

# **Peer Review as a Tool in the Sociocultural Learning Theory**

How Does Process Oriented Writing with Peer Review in Norwegian  
EFL Classrooms Affect Students' Writing?

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## Abstract

This thesis focuses on the use of peer reviews in Norwegian schools as a tool in the process-oriented writing method, which is used as a part of the sociocultural learning theory. There seems to be a lack of research centred around a realistic use of peer reviews in Norwegian classrooms. Therefore, this study aims to identify how peer reviews affect students' grades, what the students' impressions of the peer reviews are, and how peer reviews can realistically and efficiently be implemented in classrooms in the Norwegian school system, as part of the sociocultural learning theory. To perform this study, an experiment was designed where students in a 10<sup>th</sup> grade class, a VG1 vocational studies class, and a VG1 general studies class wrote a first draft of an essay, performed a peer review, and then wrote a second draft of their essay. The results from the first and second draft were later compared to identify significant changes. Afterwards, a survey which investigated student impressions and experiences was handed out. The results showed that all three classes had a statistically significant improvement for their essays, and the VG1 SF and 10<sup>th</sup> grade classes agreed to experiencing the theoretical benefits of peer reviews, whilst the VG1 YF class did not agree to the theoretical benefits of the peer reviews. The thesis then argues that peer reviews function as an effective tool to place students in their Zone of Proximal Development, and that the act of *meaning-making* is essential to successfully implementing sociocultural learning in Norwegian classrooms. Next, the hypothesis that the VG1 YF class were the least pleased with the peer review method due to negative attitudes surrounding vocational studies in the Norwegian school system is presented. Finally, several guidelines for performing successful peer reviews are suggested.

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## 1. Introduction

Process Oriented Writing (POW) is a sociocultural teaching method teachers may use to aid students in their learning process. By spending more time on a writing task, the teacher can create more room for learning. This is done by dividing the writing task into several smaller processes, where all the smaller processes lead to some improvement or learning for the students. The processes are centred around different aspects of the topic at hand: One activity can be focused on learning key words, whilst another can be focused on learning about the genre they are writing. Through several smaller processes, the students can learn all that is necessary for them to write the best possible texts to the task at hand. Even after the students have handed in their task, they can improve upon their task through working with feedback. Handing in several drafts is encouraged in POW, as it is all part of the learning process.

POW is the opposite of the product-oriented approach to writing tasks. In the product-oriented approach, the students are given a task and told to hand in their answer within a certain amount of time. Then, the students are graded based on their one and only attempt. This method of working with writing leads to less learning for students (Kadmiry, 2021, pp. 210-211). The product-oriented method is common in school assessment, since lessons are constrained by time, and the class must progress in the curriculum. Administering and completing a test within one lesson ensures that the assessment does not prevent the class from progressing in the curriculum. This approach to assessments might be suitable for subjects like mathematics or natural sciences, where students are supposed to show their mastery of a topic before progressing to new material. In contrast, subjects like English involve ongoing improvement in writing skills, rather than a static demonstration of knowledge. Therefore, an approach to written tests focused on the continual improvement of the students' writing abilities appears more reasonable than assessing students' current level of writing without fostering long-term writing improvement.

As a teacher student, my personal motivation comes from a wish to research a topic that will be useful in my future profession. Throughout my studies, I have learnt that the current pedagogical teaching method in the Norwegian school system is based on the sociocultural learning theory. Therefore, finding a sociocultural method to help students improve their

writing seems important in the English subject. In my last internship period, my internship-teacher introduced me to peer reviews and explained how they were a useful tool in the sociocultural learning theory. Peer reviews can be used during the writing process to help students improve their writing by receiving feedback from their peers. It could be both less intimidating and more motivating for the students to receive peer feedback than to receive feedback from their teachers.

During my literature review, I struggled to find any sources that were related to the usage of peer reviews in the Norwegian school system. Therefore, I decided to design a peer review around what international sources claim works well and test it in a Norwegian school setting. Thus, when this thesis is finished, I hope to have learnt something useful regarding the use of peer reviews as a part of the sociocultural learning theory in a Norwegian school setting. With the aim of investigating the practical and realistic real-life application of peer reviews in the Norwegian school system, I suggest these four research questions:

1. How does the usage of peer reviews influence students' grades?
2. What are the students' impressions of the peer review method?
3. How can peer reviews be implemented as part of the sociocultural learning theory?
4. How can peer reviews realistically and efficiently be implemented in classrooms in the Norwegian school system?

### 1.1. Thesis Structure

This thesis is organised into seven main sections. The introduction, which this paragraph concludes, is the first section. The goal of the introduction is to outline the topic of peer reviews and to introduce the research gap and questions. The second section provides the background for why the peer review is a useful tool in the Norwegian school system by examining the Norwegian National Curriculum. The third section introduces the theory this thesis is based upon. Here, important terms and theories are introduced. Furthermore, important theoretical aspects of how to perform a peer review are identified. In the fourth section, the methodology is explained based on the background and theory from the second and third sections. The results from the experiment are analysed and explained in the fifth section. In the sixth section, the discussion, the results are interpreted in a broader theoretical framework based on the second and third section. Finally, the conclusion summarizes the discussion and gives suggestions for how to ideally perform a peer review. Thus, the

conclusion aims to unify the theoretical background with the real-life experiences of the teachers and students who participate in this study, to create a usable guide for how to perform peer reviews. Afterwards, areas for future research are suggested.



## 2. Background

In this section, the Norwegian National Curriculum will be examined to identify arguments for the usage of peer reviews. This is done to ensure that there is a sound argument for using peer reviews before the theory section. First, what the National Curriculum is will be explained. Next, the 10<sup>th</sup> grade aims will be analysed. Then, the VG1 general studies aims will be analysed and compared to the 10<sup>th</sup> grade aims. Finally, the VG1 vocational studies aims will be analysed and compared to the VG1 general studies aims. When analysing the National Curriculum, specific aims will be highlighted which show that peer reviews fit with the expectations and demands set in the National Curriculum.

### 2.1. National Curriculum

The Norwegian school system is centred around the National Curriculum, which was renewed in the “Kunnskapsløftet 2020”-edition (Utdanningsdirektoratet, 2022). The National Curriculum contains requirements for what students should learn in each subject, and by which year they should achieve these requirements. These requirements are called competency aims, and teachers are required to teach in such a way that their students achieve these competency aims when they finish the different grades. The following paragraphs will compare the competency aims for the 10<sup>th</sup> grade, VG1 general studies, and VG1 vocational studies English subjects, with the aim of arguing for the usage of peer reviews in the Norwegian School system.

### 2.2. 10<sup>th</sup> Grade Aims

When a student has finished the 10<sup>th</sup> grade English subject, it is expected that he or she can “use a variety of strategies for language learning, text creation and communication”, as well as “revise one's own texts based on feedback and knowledge of the language” (Utdanningsdirektoratet, 2019c). In the section following the list of competency aims which describes formative assessment, Udir has written that “[t]he teacher shall facilitate for pupil participation and stimulate the desire to learn by using a variety of strategies and learning resources to develop the pupils' ... writing skills”. Furthermore, Udir has written that “[t]he pupils shall be given the opportunity to experience that experimenting on their own and with others is part of learning a new language” (Utdanningsdirektoratet, 2019c).

To “use a variety of strategies” when learning to write texts in a new language, it is a logical assumption that teachers should employ more options than only giving teacher-feedback to the students. Combining the use of varied strategies with the fact that students are supposed to “revise one's own texts based on feedback”, the use of peer reviews start to make sense from a teacher’s perspective. Moving on, in the section describing assessment, it says that that “[t]he teacher shall facilitate for pupil participation and stimulate the desire to learn by using a variety of strategies and learning resources to develop the pupils’ ... writing skills”. The essence of peer reviews is “pupil participation”, which makes it a fitting method to use. Since the use of “a variety of strategies” is mentioned both in the competency aims as well as in the description of how assessments should be performed, it seems reasonable to assume that Udir places a greater emphasis on this. Peer reviews also seem to be a good tool to “stimulate the desire to learn”. Lee (2006) performed a peer review study, and the participants in the study reported that they felt “no pressure” and “more relaxed”, and that they had “fun, [and] had self-confidence”. Another student mentioned that they “actually enjoyed it” (p. 18). These quotes from the participating students show that, when done correctly, peer reviews can be rewarding, relaxing, and fun to participate in.

