made a change in how you look at pictures?	Pupil answer
Not at all	
Very little	
I don't know / neutral	
A small change	W
A clear change	X - Y - Z

Figure 2.1: Table showing the pupils' change of viewing pictures.

4.2 Reflection notes

Due to the pandemic, there was a variation on the number of pupils present at each session. However, through the use of reflection notes, this research can map the learning curve of each pupil present as the sessions progressed. It is important to note that the reflection questions given to the pupils were written in English, in order for it to be easier for the pupils to connect what had been discussed in the session, and that they would not have the trouble of having to translate it over to Norwegian. Furthermore, not all pupils present at each session gave an answered all of the reflection questions. The template for the reflection notes (see attachment I) and some of the answered reflection notes (see attachment J) are available in the attachments.

4.2.1 The pupils' prior knowledge

At the end of the first session, the pupils were asked to reflect upon their prior knowledge of the content of the session. The relevant answers given in the reflection notes have been analyzed, categorized, and entered into a table which is shown in figure 2.2 below. It is important to specify that some of the pupils gave more than one answer and that both answers have been entered into the table, and that not all of the pupils answered this question.

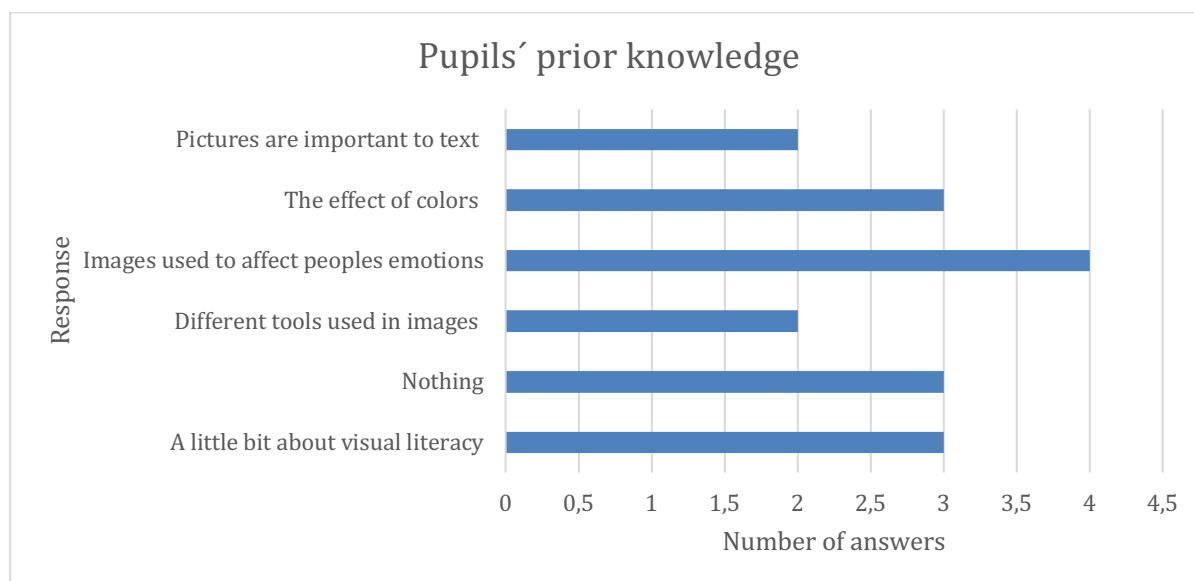


Figure 2.2: Table illustrating the pupils' answers of their prior knowledge of the content in the first session.

This table (figure 2.2) illustrates what the pupils knew prior to the implementation of action. Where two pupils shared that they knew that pictures are important to text, three pupils shared that they knew about the effect colors have on the interpretation of an image, four pupils shared that they knew that images are used to affect pupils emotions, two pupils shared that they knew about different tools used to alter the interpretation of images, three pupils shared that they knew a little bit about visual literacy, and three pupils shared that they knew nothing about the content which was taught prior to the first session.

4.2.2 The pupils' interest in learning more and giving ideas as to how they could learn and work with visual literacy

In the reflection questions from the first and second session, the pupils were asked to give input on what they would like to know more about and share their ideas as to what they could do in these sessions. At the end of the first session, the pupils were asked the question: *Is there something you want to know more about?* Their answers are illustrated in figure 2.3 below. Which shows that the majority of the pupils answered that they did not have anything

they wanted to learn more about. Three pupils were uncertain about what the possibilities were and answered that they did not know. And four pupils answered that they wanted to learn more about visual literacy.

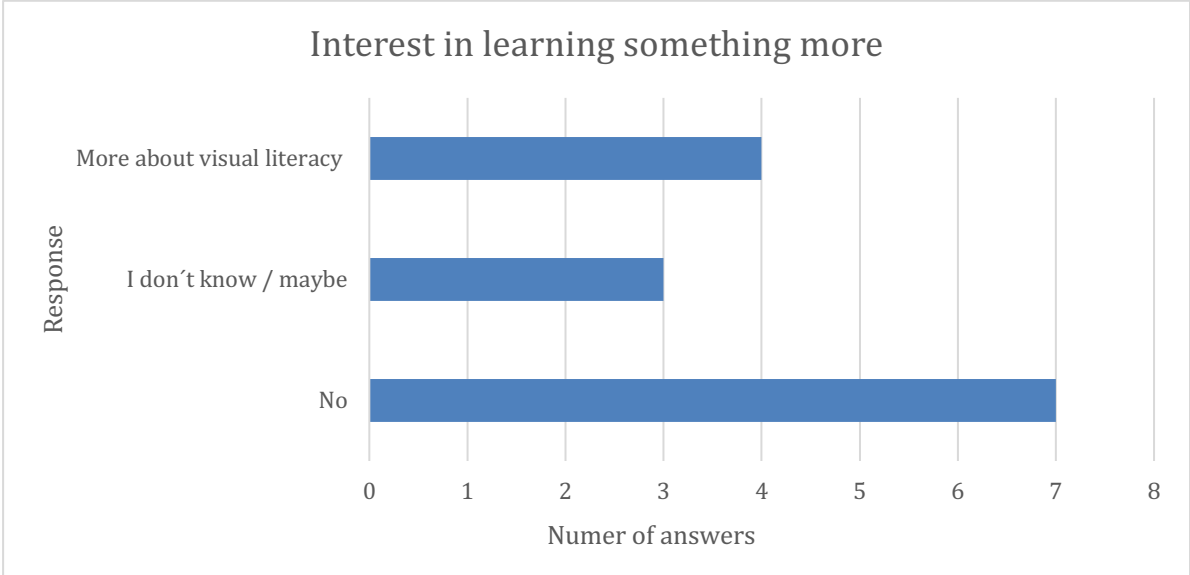


Figure 2.3: Table showing the pupils' interest to learn more after the first session.

One of the reflection questions from the second session asked to reflect on ideas for possible activities which could be done in the last session. The answers to this questions have been analyzed and entered into a table which is shown in figure 2.4 below. Which shows that one pupil wanted to make presentations, one wanted to finish the assignment that they were given during the second session, another pupil wanted to watch videos, three pupils did not have any ideas to contribute, and two pupils wanted to do something similar to what they had been doing in the second session.