### 2.3. VG1 General Studies Aims

The VG1 general studies competency aims seem quite similar to the 10<sup>th</sup> grade aims, but they have some small differences. The main difference lies in the competence aim “assess and revise one's own texts based on criteria in the subject and knowledge of language” (Utdanningsdirektoratet, 2019a). This aim seems to be the continuation of the “revise one's own texts based on feedback and knowledge of the language” from the 10<sup>th</sup> grade aims. There are two differences in the wording of these aims that should be pointed out. First, the VG1 aim starts with “assess and revise”, whilst the 10<sup>th</sup> grade aim only starts with “revise”. Second, the VG1 aim says that the student should do the assessing and revising “based on criteria in the subject”, whilst the 10<sup>th</sup> grade aim says that they should do so “based on feedback”. This means that the explicit mentioning of feedback has been removed, which might prompt some teachers to reconsider whether peer reviews still are necessary and useful. Instead of using feedback, students are expected to be able to improve their texts by

utilising the criteria in the subject. It is thus made clear that students are expected to move from receiving feedback to improving their texts on their own.

Lundstrom & Baker's (2009) study found evidence that supports the argument for the use of peer reviews in VG1 general studies. They investigated where the learning happens during a peer review, and found that students learn the most from reviewing other's texts, and not from receiving peer feedback on their own texts. They explain that "students can improve their own writing by transferring abilities they learn when reviewing peer texts" (p. 38), which shows a clear link between performing peer reviews and learning to improve one's own texts based on the criteria related to a subject or task. Furthermore, Lundstrom & Baker (2009) write that "students taught to give peer feedback improve in their own writing abilities" (p. 38), which is a clear indication that learning how to perform peer reviews is beneficial for one's own writing. To explain how this improvement comes to be, they suggest that "students learn from these activities to critically self-evaluate their own writing in order to make appropriate revisions" (p.38). This falls perfectly in line with Udirs competency aim of being able to assess and revise one's own texts. Thus, Lundstrom & Baker's (2009) study makes a clear case for why peer reviews should also be used in VG1 general studies, even though the explicit demand for use of feedback has been removed.

In the section describing formative assessment, the wording has remained mostly the same, particularly in regards to the parts that are relevant for the use of peer reviews. Teachers shall still make room for student participation and foster an environment where the students wish to learn and enjoy learning. Moving on, the students should still have the opportunity to "experience that experimenting on their own and with others is part of learning a new language" (Utdanningsdirektoratet, 2019a). This means that the arguments for why peer reviews are a useful form of assessment are still as valid for the VG1 guidelines as they were for the 10<sup>th</sup> grade guidelines.

#### 2.4. VG1 Vocational Studies Aims

Finally, comparing VG1 vocational studies to VG1 general studies, many competency aims have had a slight change in wording, particularly those related to the learning of a particular vocation. However, the part describing formative assessment has not changed. In the

competency aims, one can now see that texts are supposed to be focused on the vocation the students are learning, and that texts should be representative of how the students would write texts in their future vocation (Utdanningsdirektoratet, 2019b). With this focus on texts representing real-life writing, there is a new argument to be made for the use of peer reviews. In a job, where there is no teacher supervising the employee's writing and making sure the employee writes everything by him/herself, would it not be normal to ask for input or discuss what the employee is writing with a colleague or supervisor? Would a process of writing and asking for feedback not be more representative of how writing in real-life works? By this logic, the use of peer reviews would better prepare students for their future jobs. They would be better able to aid coworkers who ask for help, and they would also be better at and more comfortable with asking for help when they need it. Thus, peer reviews seem to have a natural use in VG1 vocational studies as well.

### 3. Theory and Research on Peer Review

#### 3.1. Sociocultural Learning Theory

The sociocultural learning theory is the foundation for the pedagogical education of new teachers at the University of Agder and in Norway in general, and it is also the foundation for the belief that peer review is a good method for learning writing. The sociocultural learning theory argues that learning happens constantly, both through interactions between learners and through interactions between learners and teachers. These interactions make room for a foundational activity in sociocultural learning called *meaning-making*, which is where the sociocultural learning theory argues that learning happens (Manger, Lillejord, Nordahl, & Helland, 2020, p. 178). Meaning-making is the social act of negotiating meaning, where students and teachers might explain, discuss, ask questions, and so on to understand one another better.

Meaning-making is a constant part of life since it happens all the time. Meaning-making happens when someone talks to their friend, relative, cashier, or child, as well as anyone else, and it is not limited to interactions at school. An important aspect of meaning-making is that it happens through social interactions, and it does not happen to the same extent when a teacher holds a one-sided lesson. This means that teaching should be centred around students interacting with students and teachers, so that they may get the opportunity to negotiate meaning and learn through that process.

Vygotsky's Zone of Proximal Development (ZPD) is also an important aspect of the sociocultural learning theory. The ZPD is the theoretical amount a person could learn with some form of help, compared to what they could learn on their own (Lantolf, 2000, p. 17). The role of sociocultural learning is then to place the learner in their ZPD, to aid in their learning process. To achieve this, there are many tools and methods a teacher might employ. Process oriented writing is one such method that attempts to place the learner in their ZPD through the process of discussions and negotiation of meaning during the process of writing.

### 3.2. Process Oriented Writing

In process oriented writing (POW), the meaning of the term *process* is of utmost importance. Lee (2006) writes that “[t]he term *process* ... signifies a process of discovery in which ideas are generated and not just transcribed as writers think through and organize their ideas before writing and revising their drafts” (p. 308). As Lee (2006) explains, POW is a method of writing which is centered around the idea that writing is not an action that is performed and finished in one sitting, but rather a prolonged situation, a process, where several different tasks are performed. The purpose of this prolonged situation is to ensure that the students have the opportunity to learn as much as possible in their ZPD, as well as produce the best possible writing in the end. By structuring the writing around the idea of a process, students get the chance to “think through and organize their ideas” (Lee, 2006, p. 308) through social interactions with classmates and teachers. This is an essential skill for students to learn, which will not only prove useful in their future academic career but also in their future professional careers. Organising and structuring ideas may also be a useful skill in the students’ future work life. Therefore, working with writing as a process teaches students life long skills that may prove useful in many different situations.

### 3.3. Pedagogical Aspects of POW

When considering whether a method should be used in school, it is important to consider the pedagogical aspects of said method. Lee (2006) writes that “[t]his ... process is also related to an expanded theoretical understanding of the construct of writing that is more social and less bound by the ability of an individual” (p. 308), which relates to the sociocultural learning theory since it states that learning is a social process where students learn in their ZPD through interacting with one another (Lantolf, 2000, p. 17; Manger et al., 2020, pp. 178-179). An important aspect of POW is for students to interact with each other in different activities, with the aim of promoting learning in the ZPD. Thus, POW works well as a method for writing within the theory of sociocultural learning.

### 3.4. Peer Review

One of the activities students can perform together as part of the POW method is the peer review. A peer review can be performed in many ways, but they always have in common that peers in a subject review each other's work. Academically, peer reviews are often performed in relation to written tasks. When students review each other's written work in a school setting, teachers often utilise some sort of tool to guide the students so that they are more aware of what they are supposed to look for in their reviews. These tools can for example come in the form of peer review rubrics or sheets.

There are several reasons why peer reviews are beneficial. First, receiving feedback from a student is not the same as receiving feedback from a teacher. This seemingly obvious statement comes with some less obvious benefits. When students receive feedback from their teacher, it is logical to assume that said feedback is "correct" and valid. On the other hand, students have no guarantee that their peers know what they are talking about. Therefore, students should interact more critically with feedback received from their peers than from their teachers (Kurihara, 2017, p. 465).

In a quantitative meta-analysis of studies on peer reviews, Double, McGrane, & Hopfenbeck (2019) found that "peer-assessment is effective compared to both no assessment ... and teacher-assessment" (p. 499). They then argue that the use of peer reviews can be implemented in different and varied classroom settings, which, when done successfully, could create more time for teachers to help those who most need it, as well as aid students in their own learning through the peer review process (p. 500). This means that by tailoring the usage of peer reviews to a teacher's class, teachers could free up their time for more important tasks, without reducing the quality or quantity of the students' learning. This shows the need for more studies to be done on different ways of implementing peer reviews, especially in the Norwegian school system.

### 3.5. Performing Peer Reviews

Now that it has been made clear in section 2 and 3 how and why peer reviews are beneficial and usable, it is worth considering how they are best performed in the Norwegian school

system. When planning a peer review, there are several aspects to take into consideration. According to Lundstrom & Baker (2009), giving feedback might be more teaching than receiving feedback, since it could “lead to the creation of better self-reviewers” (p. 31). They relate these potential gains to the theory of sociocultural learning by Vygotsky, arguing that the Zone of Proximal Development (ZPD) and scaffolding are potential explanations for peer reviews being better for the reviewers than the reviewees. Apparently, when a student reviews someone else’s work, they manage to learn from identifying the strengths and weaknesses in their peer’s work. Their peer’s writing thus works as scaffolding to help the student reach their ZPD. On the other hand, the one who receives the feedback does not learn as much, because the feedback falls in the ZPD of the reviewer and not the reviewee. If the receiver’s ZPD is either above or below the reviewer’s ZPD, the feedback does not grant as much of a learning opportunity (Lundstrom & Baker, 2009, p. 38). This means that, even though the students might not see the benefit of peer reviews since they feel the feedback might not be usable, they are still learning through the process of peer reviews.

Lundstrom & Baker’s (2009) study had a focus on improving global aspects of writing and investigating whether giving or receiving a review was most beneficial for learning. They found that low proficiency reviewer-students improved the most on the global aspects. Low proficiency students who received feedback did not improve as much on the global aspects. For intermediate proficiency students, there was also a difference in who learned the most, but only when the students had little experience with peer reviews. This means that when students are inexperienced with peer reviews, they still learn from giving reviews, but they do not learn as much from receiving these reviews. The intermediate students who were experienced with peer reviews also improved in certain aspects of their writing, but there was no remarkable difference between the reviewer and the reviewee in the amount of improvement, and they did not improve as much as the low proficiency students. Potential explanations for this difference in learning gains might be explained as: First, what the low proficiency students learn might make a bigger difference in the overall impression of their essays, and second, that the intermediate proficiency students might be learning skills that take longer to manifest properly in their writing. Furthermore, the authors also theorise that the intermediate proficiency students might have already received most of the benefits from



peer reviews since they had more experience with using peer reviews (Lundstrom & Baker, 2009, pp. 38-39).

Kurihara (2017) also investigated whether peer reviews lead to improved learning outcomes compared to students who only received feedback from their teacher. The results from the experiment showed that the experimental group, the group which performed the peer reviews, increased more on the global aspects of organisation and coherence than the control group, the group which received feedback from their teacher (Kurihara, 2017, pp. 464-465). According to the students who participated in the peer reviews, this improvement could have been caused by the fact that the peer reviews “helped deepen their understanding of text coherence or organization because the peer review sessions involved critical reading of others’ writing” (Kurihara, 2017, p. 465).

Furthermore, students interacted critically with the feedback they were given from their peers, which differs from how they interacted with feedback from their teacher. They accepted the feedback their teacher gave them without questioning it, whilst they doubted and were careful and critical with the feedback they received from peers (Kurihara, 2017, p. 465). By questioning and analysing the feedback they received, they seemingly learned more about the topics of organisation and coherence. This proves that peer reviews fit well with the guidelines from Udir stating that students should “experience that experimenting on their own and with others is part of learning a new language” (Utdanningsdirektoratet, 2019a), since they are learning more from critically experimenting with peers than they are from thoughtlessly accepting feedback from their teachers.

Two studies have proven two contrasting pieces of information regarding the interpersonal aspect of peer reviews. First, Schunn, Godley, & DeMartino (2016) argue that providing feedback anonymously, without knowing who the students are giving feedback to or receiving feedback from, allows for the best, most unbiased feedback to be given, where the students do not fear social repercussions (p. 14), and they therefore used an online tool which kept the students’ names secret in the review process. Second, sociocultural learning theory suggests that learning happens most during interactions between students. Zhao (2018) found that depending on the pattern of interaction between students, there was much room for learning in the face to face explaining and discussing of feedback. The

opportunity to discuss the feedback given would be lost if the peer review was performed with a double-blind method such as the one Schunn et al. (2016) used.

The second point Schunn et al. (2016) make in regards to how peer reviews should be done is that the students should be held accountable for their reviews (p. 14). If they are not held accountable for their reviews, they might as well write anything in the review. If they are held accountable, they have to perform the peer review properly. When the teacher is less involved in the peer review process, students tend to ignore the guidelines set by the teacher (Schunn et al., 2016, p. 14). To avoid this, some sort of accountability is necessary. In their study, Schunn et al. (2016) used the online platform Peerceptiv to have each student perform peer reviews of five peers' papers. Since each student then received five peer reviews, the online platform compared the average scores for each student, and rated each review based on how far from the average their scores were. Thus, if the student reviewed similarly to how the four other students reviewed, he or she got a good grade on the peer review. If the student reviewed differently from the four other students, he or she got a bad grade on the peer review. Furthermore, students rated the helpfulness of the feedback they received, which also affected the grades of the reviewers. This method allowed the teacher to keep the students accountable for their peer reviews, as any review which only guessed or picked random ratings would likely result in the reviewer receiving a bad grade on their review, which would in turn give their essay a worse grade (pp. 15-16).

The next point to consider when performing peer reviews is a more longitudinal argument. Many scholars argue that the quality of peer reviews improve the more times a peer review is performed (Double et al., 2019, p. 486). However, Double et al. (2019) found no significant differences between studies where students only performed one peer review compared to studies where the students performed several peer reviews (p. 498). This means that it should be possible to introduce peer reviews and expect good results from the first try. However, students and teachers prefer different methods for learning. Peer reviews might be something that works well for a class, or it might not work well for that class. The frequency of the usage of peer reviews should be determined by the effectiveness of it relative to the class and teacher performing the peer review. If a certain class excels at peer reviews, then there is only benefits to be had from using it repeatedly. On the other hand, if

a teacher or class dislikes using peer reviews, they might want to lessen their use of the method.

### 3.6. Patterns of Interaction in Peer Review

Zhao (2018) explains that there are four patterns for how students interact during a peer review session in the part where they give their feedback to the other student. The patterns are separated into four depending on the level of mutuality and equality. In a high equality pattern, the students share a similar proficiency in the subject, whilst students in a high mutuality pattern contribute the same amount to the discussion of the feedback. This creates a separation of the types of interactions during a peer review into these four patterns: “collaborative”, “expert/novice”, “dominant/dominant”, and “passive/dominant” (p. 266-267). Zhao (2018) did not find the passive/dominant interaction pattern in their own study, but it has been reported in earlier studies (p. 266).

According to Zhao (2018), the expert/novice and collaborative patterns are the optimal patterns of interaction during a peer review. The collaborative pattern has high mutuality as well as high equality, whilst the expert/novice pattern has high mutuality but low equality (p. 267). In both these patterns, students provided more feedback without giving the solution to the problem, which created more room for improvement on the learners side (Zhao, 2018, p. 268). Students in these two patterns also seemed to make a “greater effort to facilitate learners' understanding of peer feedback” (Zhao, 2018, p. 269). The expert/novice pattern had the highest amount of oral feedback, whilst the dominant/dominant pattern had the lowest amount of oral feedback (Zhao, 2018, p. 269). The purpose of a peer review is for the students to learn as much as possible, which means that the expert/novice pattern and the collaborative pattern are the optimal patterns for a peer review. However, the expert/novice pattern might not produce as much learning for the expert as it does for the novice. Therefore, the collaborative pattern should possibly be considered the best option teachers should attempt to achieve in their peer review sessions.