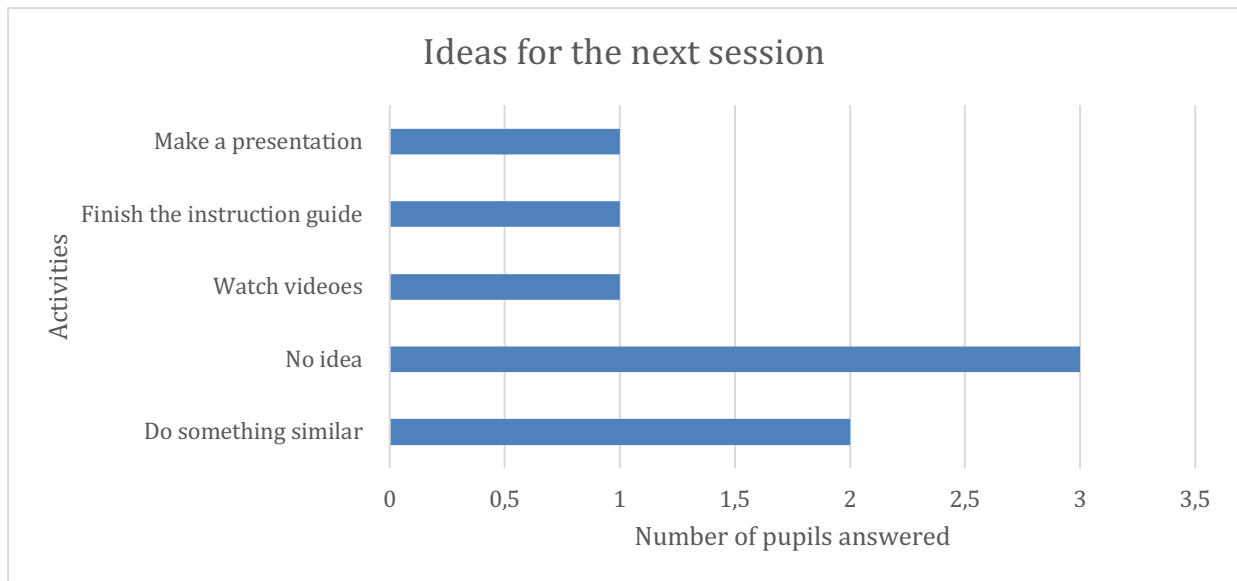


Figure 2.4: Table illustrating the pupils ideas of future activities in the last session.

4.2.3 The need of visual literacy

At the end of the implemented action, questions involved the need of visual literacy were added to the reflection notes given to the pupil, where they were asked the following questions which will be discussed first separately and then as a whole.

Do you think you need what you have learned during these lessons with the student?

To this question none of the pupils answered that they had no need for it in the future. To be more specific; one pupil answered that he or she did not know, five answered maybe, and twelve answered yes.

Do you think you would use anything you have learned during these lessons?

Again, to this question none of the pupils answered that they would not use anything that they had learned from participating in this research. One pupil answered that he or she did not know if they would use it, while five pupils answered that they may use it, and nine pupils answered that they would use it in the future.

4.3 Evaluated multimodal texts

The evaluated multimodal texts produced in this research resulted in findings involving the pupils' competence of visual literacy and findings involving the evaluation process from a teacher standpoint. For consistency, there was a total of eight multimodal texts produced in this project, where some of them were produced then while working in groups of two or three pupils, and some pupils produced their text individually. Furthermore, view attachment F where the framework the pupils followed for the assignment is listed.

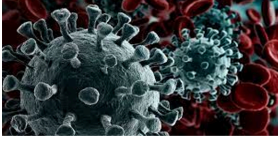
4.3.1 The variation of the value given to the visual and the verbal







In these instruction manuals/guides of the covid-19 restriction, there was a variation in the value the pupils gave to the verbal and visual modes.

In some of the pupils' multimodal texts, the message was mostly conveyed through the verbal text and the images only illustrated parts of the content. This can be seen in figure 2.5, which is an excerpt from one of the multimodal texts the pupils have produced. Here, the verbal text is conveying the information, while the image has no relevance to the information given. It is important to note that this excerpt in figure 2.5 is not the only multimodal text produced where the verbal text was the dominant mode.

In other multimodal texts which were produced, the visual and the verbal text worked together on conveying the message and had equal value. An example of this is seen in figure 2.6, which is an excerpt from one of the multimodal texts where the visual and verbal modes give the reader clear directions as to how it should be interpreted.

In total, there was four multimodal texts where the visual and verbal texts had equal value, there was two multimodal texts where the verbal text dominated and the visual had few to no function in the conveying of the information, and two texts which were difficult to put in either of these categories due to the variation from page to page.

<h2>Rules</h2> <ul style="list-style-type: none"> • If you are infected with Covid-19 you need to be isolated for 4 days. • Most of the schools and kindergartens in Norway goes from yellow to green zone. • You can have as many guests as you want. • Pour stop and claim about table service get removed. 	 <ul style="list-style-type: none"> • <u>Amusement parks, play land, arcades and stuff like that opens.</u> • Reco mentions about distance in class instruction gets removed. • Leisure activities, exercise places can open. • If you're at the theatre or at the movies, the distance gets removed between the seats. 	<p>Figure 2.5: Excerpt from a multimodal text where the verbal text is the only mode conveying the message.</p>
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 <p>SOCIAL DISTANCE ← 1m →</p> <p>Keep 1 meter distance to people other than your family.</p>	 <p>If you feel sick, stay at home.</p>	 <p>Remember to take a covid test when you're sick.</p>	<p>Figure 2.6: Excerpt from a multimodal text where the two modes work together conveying the message.</p>
 <p>Put on a face mask whenever you go out.</p>	 <p>Practice good hand hygiene and cough or sneeze in your elbow.</p>	 <p>You can find the directions to a test center on the next slide.</p>	

4.3.2 The pupils' usage of visuals to affect emotions

In these multimodal texts, the pupils used a multitude of visuals to affect the readers' emotions. These emotions were affected by either the use of symbols, or images the reader could relate to. Since this assignment involved the gradually changing restrictions which have been implemented on the world population over the course of two years, it is a high probability that the readers can relate to them, and certain emotions can arise.

One example for this can be seen in figure 2.7, which is an excerpt from the first page of one of the multimodal texts, one reads the text *The corona rules in Tromsø*, and sees the picture of a health care worker wearing personal protective equipment. Here the pupil/pupils either implicitly or explicitly used this image to set the tone of the message it would convey.

Furthermore, two of the multimodal texts used the symbols of red hearts at the end of the texts which can be seen in figure 2.8 and 2.9. Red hearts are most commonly used as symbols

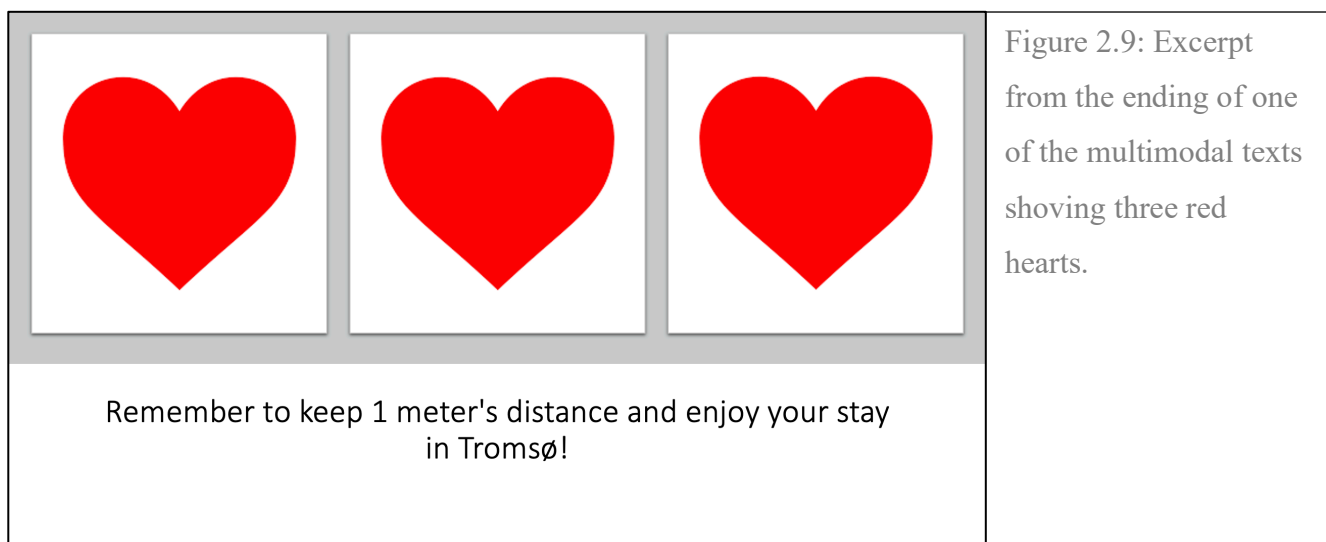
for love and affection, and by the support from the verbal text one can interpret it as the pupils affectionately hoping that their instruction manual/guide can be of use to the fictional old lady.



Figure 2.7: Excerpt from the first page of one of the produced multimodal texts



Figure 2.8: Excerpt from the ending of one of the multimodal texts showing a red heart.



4.3.3 Criteria for teachers to be able to evaluate multimodal texts

After a careful analysis and evaluation of these multimodal texts, and reflections of how one as a teacher can evaluate texts such as these where the focus is on the visuals, certain criteria were developed. One of these were that the event though one as a teacher is compelled to correct the spelling and grammar errors, one needs to keep the focus on how the combination of the visual and verbal text communicate together. Especially when the pupils have been given the instruction to focus on the visuals. This criteria is followed by the notion that a teacher needs to be visually literate in order to evaluate the pupils' visual literacy. However, it is challenging to not over interpret the images which may have been given a function either explicitly or implicitly without hearing the pupils' reflections on their production. Another criteria involves the uncertainties on whether certain images or symbols have been used implicitly or explicitly, where the problem could be resolved through the use of interviews or reflection notes based on the pupils' production process.

5 Discussion of findings

In this chapter, the findings will be summarized and categorized, all in order of trying to draw lines between the categories and link the categories to the relevant theory and earlier research. The summary of the categories has been divided into the inductive structuring of the analysis process, and aims to answer the research question:

To what extent can working with visual literacy make a positive impact on the pupils' attitude to//and production of multimodal texts, and how can teacher assess multimodal texts where the focus is on the visual?

This discussion will begin in the chronological order as way the research question is formulated. It will begin in part 5.1, where the findings involving the pupils' attitude will be discussed. In part 5.3, the findings involving the evaluated multimodal texts the pupils produced in this project will be discussed. And lastly in part 5.4, the finding involving the evaluation process of these multimodal texts will be discussed.

5.1 The pupils' attitude to multimodal texts and visual literacy

In this research, the data involving the pupils' attitude and confidence to multimodal texts and visual literacy have been collected through the use of the questionnaire and the pupils' reflection notes. These attitudes have been divided into three categories: their initial attitude before the implementation of action, their attitude to learning during the implementation of action, and their attitude to the importance of being visually literate after the implementation of action.

5.1.1 Initial attitude

Their initial attitude to visual literacy can be seen in the combination of their answers in the first questionnaire, and from their reflection notes from the first session. In the first questionnaire the pupils were shown to have a neutral to considerably positive attitude to the use of visuals. The questions that they were asked involved how they used images, in terms of reading and producing. In the reflection notes from the first session the pupils prior

knowledge of the subject at hand was shared, which may further build data on the pupils initial attitude.

In terms of reading, the pupils answered that reading images other people use in their presentation helped them understand the content to some degree (see figure 1.5). One pupil answered that it helped very little, three pupils answered that it helped sometimes, seven pupils answered that it helped very often, and five pupils answered that it helped all the time. To the assertion which stated that pictures make one remember better, they were either neutral or agreed to some degree (see figure 1.7), where three pupils answered neutral, seven pupils answered that they slightly agreed, and six pupils agreed completely.

The benefits that the visuals bring to the understanding of a verbal or oral text, and the increased chance of remembering the content, is supported in earlier research and literature. In terms of being the superior memory, the research of both Avegerinou & Pettersson (2011) and Haber & Myers (1982) supports the notion that the combination of visual and verbal text, is superior to texts with either verbal text alone or visual text alone. However, Watson & Willows (1987) in Avgerinou & Pettersson (2011), argued the downside of using images as a tool to remember better, where the pupils' interpretation and narrative is distracting them and pulls them away from the actual message. This may imply that the finding of the pupils' initial attitude to how the visuals affect their memory corresponds with the field of research. Where the variety of the visual support to memory may be illustrated by the pupils' answers, where a number of pupils gained the benefits of images, while other pupils experienced the distraction that the visuals may cause.

There can be several causes for the pupils to experience the distractions that the visuals may create. One of the biggest contributors to this distraction can be the incorrect usage of images. For example, a teacher is flooding the pupils with texts and images in hope that they learn more from them, which is contradictory due to how taxing it is for the pupils' working memory (Andersen, 2020). It could also be the that the teacher is not following the principles which promotes multimedia learning, where the pupils are exposed to images and words that are foreign to them, where the pupils are not given cues which highlights the important information, the teacher presents the information through multiple formats, the visual and verbal text contradicts each other, and the teacher does not give the pupils worked-out examples in the learning of cognitive skills, such as identifying, interpreting, and analyzing the object they are reading.

In terms of their own production, the questionnaire asked the pupils about how they valued the visual and verbal text in their own presentations (see figure 1.6), their multimodal texts (see figure 1.8), and they were also asked for their opinion to the assertion that proper use of images is important (see figure 1.9). The pupils' initial attitude to their use of visuals in the production of multimodal texts varied from the slightly negative to the positive side. Where in the questionnaire, one pupil answered that in its multimodal texts the frequency of the visual and verbal being equal was very little, four pupils answered that it happened sometimes, and eleven pupils answered that this happened very often when they were producing multimodal texts. To the question about them giving pictures the same value as text/keywords in their own presentation, six pupils answered that this happened sometimes in their presentation, while eight pupils answered that this happened very often, and two pupils answered that the pictures and text/keywords had the same value in all their presentations. To the assertion, one pupil answered neutral, four pupils answered that they agreed to some degree, and a total of eleven pupils answered that they completely agreed.

The reflection notes from the first session shows the pupils prior knowledge of the content of the implemented action (see figure 2.2), where two pupils shared that they knew that pictures are important to text, three pupils shared that they knew about the effect colors have on the interpretation of an image, four pupils shared that they knew that images are used to affect pupils emotions, two pupils shared that they knew about different tools used to alter the interpretation of images, three pupils shared that they knew a little bit about visual literacy, and three pupils shared that they knew nothing about the content which was taught prior to the first session.

Looking closer on these results, one can draw lines between the answers to the questions and to the assertion in the questionnaire, and the answers from the reflection notes. Where the majority of the pupils have a neutral to positive initial attitude to their usage of visuals in their production of multimodal texts which consists of visual text and verbal or oral text. And that they do have some form of prior knowledge on the subject. Which may imply that one as a teacher can use this to further develop their visual literacy competence.