### 3.7. Validity of Peer Review

Considering the validity of the peer reviews, Schunn et al. (2016) found that “students seem to be able to reliably judge the more higher level or complex aspects of essay quality even more than lower level features” (p. 19). They came to this conclusion by using an online tool for peer reviews, where each student graded several essays. The grades given to each essay by different students were compared by the online tool to see if they were reasonably similar. Their findings suggest that students were in agreement with each other regarding the grading of the essays, especially when it came to the higher level essay features (p. 19).

To compare the validity of students’ ratings to teachers’ ratings of the same essays, Schunn et al. (2016) also had “trained AP scorers” (AP = Advanced Placement English) who rated the essays (p. 19). They used the trained AP scorers’ ratings as the “correct” ratings and found that the students’ ratings were closer to those of the trained AP scorers than the teachers’ ratings. However, both students’ and teachers’ ratings were close enough to the trained AP raters’ scores that they could be considered useful scores. This suggests that the average of the students’ impressions of essays are reliably accurate, to the point where they could in theory replace teachers’ ratings.

## 4. Method

The experiment for this thesis consists of three parts, ideally performed within a week or two. This is an intervention-based study, where the English classes of two teachers write a task, then perform a peer review, and then rewrite their task. In the beginning of the peer review session, the teachers hold a lesson on peer review to ensure that the students are familiar with the method before using it. None of the classes in this study have particular knowledge of peer reviews from before this experiment. Therefore, holding a short lesson on peer reviews before they perform them is necessary and realistic to have a successful experiment.

### 4.1. Participants

The experiment was performed by two teachers, across three classes in total. One teacher performed the experiment in a vocational studies VG1 class and a general studies VG1 class, whilst the second teacher performed the experiment with a 10<sup>th</sup> grade class. The VG1 vocational studies class will from this point on be referred to as the VG1 YF class, and the VG1 general studies class will be referred to as the VG1 SF class. There were 14 students in the vocational studies VG1 class, all aged 16. 4 of the participants were female, and 10 were male. In the general studies VG1 class there were 16 students, aged 17 – 18, with 4 male and 12 female participants. There were 22 participating students in the 10<sup>th</sup> grade class, aged 15 to 16. There is a 14/8 split between male and female students respectively. In the 10<sup>th</sup> grade class, only 16 students participated in all parts of the experiment. However, everyone who participated answered the parts of the survey they had relevant experience for.

For the VG1 classes, this experiment was performed in the span of one week, which was structured as a “writing week”. This meant that they had three double lessons, which totalled 90 minutes each, to perform this experiment. The first lesson was used to introduce the task and then for the students to write their essays. The second lesson centred around peer reviewing. They were first introduced to the concept and then taught how it is done properly. Then, they performed the peer reviews and gave feedback to each other. The final lesson was used for the pupils to finish their final draft of their essays.

The 10<sup>th</sup> grade class also had a setup with a writing session, a peer review session, and then a final writing session. However, they ended up with having a one-week holiday between their peer review session and their second writing session. This slightly complicated the process, but the students simply reread their feedback and had the opportunity to further discuss it as well. This should mean that little to no issues were created by the interruption of the writing process.

#### 4.2. Peer Review Sheet Design

When designing a peer review sheet, it is important that it is clear and easily understood. This makes the students' job of reviewing each other easier, since they will have a better understanding of what they are looking for. Schunn et al. (2016) write that "rubrics have been shown to increase student achievement and motivation in writing, but only when the rubrics convey clear and specific descriptions of quality levels for task-specific criteria" (pp. 16-17), but that "the language of the rubrics is often general and typically designed to be used only after extensive training and discussion of multiple benchmark sample essays" (p. 17). Since such extensive training is not possible to be performed in the time-span of this study, the language needs to be more specific and easier to understand. If this is done well, the benefits of peer reviews, as described by Schunn et al. (2016), will be easier to achieve.

For this study, a peer review sheet is used, instead of a peer review rubric such as Schunn et al. (2016) use. The difference between this peer review sheet and a rubric is that a rubric describes different levels of proficiency (Schunn et al., 2016, p. 16), whilst this peer review sheet asks questions in order to make the students describe and critically consider the strengths and weaknesses of the essay their peer has written. Schunn et al. (2016) investigate whether students can "accurately assess their peers' writing" (p. 13), which makes a rubric more fitting as a tool for their peer review study. Since this study investigates the effect peer reviews have on students' essays, feedback on how the essays can be improved is more useful than information regarding at which proficiency level the students' essays are.

To prevent students from giving short or inaccurate answers, each "question" in the peer review sheet is designed to consist of several questions or statements related to the same

topic. To answer these questions, the students are presented with a box where they can tick “yes”, “some”, or “no”, as well as a section where they can write comments to expand upon their initial answer. This is done to first let the students give basic information through the yes/some/no option, and then prompt them to write longer, more thought through answers when they find it necessary. The design was chosen after a discussion with one of the participating teachers. The teacher explained that she thought that her students would have an easier time answering the peer review sheet if they had a combination of boxes to tick for yes/some/no as well as a field to write any necessary comments, instead of only having a field to write comments (participating teacher, personal communication, January 19, 2024). These questions are designed with the aim of making the students reflect on the topic and engage with the essay, instead of dismissing each question with a short answer (see Appendix F for peer review sheet).

The peer review sheet is designed whilst keeping the findings of Lundstrom & Baker (2009) and Lee (2006) in mind. Since they both find that global aspects such as structure and organisation is where they see the most improvement, multiple questions or statements focusing on these global aspects are included in the peer review sheet. The first question inquires into the use of paragraphs. First, it asks if the essay includes paragraphs. This is a simple yes/no question, which would prompt a short answer. Since a yes/no answer would not be very helpful, the next question expands upon the usage of paragraphs by asking if each paragraph starts with a topic sentence. The impression I have gotten through my teacher-training has been that the use of topic sentences is often taught to students so that they may write accurate paragraphs, which is why I decided to include this question. Then, the final question on the topic of paragraphs asks if the paragraph discusses what the topic sentence introduces. If the paragraph does discuss the topic, then the paragraph should be somewhat accurate and to the point. These are all yes/no questions, but much can be learned through negotiating meaning when discussing these questions. If someone does not have paragraphs or topic sentences, this might be the point where they learn what those terms mean and how they should use them.

The next question on the topic of structure deals with the introduction and conclusion of the essay. It first asks if the essay has an introduction with a thesis statement that is easy to understand. Then, it asks if the conclusion summarises what the essay discussed, and if the

conclusion clearly shows that the essay is ending. These questions are also on the yes/no scale of questions, but they still allow room for reflection and discussion. Instead of simply writing yes or no, the students could discuss to which degree the essay satisfies these questions. Perhaps the introduction mentions some of what the essay discusses, but not all, or that the conclusion summarises some parts, but also lacks some other parts. Finally, it asks if sources have been cited correctly when necessary. This question seems to fit well with questions regarding the conclusion, which is why it is included in the same part.

The final question on the topic of structure asks a broader question, with more room for the students to comment on whatever they see fit. This question asks if the essay has a clear and logical structure, without defining what a clear and logical structure is. The purpose of this question is to allow the students to address the issues they notice regarding structure that the two previous questions did not cover. A peer review sheet is limited by not knowing what the students will write in their essays and it therefore cannot only contain guided questions. To overcome this challenge, this open-ended question is included. The students can still only answer yes/some/no if they want to. However, if they tick the box for some or no, they should also be expected to explain what the essay needs to improve to have a better structure.

The next two questions move from the structure of the essay to its content. The first question regarding content asks if the essay answers the task's prompt. The student is made to critically read the essay and, in the process, potentially find weaknesses and possibilities for improvement in the essay. If the reviewer ticks the box for some or no, again, they should write an explanation in the section for comments. Any feedback given after a critical reading of an essay should be useful for the students when they are improving their essays. Critically reviewing whether a peer's essay answers the essay prompt might give the reviewer new insights into their own essay as well. Thus, a short and simple question might make room for large amounts of learning and improving.