5.1.2 Attitude to learning

The pupils' attitude to having the option of learning more about visual literacy and its usage in multimodal texts is shown in their reflection notes.

The findings from the reflection notes involved the pupils' giving input on what they would like to know more about and if they would like to share their ideas as to what they could do in the next sessions. After the first session (see figure 2.3), the majority of the pupils answered that they did not have anything they wanted to learn more about. While three pupils answered that they were uncertain about what their possibilities were and answered that they did not know. And four pupils answered that they wanted to learn more about visual literacy. After the second session (see figure 2.4), one of the pupils answered that he/she wanted to make presentations, while another pupil answered that he/she wanted to finish the assignment they were given during the second session, another pupil answered that he/she wanted to watch videos, three pupils answered that they did not have ideas to contribute, and two pupils answered that they wanted to do something similar to what they had been doing in the second session.

Between the first and second session there is a noticeable change in the pupils' input of possible activities. Where a total of seven pupils answer that they had no input to give for possible activities for the second session, compared to the reflection notes made after the first session, where only three pupils answered that they had no input to contribute for possible activities in the last session. Some of the possible explanation to this may be that the pupils after the first session did not yet have a complete understanding of what they were supposed to learn more about, and that their motivation and curiosity had not yet been activated.

The pupils' input on possible activities in this research gave the pupils the possibility to steer their teaching to some degree and follows John L. Debes four types of learning experiences which contribute to the development of visually literate individuals (Duchak, 2014). Where the pupils have the ability to choose what interests them.

5.1.3 Importance/relevance of visual literacy

The findings of the pupils' attitude to the importance/relevance of visual literacy is shown in their reflection notes, and in the last questionnaire from the remaining participants. In the reflection notes, the pupils were asked the questions on whether they think that they would need what they had learned in the session, and if they think that they would use what they had learned. To the question involving the necessity of visual literacy, one pupil answered that he/she did not know, five pupils answered that they may have use for it, and twelve pupils answered yes. To the question on whether they would use it or not, one pupil answered that he/she did not know, five pupils answered that they may use it in the future, and nine pupils answered that they would use it in the future.

This may imply that the majority of these pupils would use the teachings of visual literacy in the future. And it may also imply that the majority of these pupils have been made aware of the relevancy to be visually literate, as they are consumers of social media and the potential it brings to the quality of their educational works.

The remaining four participants was equally divided to the assertion in the second questionnaire, where two pupils answered that they were neutral, and two pupils answered that they slightly agreed that it is important to have competence in visual literacy. This may imply that these pupils believe that it is not completely relevant to have visual literacy competence, due to the skills and knowledge they are already taught in other subjects. By combining this with the findings from the reflection notes, it may imply that there is some form of neutral to positive attitude to the teachings of visual literacy.

To the other additional question in the last questionnaire, which asked the remaining pupil if the implemented action and teaching of visual literacy had made a change in how they view pictures, they all answered that there had been a change to some degree. Where one pupil answered that there had been a small change, and three pupils answered that there had been a considerable change. Which may imply that the implemented action in this research have had some form of positive effect to the attitude to these specific four pupils.

5.2 The pupils' production of multimodal texts

The evaluated result of the pupils' multimodal texts produced findings involving the varying value of the visual and the verbal text, and how the pupils used different tools in order to affect the readers' emotions.

In terms of the varying value of visual and verbal text, there was four multimodal texts where the visual and verbal texts had equal value (see figure 2.6), in two of the multimodal texts the verbal text dominated and the visual had few to no function in the conveying of the information (see figure 2.5), and two texts which were difficult to put in either of these categories due to the variation from page to page. One possible variable which may have caused this variety of value between these two modes in some of these multimodal texts, can be the recurring absences of the pupils where some of them were not present at the first session where the introduction was given. Another possible variable may be that the implemented action was not effective to all of the pupils.

In terms of using different tools to affect the readers' emotions, two to the multimodal texts used the symbols of red hearts which are most commonly used as symbols for love and affection, and by the support from the verbal text one can interpret it as the pupils affectionately hoping that their instruction manual/guide can be of use to the fictional old lady. Another example for tools used, is in the excerpt in figure 2.7, where one reads the text *The corona rules in Tromsø* and sees the picture of a health care worker wearing personal protective equipment. Where the pupil/pupils had either implicitly or explicitly used this image to set the tone of the message it would convey. One possible way to clarify this uncertainty on whether these tools were used explicitly or implicitly, could be to either interview the pupils when giving them their evaluation, or to have the pupils write reflection notes of their production process.

5.3 Assessing multimodal texts focusing on the visuals

During the process of evaluating the pupils multimodal texts, the reflections of how one as a teacher can evaluate multimodal texts where the pupils are instructed to focus on the visuals, which resulted in the constructions of some possible criteria which may aid teachers.

The first criteria involve the teacher keeping his/her focus on the instructions the pupils were given. This is due to the fact that one might be compelled to focus on the spelling and grammar errors even though the focus is how the visual and verbal collaborate. Which may be why a teacher should focus on the questions: why? who? what? how? and when? (Imsen, 2020).

The second criteria involve the teacher being visually literate in order to evaluate the pupils' own visual literacy. Which can be considered a challenge due to the considerable lack of teachers who can be considered visually literate. This is further supported in Sæverot & Ulvik (2018) and Dominguez Romero & Bobkina (2021), where they both state that teachers lack the knowledge of how to use images and critical visual literacy skills.

The second criteria is to have a fine line as to not over interpret the images which may have been given a function either explicitly or implicitly without hearing the pupils' reflections on their production. Which is supported in the statement of Cohen et a (2018), where one needs to be on alert as to not over interpret images.

The third criteria involve the uncertainty on whether certain tools have been used in the pupils' multimodal texts explicitly or implicitly. This is due to the fact that visual literacy is not universal, where the interpretation is affected by the individual's personal, social, and cultural background (Avgerinou & Pettersson, 2011).

6 Answering the research question

The goal of this masters' thesis have been to examine the research question: *To what extent can working with visual literacy make a positive impact on the pupils' attitude to//and production of multimodal texts, and how can teacher assess multimodal texts where the focus is on the visual?* Where the method involved the implementation of action learning, where the pupils were introduced to the term visual literacy, what it involved and were assigned tasks where they exercised critical thinking and the production of multimodal texts where they were instructed to focus on the visuals. The data collected through this action, happened in the form of questionnaires, reflection notes and multimodal pupil texts, which resulted in findings involving their initial attitude to the subject, the variety of tools used and the value of verbal

and visual in the pupils multimodal texts, and reflections from the evaluation process of these multimodal texts.

In conclusion, these findings shows that the implemented action may have had some form of positive impact on the pupils' attitude. Where the majority of the pupils answered that they had some degree of future need for the skills they were taught, which involves being critical to what they read and what they themselves produce. The majority of the pupils also answered that they would use these skills in the future, which implies that the pupils will continue using the skills they have been taught through the implemented action.

The findings also showed that the implemented action had some form of impact on the pupils production of multimodal texts, where they to some degree produced texts where the visual and the verbal text complimented each other and worked together conveying the message.

Furthermore, the evaluation process resulted in findings involving how one as a teacher may evaluate multimodal texts where the pupils have been instructed to focus on the visuals. Which involves possible criteria a teacher may follow, in terms of the teacher's own competence, and the necessity of having the pupils reflections on their usage of images in order to not over interpret them.