The second and final question regarding content asks if the writer explains their arguments throughout the essay. By potentially identifying arguments without explanations, the peer review could help a student to fully argue for and explain their opinions. An opinion without an explanation is not worth much in the academic sense. Thus, identifying such an issue could help improve the essay substantially. In the comment section of this question, the



students are expected to explain where there are arguments without explanations in the essay. Eliminating unexplained arguments could easily improve the impression the teacher has when grading the essay.

Following those questions, the students are faced with two questions regarding language. The first question asks if the language used is accurate. Students sometimes write convoluted sentences that are longer than necessary, which makes the point of the sentences less clear. By removing unnecessary words that act as filler words with little to no additional semantic meaning the message becomes clearer and the text becomes easier to read. Next, it asks if there are any sentences or paragraphs that contain unnecessary words or phrases. This question is there to make sure the students actively search for these filler words or phrases. Additionally, by becoming more aware of inaccurate language, students might use more accurate language in their own essays.

The final questions on the topic of language asks if there are any grammatical mistakes. With such a question, it is possible that the students become uncomfortable due to being faced with making many mistakes, and it is also possible that the reviewing student struggles to identify any issues. To make sure that the focus is not on random, small mistakes, but instead on something more teaching and identifiable, the next question asks if there are any recurring mistakes such as a small "i" instead of a capital "I". By identifying such recurring issues, the overall impression of the essay might improve drastically, and the student will hopefully be rid of the issue more permanently as well.

The final question of the peer review rubric asks if the essay includes key words, and if they are used correctly throughout the essay. Since any topic has key words that are essential to that topic, it seems fitting to conclude the peer review sheet with a question regarding key words. If key words are used properly throughout an essay, it will likely leave a better impression and be more accurately worded. Thus, the small factor of using the correct words might make the entire essay more impressive and make it seem like the student is more knowledgeable on the topic than if they had not used key words properly.

The wording of the peer review rubric has intentionally been written so that the rubric asks questions regarding the essay instead of asking questions regarding what the author has or has not done. This is done so that students might feel more comfortable both receiving and

giving feedback since they are not criticising their peers, but rather their essays. This makes the peer review process less personal and vulnerable and might make it easier for all students to be constructive and helpful.

#### 4.3. How to Grade the Essays

When grading essays in Norwegian schools, teachers employ criteria for assessment called “vurderingskriterier”. These criteria cover several aspects of writing, such as content, form, grammar, and structure. To ensure that the grading of the essays involved in this study is both useful for the study as well as accurate and easy to use for the participating teachers, the rating system is based on the “vurderingskriterier”. There are three categories that the teachers rate in the rating system for this study: content, grammar, and structure. They rate these categories from 1-6, where the ratings coincide with the low, middle, and high achievement categories from the “vurderingskriterier”. Norwegian students receive grades from 1-6, and the aim is that the process of rating these categories should mimic the process of teachers giving students their grades.

To compare the first and second draft, both drafts receive a rating from the teacher in the three categories of content, grammar, and structure. By doing this, the differences between the first and second draft can become statistically apparent, and statistic comparisons are then made to see if the differences are significant. To ensure that no other teaching or outside influence affects the differences between the first and second draft, only the peer review session is held between the writing of the first and second draft.

Students should be held accountable for their peer reviews, ideally by having the teachers grade the feedback the students give (Schunn et al., 2016). However, this is difficult to achieve in the design and timespan of this study. Since no grade will be given to the students’ peer reviews, the teacher must be more engaged in the peer review process, to ensure that the students take their work seriously and that the peer review is performed in a good manner.

Regarding whom should grade the essays, there are two possible solutions. The realistic way is to have the teacher rate their students’ essays. This is how students normally receive their

grades and is a good reflection of real-life practices. The second way of rating essays is less applicable to real-life situations but would create more accurate and reliable datasets. This would be to have two or more people grade each essay to create a more accurate grade (Schunn et al., 2016, p. 19). The essay-raters could be the teacher, an expert rater from another school or university, and someone from the study. By having more people rate each essay biases and disagreements can be identified and solved, which ensures that the study's dataset is reliable. However, since this way is not reflective of real-life Norwegian school practices, it will not be employed in this study. Such a method also falls outside of the time and scope of this study, so it would be difficult to implement even if I wanted to.

#### 4.4. Students' Essays

The task which is handed out to students for this study could have been meticulously designed with the sole purpose of optimising it for the use of peer reviews. However, since this study aims to reflect real-life teaching situations, no task is designed to be handed over to the participating teachers to use with their classes. This approach also makes more sense since the participating teachers teach different English classes across different grades. A task designed for this study would probably have to be altered to work for all three classes. Furthermore, this study intervenes in the participating teachers' regular teaching. I do not want to interrupt their regular teaching too much, and I therefore let them use whatever task that fits in with their teaching at the time of the experiment. The only requirement is that they must have the students write two drafts with nothing but a peer review in between them. Thus, the teachers should be as undisturbed as possible in their regular teaching.

#### 4.5. Survey Design

The survey is created to investigate the opinions and impressions of the students who participate in the peer review project. The questions in the survey are inspired by the claims made in the sources that inform this study, with the intention to compare their findings to the actual experiences of the participating students. This creates the opportunity to see if

the findings of international sources are applicable to students in the Norwegian school system as well, or particularly if the findings are applicable to the students who participate in this study. Since the survey is handed out to Norwegian students it is written in Norwegian (see Appendix A for full survey).

Since studies such as Lundstrom & Baker (2009) argue that students learn from giving peer reviews through identifying the strengths and weaknesses of other students' texts (p. 31), question 1 asks if they experienced performing a peer review as educational, question 2 asks if the students had experienced giving feedback as educational, and question 3 asks if they had experienced receiving feedback as educational. On the same topic, question 7 asks if the students experienced seeing how their partner answered the task prompt as educational. These questions aim to identify the students' own experiences in relation to what they thought was educational during the peer review.

To investigate whether peer reviews are motivating for the students or not, question 4 asks if the students found it motivating to perform the peer review, question 13 asks if they were motivated to ask for help from their partners in the future, and question 5 asks if they thought this was a good way of improving their text. To expand on question 5, question 6 asks if they thought this was a good method of becoming better at identifying strengths and weaknesses in their own texts. The purpose of having both these questions is to see whether the students see only short-term benefits or if they also see long-term benefits, or if they see neither.

Since Schunn et al. (2016) explain that it is important for the students to feel comfortable with giving and receiving feedback (p. 14), question 10 in the survey asks if the students were comfortable with giving and receiving feedback from their partner, and question 11 asks if they preferred to receive feedback from their teacher. Question 8, on the same topic, asks if the cooperation between the student and their partner worked well. Through these questions, the study aims to identify if there are any recurring issues for those who had a poor experience with the peer review. Finally, the students are asked to what extent they incorporated the feedback they received from their peers.

According to Kurihara (2017), students are more critical to and engage more with feedback from their peers than from the teacher (p. 465). Therefore, question 9 asks the students if

they engaged more with the feedback from their peers than they would have engaged with feedback from their teacher. Kurihara (2017) asks, in his or her own peer review survey, how large a percent of the feedback the students in his or her experiment received that they actually implemented when improving their text (p. 465). To find comparable data, the same question is included in this survey as question nr 12.

#### 4.6. Redesigning the Survey

Since one of the participating teachers experienced that it was necessary to hand out feedback (participating teacher, personal communication, February 28., 2024), the peer review survey was altered slightly to adjust for that. This was mainly done by adding some questions which asked the students about their experiences with the teacher feedback (see Appendix B for redesigned survey). The questions regarding learning by receiving feedback as well as finding it motivating to receive feedback were doubled, so that they asked the same questions for both peer feedback and teacher feedback. The question of what amount of feedback the students incorporated was also doubled, so that peer and teacher feedback were separate. Finally, a question was added to compare whether the students preferred receiving and discussing their feedback with their peer to receiving written feedback from their teacher.

#### 4.7. Handling the Data

When the participating teachers' classes finished the project, the teachers rated the first and second drafts and sent the results to me. The results were separated by class so that comparisons could be made between the classes. This allowed me to potentially draw conclusions about when and where peer reviews should be used, and when they should not be used. The differences in the ratings of the first and second drafts were put through T-tests to check whether there were significant differences between the two drafts. Although this was mostly a qualitative study with a small sample group, checking for statistically significant differences might contribute to the discussion.