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8 Attachments

Attachment A: Toledo Museum of Art. (2015, 9. February). *How Do You Define Visual Literacy?* [Video]. YouTube. <https://www.youtube.com/watch?v=QeSpTBCjdeQ&t=3s>

Attachment B: Toledo Museum of Art. (2015, 18. February). *Visual Literacy and Critical Thinking* [Video]. YouTube. <https://www.youtube.com/watch?v=2jR8zWqyHBY&t=1s>

Attachment C: Pepsi Max. (2021, 7. June). *Pepsi MAX – Maximum Taste, No Sugar – Challenge Your Taste* [Video]. YouTube. https://www.youtube.com/watch?v=_K48WRURJq8

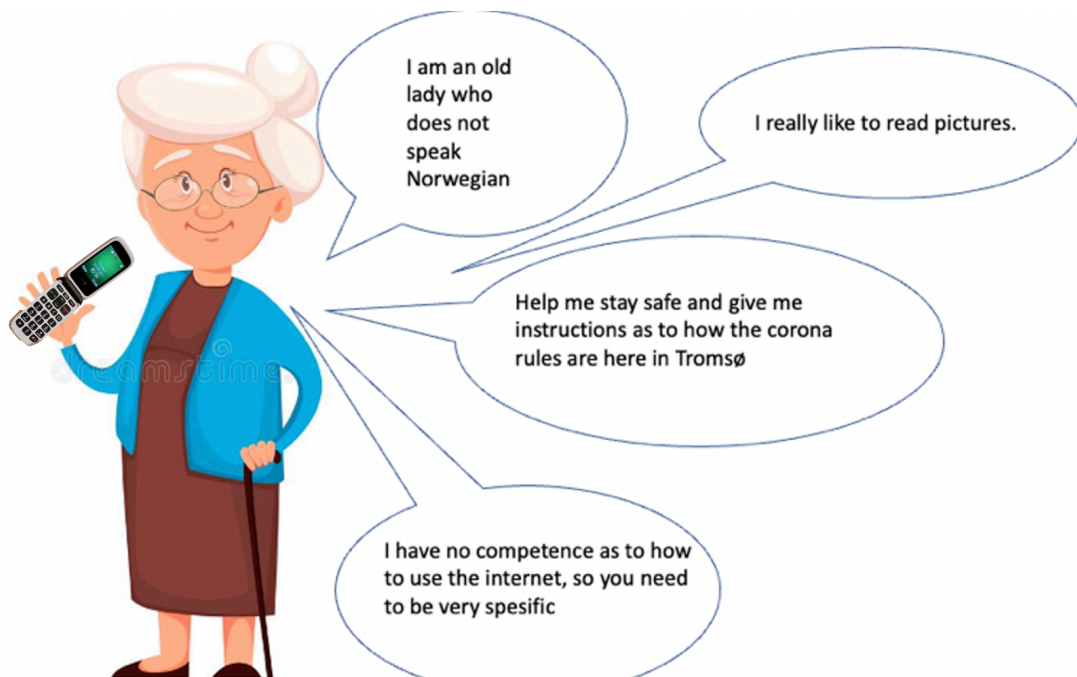
Attachment D: Lancôme. (2021, 24. February). *Lash Idôle I Zendaya I Lancôme* [Video]. YouTube. <https://www.youtube.com/watch?v=DKYxrTCPApw>

Attachment E: Peugeot. (2017, 28. June). *SUV Peugeot 5008*. [Video]. YouTube. <https://www.youtube.com/watch?v=skJUuY-VKxo>

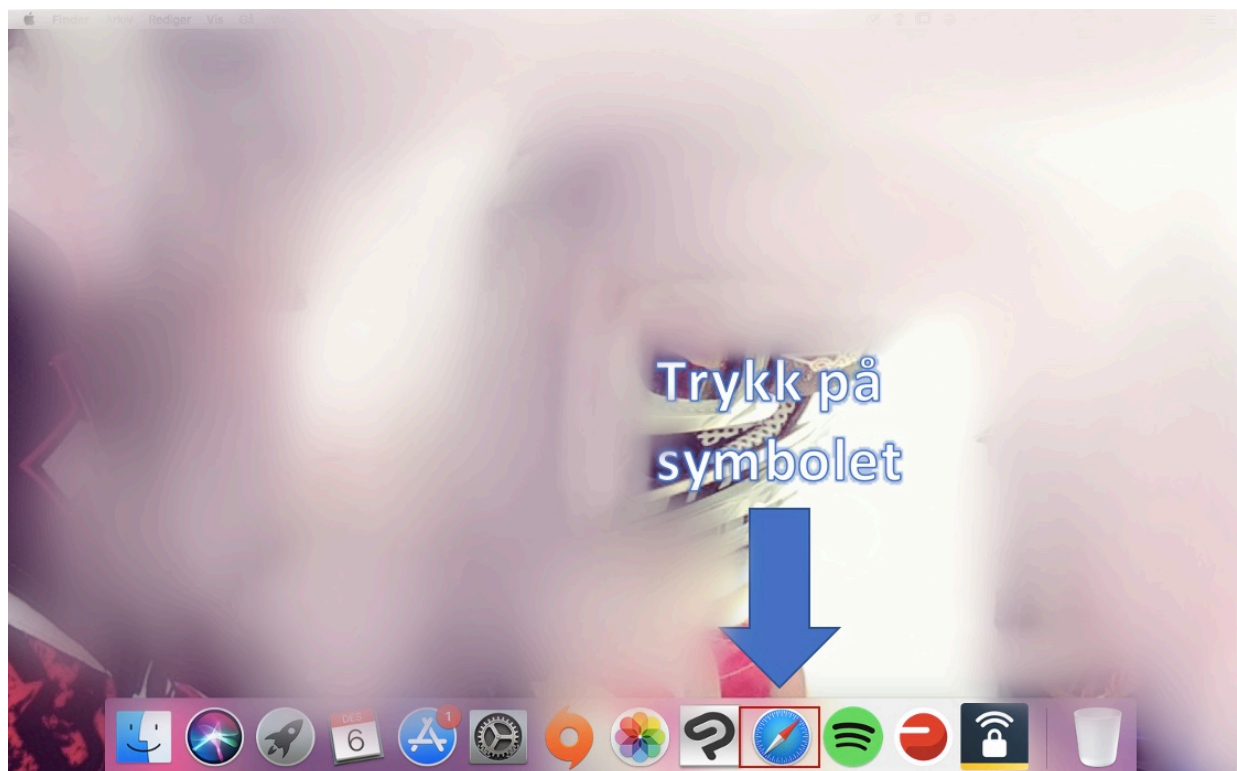
Attachment F: Word cloud created by the pupils which shows what the pupils associate to the word visual literacy.

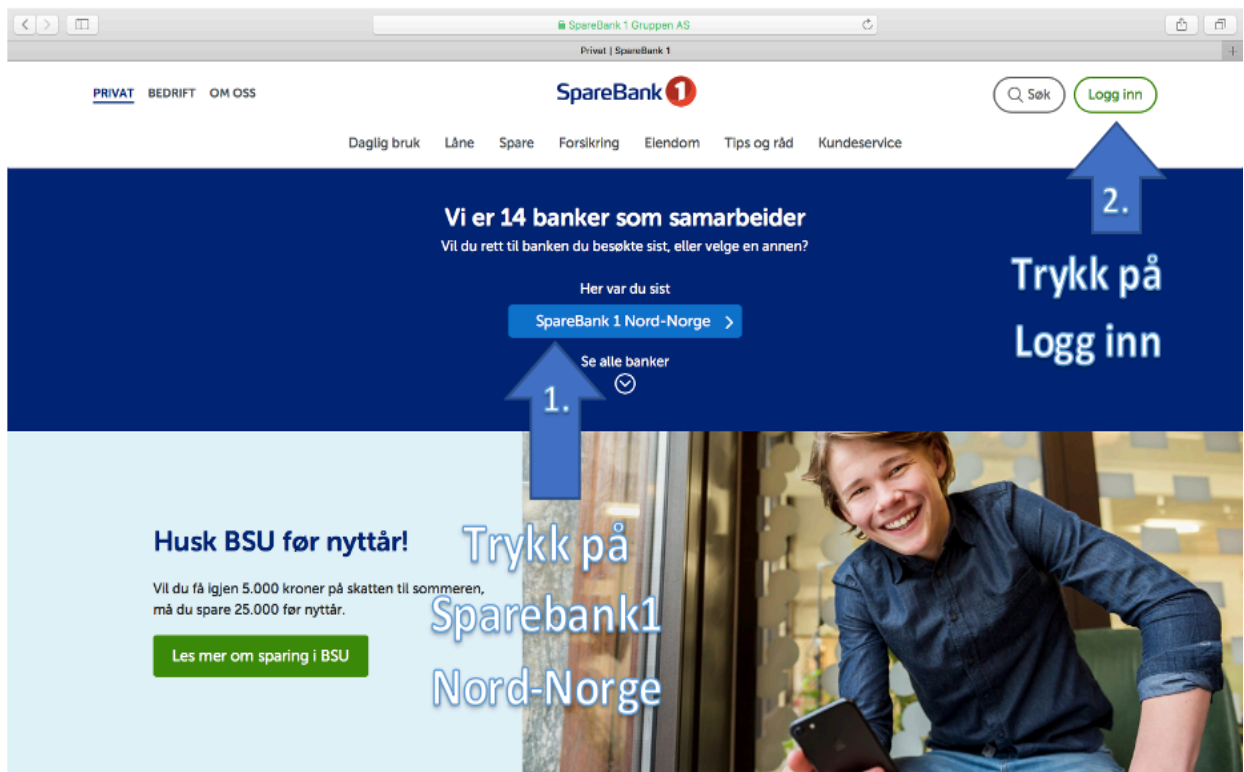
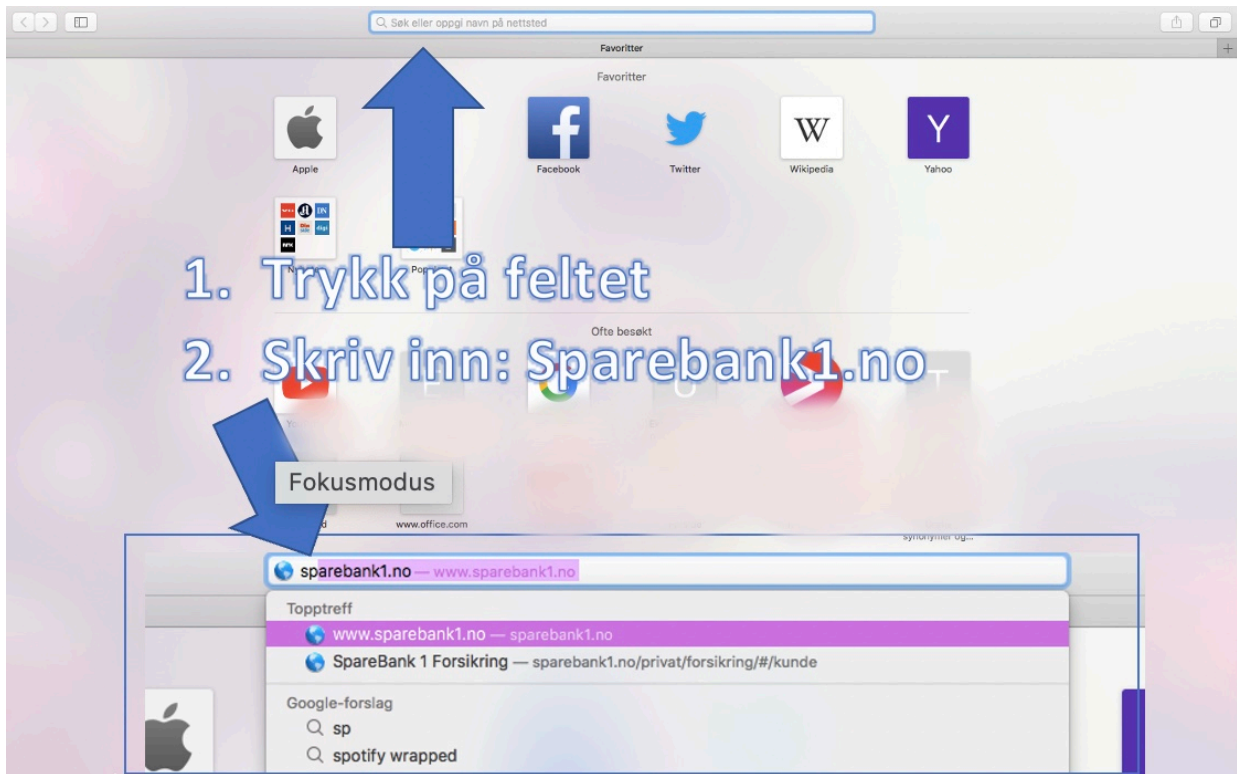


Attachment F: The fictional old lady that the pupils were asked to create the instruction manual/guide for.



Attachment G: Example given to the pupils on how direct and clear one has to be when giving instructions(anonymized)





BankID BankID på mobil Uten BankID

Innlogging med BankID

SpareBank 1 Nord-Norge

Fødselsnummer

Elleve siffer

Neste

1. Skriv inn fødselsnummer
2. Trykk på Neste

BankID BankID på mobil Uten BankID

Innlogging med BankID

SpareBank 1 Nord-Norge

Identifisering

Engangskode

SpareBank 1

Velg annen BankID

1. Skriv inn kode fra bankbrikken
2. Trykk på den blå pilen

SpareBank 1 Gruppen AS

Oversett - SpareBank 1 Nord-Norge

PRIVAT BEDRIFT OM OSS

SpareBank 1 NORD-NORGE

Rikke Elida Larsen

Min oversikt Betaling Kort Lån Forsikring Sparing Bestill

Regionsperre

Det er viktig å oppdatere regionsperren med jevne mellomrom, for å unngå misbruk av kortene dine.

Utsett Oppdater

Betale Overfør Forfall

Daglig bruk

Brukkontoer

BRUKE UNG VOKSEN
4750 44 19092

Rikke Elida Larsen
4930 14 23593

Andre kontoer

Legg til konto fra annen bank

Kredittkort

Søk om Mastercard

Bevegelser på BRUKE UNG VOKSEN

Alle bevegelser på BRUKE UNG VOKSEN

Chat

Hvis du skal betale regninger trykker du på **Betale**

Hvis du skal overføre fra en konto til en annen trykker du på **Overfør**

The screenshot shows the 'Betale' (Pay) page on the SpareBank 1 Gruppen AS website. The page title is 'Betale - Betaling - SpareBank 1 Nord-Norge'. At the top, there are three buttons: 'Betale', 'Overfør', and 'Forfall'. The main form contains the following fields and options:

- Fra:** A dropdown menu with the text 'Velg konto'.
- Til:** Two input fields: 'Kontonummer' and 'Mine mottakere'.
- Kroner:** An input field with the value '0'.
- Øre:** An input field with the value '00'.
- Forfallsdato:** A date picker showing '06.12.2019' and a 'i dag' button.
- KID eller melding:** An input field with the text 'Opptil 90 tegn'.
- Kvitteringsoblat:** A checkbox that is currently unchecked.