The survey data was also collected and compared. This data provides insight into the impressions the students had from performing a peer review. The data from the different classes was separated for the surveys as well, so that the differences in impressions between classes could be shown. Being able to compare results and impressions between classes could reveal some interesting insights regarding the use of peer reviews compared to ages and the different fields of study that are participating in this experiment.

## 5. Results

### 5.1. Performing the Peer Review Project

The participating teacher from the 10<sup>th</sup> grade class experienced that performing the peer review project was more complicated than expected. She had 22 students participate in the first writing session, but only 16 of them participated in the peer review session, and only 19 of them finished the second draft. This meant that 6 students stood without any peer feedback, and they did thus not know what to improve upon in the second writing session. To avoid having 1/3<sup>rd</sup> of the class do nothing in the second writing session, the teacher felt it most reasonable to give them feedback herself. However, this created a new problem. She anticipated that the rest of the class would feel it was unfair to only receive feedback from their peers whilst the 1/3<sup>rd</sup> received “better” feedback from the teacher. Therefore, she decided to give feedback to all the students. The ones who participated in the peer review would still have the feedback from their peers, but they would also have feedback from the teacher. Those who did not participate in the peer review would only have feedback from their teacher. The reasonings and effect of this decision will be further discussed in the discussion section of this thesis. To adjust for this change in plans, the survey was altered slightly so that the questions reflected the fact that the students had not only received peer feedback, but also teacher feedback. This means that the results from the 10<sup>th</sup> grade class survey will not have a perfect comparison to the VG1 classes. However, the survey remains similar enough that the results will be comparable.

### 5.2. Data from the First and Second Drafts from the VG1 YF Class

In the VG1 YF class, 9 results were received from the first and second essay drafts. Across the categories of content, grammar, and structure, which the essays were judged for, the first drafts received an average grade between 2 – 6 of 2.22 for content, 3.33 for grammar, and 2.22 for structure. The standard deviations were 0.44, 0.5, and 0.44 respectively. The average grades of the second draft, the ones written after the peer review session, were 3.22 for content, 3.78 for grammar, and 3.22 for structure. The standard deviations were 0.66 for content, and 0.83 for grammar and structure. This gives a difference between the first and

second draft averages of 1 grade for content and structure, and 0.45 grades for grammar. To check for significant differences between the first and second drafts, one tailed, paired T-tests were performed for each category. A T-score of less than 0.05 would mean that the results are significant, and that they would be reproduced in at least 95% of similar situations. The results of the T-tests were as follows: 0.004 for content, 0.051 for grammar, and 0.008 for structure. Even though the averages were equal for both content and structure, their T-tests were different due to individual differences in the data which cannot be seen in the average scores. A score of 0.051 for grammar means that the results barely did not pass the significance threshold, whilst scores of 0.004 and 0.008 for content and structure means that the difference is significant.

### 5.3. Data from the First and Second Drafts from the VG1 SF Class

14 results from the first and second drafts were received from the VG1 SF class. The first drafts received an average grade between 2 – 6 of 2.64 for content, 3.36 for grammar, and 2.36 for structure. The standard deviations were 0.63, 0.93, and 0.63 respectively. These results show both a higher average grade as well as a larger standard deviation for the first drafts of the VG1 SF class compared to the VG1 YF class. The second drafts from the VG1 SF class received average grades of 4.07 for content, 4.71 for grammar, and 4.93 for structure. The standard deviations increased to 1.21 for content and 0.83 for structure but fell slightly from 0.93 to 0.91 for grammar. One tailed, paired T-tests were performed for all categories, with the results being 0.0002 for content, 0.0004 for grammar, and 0.0000002 for structure. These T-scores prove that the results are significant across all categories, and they also show greater improvement than the VG1 YF class showed.

### 5.4. Data from the First and Second Drafts from the 10<sup>th</sup> Grade Class

The 10<sup>th</sup> grade class had the largest data set, with 16 first and second drafts. There were some students who had only sent in a first draft and some who had not received a peer review. These were excluded from the results since they either had no second draft to be compared to or since they had not been part of the peer review and therefore were not part



of the target group for this study. The first draft received an average grade of 3.88 for content, 3.94 for grammar, and 3.75 for structure. There are more consistent grades across the categories in the 10<sup>th</sup> grade class than the VG1 YF and SF classes received. The standard deviations were 0.70 for content, 0.56 for grammar, and 0.56 for structure. For the second draft, content received an average grade of 4.38, and grammar received an average grade of 4.31, whilst structure received an average grade of 4.13. The data reveals that grammar and structure improved approximately to the same degree and content improved the most. The standard deviations slightly increased, with content staying at 0.70, grammar increasing from 0.56 to 0.68, and structure increasing from 0.56 to 0.70. One tailed, paired T-tests were performed for the three categories, where results of less than 0.05 would mean that the differences between the first and second drafts are significant. The T-score for content was 0.001, and 0.014 for grammar, and finally 0.027 for structure. These results indicate that the work that went into the peer review made a difference, since all the scores were under 0.05. However, in this particular experiment, the teacher also participated in giving feedback. These results, as well as the t-scores, do not separate between teacher and peer feedback, and they do not give any indication into which feedback was the most helpful.

#### 5.5. Data from the VG1 YF Survey

The results from the survey can be seen in Figure 1. The students had the option to give a rating between 1-5 based on how much they agreed or disagreed with the question, where a rating of 1 = strongly disagree, 2 = slightly disagree, 3 = neither agree nor disagree, 4 = slightly agree, and 5 = strongly agree. They also had the option to answer “don’t know”.

Those answers, as well as some unclear answers, have been excluded from the statistics.

From question 1 to 7, except question number 3 and 6, a clear preference for a rating of 3 is evident, which means that they neither agreed nor disagreed with the question. Between question 1 and 5 there is a clear preference for the lower ratings, which means that a majority either were neutral or disagreed with those questions. Since questions 1 through 7 were related to the theoretical benefits of peer review, these answers mean that most students in the VG1 YF class disagreed with these benefits.

One interesting find is that most students were comfortable with giving and receiving feedback, but very few students preferred receiving feedback from students compared to receiving feedback from their teacher. The data from question 12 shows that the largest number of students implemented between 0% - 20% of the feedback they received when improving their essay, and no student implemented between 80% - 100% of the feedback they received. According to Kurihara (2017), students are more likely to engage critically with the feedback they receive from peers compared to how they would engage with feedback from their teacher (p. 465). The answers to question 9 show that most of the students in the VG1 YF class disagreed with the question to a certain degree, with only three students agreeing that they did engage more with the feedback.

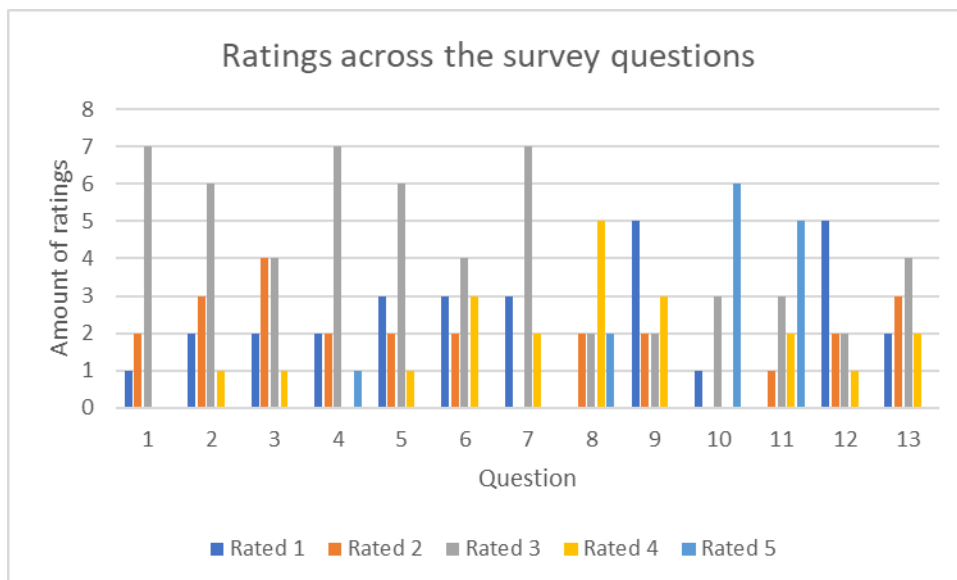


Figure 1: Ratings for questions 1 through 13 from the VG1 YF class

### 5.6. Data from the VG1 SF Survey

There is a clear difference in the VG1 SF class’s ratings compared to that of the VG1 YF class (see Figure 2 for survey results). Across all questions related to the benefits of peer reviews, questions 1 through 7, the data shows a clear preference for voting 4, “slightly agree”. This indicates a clear split from the YF class, which did not agree that the peer review was beneficial to them. Only a minority in the SF class voted that they did not agree with the benefits of performing a peer review.