At the bottom of the form is a green button labeled 'Legg til godkjenning'. In the bottom right corner, there is a 'Chat' button.

Annotations with arrows point to the following elements:

- 'Skriv inn kontonummeret til den du skal betale til' points to the 'Kontonummer' field.
- 'Skriv inn beløpet som skal betales' points to the 'Kroner' field.
- 'Når skal regningen betales? Hvis det er en forfallsdato, trykk den inn her' points to the 'Forfallsdato' field.
- 'Velg en konto som skal betales fra' points to the 'Fra' dropdown menu.
- 'Hvis du har betalt før, skal kontonummeret være lagret her' points to the 'Mine mottakere' field.
- 'Skriv inn KID nummer, eller en melding hvis det er til en spesiell person' points to the 'KID eller melding' field.

Attachment H: Results from the first questionnaire in its original language.

Setter du av tid til å se på det visuelle når du leser sammensatte tekster?	Antall svar
Ikke i det hele tatt	0
Svært lite	1
Av og til	7
Svært ofte	4
Hele tiden	4

Når du leser sammensatte tekster som består av bilde og tekst, synes du at bildet er likeverdige til teksten?	Antall svar
Ikke i det hele tatt	0
Svært lite	2
Av og til	7
Svært ofte	6
Hele tiden	1

Når du selv lager sammensatte tekster som består av bilde og tekst, synes du at bildene er likeverdige til teksten?	Antall svar
Ikke i det hele tatt	0
Svært lite	1
Av og til	4
Svært ofte	11
Hele tiden	0

Setter du av tid til å se på bildene andre bruker i presentasjonene sine?	Antall svar
Ikke i det hele tatt	0
Svært lite	0
Av og til	2
Svært ofte	6
Hele tiden	8

Når du selv lager en presentasjon, har bildene like stor verdi som teksten/stikkordene?	Antall svar
Ikke i det hele tatt	0
Svært lite	0
Av og til	6
Svært ofte	8
Hele tiden	2

Bilder brukes KUN for å illustrere det teksten sier.	Antall svar
Helt uenig	0
Litt uenig	5
Nøytral	5
Litt enig	4
Helt enig	2

Bilder er en form for tekst.	Antall svar
Helt uenig	1
Litt uenig	2
Nøytral	4
Litt enig	7
Helt enig	2

Riktig bildebruk er viktig.	Antall svar
Helt uenig	0
Litt uenig	0
Nøytral	1
Litt enig	4
Helt enig	11

Bilder får deg til å huske bedre.	Antall svar
Helt uenig	0
Litt uenig	0
Nøytral	3
Litt enig	7
Helt enig	6

Attachment I: Reflection questions in chronological order

What have you learned today?	
What did you know from before this session?	
Is there something you did not understand?	
Is there something you want to know more about?	

What have you learned today?	
Is there something you did not understand?	
Is there something that did not work today?	
What worked well this lesson	
Do you have any ideas of what we could do the next lesson?	

Have you learned something new today?	
What worked well and what did not work well this lesson?	
Do you think you need what you have learned during these lessons with the students?	
Do you think you would use anything you have learned during these lessons?	
Do you feel you now have the competence of visual literacy?	
Do you have any other feedback for the student?	

Attachment J: Selected answered reflection notes, the sessions they were present is shown in parenthesis (anonymized).

Pupil A (all sessions)

What have you learned today?	I learned some more about visual literacy.
What did you know from before this session?	Not that much about visual literacy.
Is there something you did not understand?	I did understand most of it.
Is there something you want to know more about?	Nothing much I want to know more about.

What have you learned today?	I learned more about visual literacy
Is there something you did not understand?	No, I understood pretty much all.
Is there something that did not work today?	Everything was pretty good this session.
What worked well this lesson	Like, everything.
Do you have any ideas of what we could do the next lesson?	I really like what we did today, about making some mininews to an old person and how pictures really influence you.

Have you learned something new today?	I learned something more about adds, and how they are attractive the way they use the different colors and effects and some celebreties, so its even more attractive.
What worked well and what did not work well this lesson?	I think all went well this lesson, we finished the (old lady coming to norway and don't know the rules powerpoint)
Do you think you need what you have learned during these lessons with the students?	If i'll be a person that is interested to make adds and make them super atracrive, I know pretty much how to make them.
Do you think you would use anything you have learned during these lessons?	Yes, because if someone don.t can the coronarules, I can just find this presentation and if I will make an add, I know like just how to do it the very right way.

Do you feel you now have the competence of visual literacy?	Yes
Do you have any other feedback for the student?	Umm, im really thankfull you made us these lessons, they wore very interesting, about the old lady, visual literacy, and the adds and how atraactive they are like we had this lesson,

Pupil B (3rd session)

Have you learned something new today?	Nop
What worked well and what did not work well this lesson?	Snakke
Do you think you need what you have learned during these lessons with the students?	sikkert
Do you think you would use anything you have learned during these lessons?	Ja
Do you feel you now have the competence of visual literacy?	Ja
Do you have any other feedback for the student?	Sikkert

Pupil C (2nd and 3rd session)

What have you learned today?	How to fold a taco
Is there something you did not understand?	I did understand most off it
Is there something that did not work today?	Yes it did
What worked well this lesson	
Do you have any ideas of what we could do the next lesson?	

Have you learned something new today?	Yes
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What worked well and what did not work well this lesson?	All did work pretty well. I just need to be better to write English
Do you think you need what you have learned during these lessons with the students?	Yes
Do you think you would use anything you have learned during these lessons?	Maybe
Do you feel you now have the competence of visual literacy?	Maybe
Do you have any other feedback for the student?	No

Pupil D (1ST and 2nd session)

What have you learned today?	I learned what visual literacy is. How different colors and symbols help me get a feeling from a picture or convey the message more clearly.
What did you know from before this session?	That pictures are more important than text.
Is there something you did not understand?	
Is there something you want to know more about?	

What have you learned today?	I have learned how to use visual literacy
Is there something you did not understand?	
Is there something that did not work today?	
What worked well this lesson	
Do you have any ideas of what we could do the next lesson?	

Pupil C (all sessions)

What have you learned today?	I learned about visual literacy, and how to describe pictures
What did you know from before this session?	
Is there something you did not understand?	O didnt understand the noun visual literacy
Is there something you want to know more about?	I want to know more about noun visual literacy

What have you learned today?	I have learned that images can be vary important along with text or that text can be important with images
Is there something you did not understand?	No not as I remember, I think I understood everything
Is there something that did not work today?	I think it worked very good
What worked well this lesson	I liked what we were working on, and that we got to work in groups not only individually.
Do you have any ideas of what we could do the next lesson?	I really enjoyed this hour and hope we can do something similar next time

Have you learned something new today?	I have learned verry mutch aboute colors
What worked well and what did not work well this lesson?	I think it workt well its fun to learn aboute colors and what each color means.
Do you think you need what you have learned during these lessons with the students?	Yea maybe time will show
Do you think you would use anything you have learned during these lessons?	Yea I think so
Do you feel you now have the competence of visual literacy?	Yes I think I have competence of visual literacy
Do you have any other feedback for the student?	It have been verry fun to learn about visual literacy and exciting

Pupil D (1st and 3rd session)

What have you learned today?	I learned how people felt about pictures.
What did you know from before this session?	I knew about the pictures.
Is there something you did not understand?	No
Is there something you want to know more about?	No

Have you learned something new today?	Yes
What worked well and what did not work well this lesson?	Everything worked
Do you think you need what you have learned during these lessons with the students?	Yes
Do you think you would use anything you have learned during these lessons?	Yes
Do you feel you now have the competence of visual literacy?	Yes
Do you have any other feedback for the student?	No

Pupil C (all sessions)

What have you learned today?	I learned what uncle Sam's name was, and a little more about colour usage by companies for example.
What did you know from before this session?	I knew a lot about these topics from beforehand due to similar classes earlier in time and discussions, I have had before. For example visual influence and visual analysis,
Is there something you did not understand?	Besides from where a few of the memes came from I understood most of it. Although its difficult for me to see things from other

	people's viewpoint and understand it to the same level as what I was thinking.
Is there something you want to know more about?	Not super helpful planning wise, but I would love to learn more overall, Personally I think visual analysis is one of my weaker points. It takes me longer than I would like before I can properly everything there is to see. Especially from a different viewpoint than my own.