On question 8, 12 out of 14 students voted that they either “slightly agreed” with or “strongly agreed” with having teamwork that worked well. With only one vote for “strongly disagree” and one vote for “slightly disagree”, another difference from the YF class is made clear, where four out of eleven either slightly or strongly disagreed with question number eight. This means that the students experienced that they had better functioning cooperation than the YF class experienced.

The question both classes agreed on was question number 11. When asked if they preferred to receive feedback from their teacher, seven students in the SF class answered that they “strongly agree” and two students answered that they “slightly agree”. Finally, there were three students who “neither agree[d] nor disagree[d]” with the question, and one who “slightly disagree[d]” with the question. This means that only one student in the VG1 SF class slightly preferred to receive feedback from peers than from the teacher.

Question 12 shows another clear difference between the VG1 SF and YF classes. The YF class had a strong preference for voting 1, which means that most students in the YF class implemented between 0% - 20% of the feedback they received. On the other hand, the SF class showed a preference for voting 3 followed by voting 2 and then 4. This means that most students in the SF class implemented between 41% - 60% of the feedback they received. There were no votes for 5, implementing 81% - 100% of the feedback. Other than voting for 5, option number 1, implementing 0 – 20% of the feedback, received the fewest ratings. This is a clear indication that the VG1 SF class managed to implement a larger quantity of the received feedback.

A final difference between the two classes can be seen in how they voted for question number 13. In the VG1 YF class, only two people “slightly agreed” to being more motivated to ask their peers for help in the future. In the VG1 SF class however, eight students agreed to being more motivated to ask for help in the future, and only four students disagreed with the question. These results mean that the VG1 SF class experienced more of a success with the peer review than the VG1 YF class did.

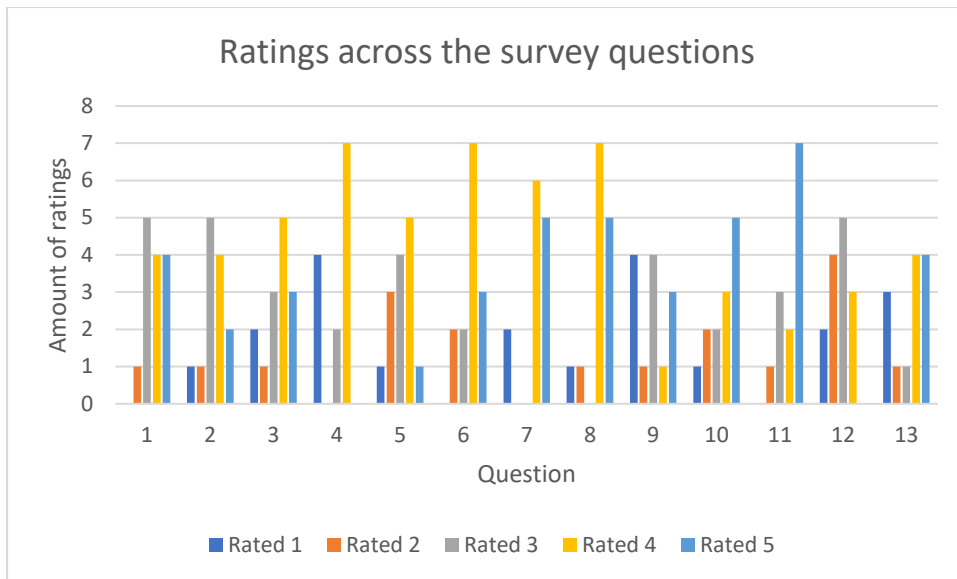


Figure 2: Ratings for questions 1 through 13 from the VG1 SF class

### 5.7. Data from the 10<sup>th</sup> Grade Survey

For the 10<sup>th</sup> grade survey, a total of three questions were added because the students received feedback from their teacher as well as from their peer. These questions were added to compare the impressions the students got from cooperating with and receiving feedback from a peer to the impression they got from receiving feedback from their teacher. The questions to pay particular attention to in this survey are the question pairs of 3 and 4, 5 and 6, and 14 and 15. The prior question asks about an aspect of the peer review, and the latter question asks the same question directed towards the teacher feedback. This means that if the students rate questions 4, 6, and 15 higher, they preferred teacher feedback and worked better with that feedback, whilst if they rate questions 3, 5, and 14 higher, they preferred the peer feedback (see Figure 3 for survey results).

Looking at questions 3 and 4, the results show a preference for rating question number 3 with a 3, “neither agree nor disagree”, followed by 2, “slightly disagree”, and 4, “slightly agree”, whilst question number 4 received the greatest number of ratings for 4, followed by 2 and 3. This means that question 4 has an overall more positive rating than question 3. This means that the students experienced that they learned more from the feedback they received from their teacher than they learned from the feedback they received from their peers. Moving on to question 5 and 6, the data shows less of a distinct difference. Question

number 6 has two more votes for “slightly agree” and one more vote for “slightly disagree”, but one less vote for “neither agree nor disagree”. It also has no ratings of 1, which question number 5 had one of. This means that the overall ratings between question 5 and 6 are slightly more positive for question 6, but only by a marginal difference. Finally, looking at questions 14 and 15, the amount of feedback the students incorporated from their peers is now being compared to the amount they included from their teacher. For question 14, the amount of feedback students incorporated from their peers, most students gave a rating of 4, followed by 1, then 3, and finally two votes for 2 and 5. These ratings show that a slight majority implemented between 61%-80% of the feedback they received from their peers. The second largest group implemented only 0%-20% of the feedback they received, which marks a stark difference from the majority. Worth noting here is that the difference from the least rated amounts to the most rated amount is only three votes. Five students voted 4 (61%-80%), whilst two students voted 2 (21-40%) and 5 (81%-100%), and four students voted 1 (0-20%). This means that there was an even spread between the different amount of feedback implemented. On question 15, the same pattern as seen in the previous question pairs is evident. Five students still voted 4, but the second largest group has now moved to rating 5, with four votes. The third most voted ratings were 2 and 3, with rating 1 only receiving one vote. This marks a clear difference from question 14 where four students voted 1, and there is an overall shift towards students incorporating more feedback from the teacher than they did from their peers.

Moving on to the questions that did not change in this survey, the data suggests that the 10<sup>th</sup> grade class had the most positive view on peer reviews as being educational. For questions 2 and 3 the 10<sup>th</sup> grade class gave approximately the same ratings as the VG1 SF class, which were slightly more positive than the answers from the VG1 YF class. Questions 7 to 9 show that the students mostly experienced peer reviews as a good way of improving their writing, and that they felt it was educational to read through their peer’s essay. Question 10 shows that most students in the 10<sup>th</sup> grade class felt that their teamwork with their peer worked well. The next interesting point to look at is the answers to question 12 compared to question 13, where the results show that the 10<sup>th</sup> grade class had the same pattern as both the VG1 classes had: The students are mostly comfortable with giving and receiving feedback from a peer, but they still answer that they prefer to receive feedback

from their teacher. Contrastingly, question 11 shows that the students thought it was more useful to discuss their peer feedback with their peer than it was to receive written feedback from the teacher.