What have you learned today?	I have learned about describing using pictures, and that is also a type of visual literacy.
Is there something you did not understand?	I understood everything ☺
Is there something that did not work today?	I think everything worked quite well, the class is just earlier than usual on wendsdays so people are tierd.
What worked well this lesson	I think everything worked well this class. I know that's not the most helpful ... but I cant think of anything that could be improved upon.
Do you have any ideas of what we could do the next lesson?	I would like a little more time to finish that manual presentation... have to finish what I have started.

Have you learned something new today?	Yeah, I knew there was a lot with color choice in commercials but I didn't know they thought about it that much.
What worked well and what did not work well this lesson?	I think everything worked well for me at least. I just wasnt feeling very, awake.
Do you think you need what you have learned during these lessons with the students?	Yes. One way or another it will become useful in the future. Especially if I work in the advertisement industry.
Do you think you would use anything you have learned during these lessons?	Yes. Everything from memes to presentations. Anything with pictures.
Do you feel you now have the competence of visual literacy?	Yeah, I would say so.

Do you have any other feedback for the student?	
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Pupil D (all sessions)

What have you learned today?	I learned that pictures and coolers can give you different feelings.
What did you know from before this session?	To be hones I didn't know much about the topic from before.
Is there something you did not understand?	No I think I understand all we was talking about.
Is there something you want to know more about?	I want to know more about how pictures affect you.

What have you learned today?	I have learned more about how to make a recipe.
Is there something you did not understand?	No I understood.
Is there something that did not work today?	No everything worked.
What worked well this lesson	It worked well whene we worked together to make a presetneation.
Do you have any ideas of what we could do the next lesson?	

Have you learned something new today?	I learned that color have a meaning.
What worked well and what did not work well this lesson?	I think everything worked well.
Do you think you need what you have learned during these lessons with the students?	Yes I think so.
Do you think you would use anything you have learned during these lessons?	Yes I think so.

Do you feel you now have the competence of visual literacy?	I think it's a lot more to learn about visual literacy, but I think I have a certain competence.
Do you have any other feedback for the student?	No I liked the theme we learn on and how we learn it.

Pupil E (all sessions)

What have you learned today?	Yes, I have learned that visual literacy is different for everybody
What did you know from before this session?	Nothing
Is there something you did not understand?	No I don't think so
Is there something you want to know more about?	Not at the moment

What have you learned today?	I have learned how to make descriptions
Is there something you did not understand?	No I don't think so
Is there something that did not work today?	I don't think of anything should be something else
What worked well this lesson	It was good and I feel that it was good to work with others
Do you have any ideas of what we could do the next lesson?	Not actually

Have you learned something new today?	That colors in commercials are used for a reason
What worked well and what did not work well this lesson?	I think everything worked well
Do you think you need what you have learned during these lessons with the students?	I don't know it depends

Do you think you would use anything you have learned during these lessons?	Maby if I have a tema in another class
Do you feel you now have the competence of visual literacy?	I know more about visual literacy now then before
Do you have any other feedback for the student?	No not realt every thing was good

Pupil F (all sessions)

What have you learned today?	I learned that it is very important to look at photos and try to see what the creator was trying to show.
What did you know from before this session?	I knew that in alot of illustrations the person who made it is trying to make the person who is looking at it feel something.
Is there something you did not understand?	I understood it all.
Is there something you want to know more about?	I want to know more about how to use visual literacy myself.

What have you learned today?	How to use images to make a recepie and show how to do something with photos.
Is there something you did not understand?	No I understood most of it.
Is there something that did not work today?	It was difficult finding photos that showed what I was thinking about when making the powerpoint
What worked well this lesson	Making the presentation and learning how to use photos to show what you are thinking of when making a tekst
Do you have any ideas of what we could do the next lesson?	

Have you learned something new today?	That you can use colours in a way to get people interested and use different colours to try to say something.
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What worked well and what did not work well this lesson?	I think everything worked well.
Do you think you need what you have learned during these lessons with the students?	Yes, I think its just nice thing to know about, and I enjoyed these lessons!
Do you think you would use anything you have learned during these lessons?	Yes, if I am ever making a brand or logo or a shirt I know what colours are good to use. I also know that I should think more about the pictures people use.
Do you feel you now have the competence of visual literacy?	Yes, I do.
Do you have any other feedback for the student?	Very nice having you here ♥😊

Attachment K: The composite results of the pupils participating in both the first and second survey (Translated from Norwegian to English).

When you read multimodal texts that consist of image and text, do you think that the image is equivalent to the text?	First questionnaire	Second questionnaire
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Not at all		
Very little		
Sometimes	W	
Very often	X – Y	W- X- Y - Z
All the time	Z	

When you create multimodal texts that consist of image and text, do you think that the images are equivalent to the text?	First questionnaire	Second questionnaire
Not at all		
Very little		
Sometimes	Y	
Very often	W - X - Z	W - X- Z
All the time		Y

Do you set aside time to look at the images others use in their presentations?	First questionnaire	Second questionnaire
Not at all		
Very little		
Sometimes	W	X - Z
Very often	X	
All the time	Y – Z	W - Y

When you watch other people's presentations, do the pictures help you understand what the presentations are about?	First questionnaire	Second questionnaire
Not at all		
Very little		
Sometimes		Z
Very often	Y – X	Y
All the time	W – Z	W - X

When you make a presentation yourself, do the pictures have as much value as the text / keywords?	First questionnaire	Second questionnaire
Not at all		
Very little		
Sometimes		
Very often	Y - W - X	W - X
All the time	Z	Y - Z

Images are ONLY used to illustrate what the text says.	First questionnaire	Second questionnaire
Completely disagree		
Slightly disagree	W – Y	W – X
Neutral	X - Z	Y – Z
Slightly agree		
Completely agree		

Images are a form of text.	First questionnaire	Second questionnaire
Completely disagree		
Slightly disagree		
Neutral		
Slightly agree	Y – Z	W - Z
Completely agree	W – X	X - Y

Proper use of images is important.	First questionnaire	Second questionnaire
Completely disagree		
Slightly disagree		
Neutral		
Slightly agree	X	
Completely agree	W - Y - Z	W - X - Y - Z

Pictures make you remember better.	First questionnaire	Second questionnaire
Completely disagree		
Slightly disagree		
Neutral		
Slightly agree	W – Y	Y
Completely agree	X – Z	W - X - Z

It is important to have competence in visual literacy	Second questionnaire
Completely disagree	
Slightly disagree	
Neutral	Y – Z
Slightly agree	W – X
Completely agree	

Has this project made a change in how you look at pictures?	Second questionnaire
Not at all	
Very little	
I don't know / neutral	
A small change	W
A clear change	X - Y - Z