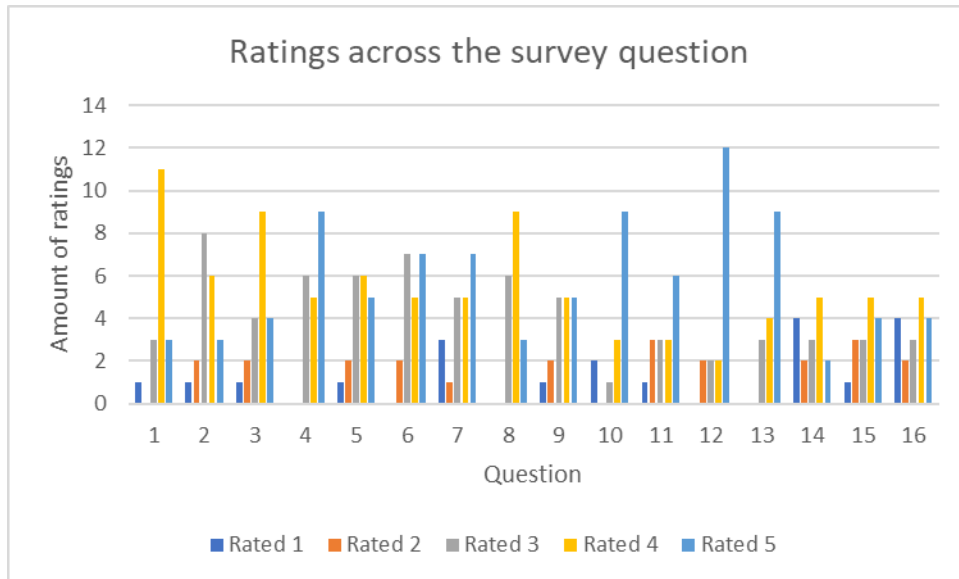


Figure 3: Ratings for questions 1 through 16 from the 10<sup>th</sup> grade class

### 5.8. Comments Related to the Surveys

The 10<sup>th</sup> grade teacher specifically prompted her students to write a positive and negative impression they had of the peer review they had partaken in. This specific prompt led to drastically more comments from the students in the 10<sup>th</sup> grade class compared to the VG1 YF and SF classes where the prompt in the survey was only “other comments”. The 10<sup>th</sup> grade class had a total of 19 comments, with four of them being one-sentence comments, while the rest were lengthy comments with explanations. On the other hand, the VG1 surveys had a total of two comments. The most commonly mentioned positive aspect from the 10<sup>th</sup> graders was the fact that they appreciated receiving feedback from their peers since they often had a different viewpoint than the teacher and could explain the feedback in a different way than the teacher would. The most often mentioned negative aspect was that they experienced uncertainty about each other’s proficiency in English. They were unsure how much they could trust the feedback they received from their peer, and they were unsure how much they should comment on their peer’s work. Examples of the comments

from the surveys will be given and further discussed in the discussion section of this thesis (see Appendix C for all comments).

## 6. Discussion

### 6.1. Answering the Research Questions

#### 1. How does the usage of peer reviews influence students' grades?

All the results, except for grammar in the VG1 YF class, statistically indicate that the peer review improved the grades of the students who participated in the experiment. Structure improved the most, whilst grammar saw the least overall improvement. These results match what Kurihara (2017) found, namely that the students improved the most in the global aspects such as organisation and cohesion (p. 464). The additional time the students had to write their essay is a factor which has not been accounted for. Would the students manage to improve their texts as much as they did without the peer review session, if they had only had more time? This is difficult to answer due to the oversight of not including a control group in this study. However, there are certain indications that the peer review indeed was helpful. Most importantly, the peer review made the students aware of where their essays could improve. Had they not had this knowledge, they would probably have continued to write at the same level as they already were at.

Furthermore, the students' answers to the questions in the survey show that they agreed that they found the peer review helpful. Particularly, the answers to question 1 to 7 show that they experienced the peer review as something positive and educational. Considering the statistical analysis in addition to the students' own impressions, there seems to be little doubt that the peer review was indeed helpful. Finally, the teacher of the 10<sup>th</sup> grade class herself was under the impression that the peer review had helped the students improve their texts. She believed that they would not have been able to improve as much as they did by only having more time to write. She meant that the feedback was essential to the improvement of her students, and that they would not have been able to improve their essays to the amount they did without the feedback (participating teacher, personal communication, 08.03.24).

Looking at the classes individually, the VG1 SF class improved the most whilst the 10<sup>th</sup> grade class improved the least. There could be a variety of factors that led to these results, such as the classes having different teachers, ages, socioeconomic classes, etc. Due to the scope of



this thesis, I did not have the opportunity to control for all these possible factors. This would have removed the uncertainty of potential outside factors affecting the grades. Nonetheless, this uncertainty does not subtract from the point of the study, since there always are different factors that affect different classes. This study would not represent the real-life application of peer reviews had I managed to control for all these factors.

Even though the 10<sup>th</sup> grade class improved the least, they managed to improve their writing by a degree which their teacher was certain was due to the feedback they gave and received (participating teacher, personal communication, March 8., 2024). Furthermore, the students agreed that the peer reviews were educational. This means that the peer reviews worked in the 10<sup>th</sup> grade classroom even though they only led to small amounts of improvement.

In the VG1 classes, there was remarkable improvements of over one entire grade for most categories in both classes. This shows a clear and impressive change brought on by the peer reviews. However, the VG1 YF class answered mostly negatively to the survey questions related to the benefits of the peer review. The VG1 SF class agreed more to the benefits of the peer review. This indicates that the peer review was more successful in the SF class than it was in the YF class.

## 2. What are the students' impressions of the peer review method?

Moving on to look primarily at the surveys, the data reveals certain trends. First of all, the lowest scoring class, the VG1 YF class, were also the least happy with the peer review. As mentioned in section 5.5., there is a clear trend across questions 1 to 7 in the VG1 YF class to give a rating of 3 or lower. Since these were questions such as “performing a peer review felt educational” and “it was motivating to receive feedback from a peer” (see Appendix C for all comments), it becomes clear that the students were not happy with the peer review. The most positive group in the VG1 YF class mostly voted 3, “neither agree nor disagree”, which proves the point that this way of working with writing was not something the VG1 YF class enjoyed.

The VG1 SF class shows slightly different results. The largest groups of votes are mostly split between ratings of 3 and 4, with 4 often being the largest group. This means that most

students in the SF class either slightly agreed to the benefits of peer review, or that they neither agreed nor disagreed, which is a remarkable difference from the VG1 YF class. The VG1 SF class also received overall better grades than the VG1 YF class did, which indicates that there could be a potential link between students' academic performance and their impressions of peer reviews.

Finally, the data shows that the 10<sup>th</sup> grade class agreed with the VG1 SF class. The largest group of students gave a rating of 4 for most of the questions related to the benefits of peer reviews. With this class, it is important to remain aware of the fact that the teacher also gave the students feedback. This means that they did not experience a pure peer feedback situation, which might have affected the impression they got from the peer review. However, the questions were designed to separate between the experiences they had with the peer review and the teacher feedback, and the results show that the students rated both the questions related to the peer review as well as the teacher feedback highly. This means that this class might provide a different perspective on how to perform peer reviews. Perhaps the way they performed the peer review was beneficial, and that having a teacher involved and giving additional feedback is a positive addition to the peer review process.

All in all, two of the three classes involved in this experiment were happy with the peer reviews they partook in. The students in the final class, the VG1 YF class, both received the lowest grades and rated the peer review the lowest. I suspect that there is a common attitude, which is found both in students and teachers, that students who choose the various vocational classes are less interested in academic work and therefore choose the more practical classes. This is an attitude with negative connotations, which should be systematically worked against. However, this attitude might be the cause for the results this study found. A peer review requires the participants to trust their own and their peers' ability to identify strengths and weaknesses in written work. If students believe that they have chosen their VG1 direction because they are not interested in academic work, their trust in themselves and their peers will naturally be lower than if they believed they enjoyed academic work. Therefore, working with attitudes related to academic work particularly in vocational studies would potentially improve the students' experiences with peer reviews. Increasing their confidence in themselves and their peers, as well as increasing their belief that peer reviews provide valuable feedback might turn peer reviews from a method for

writing that the majority dislikes to a method which might quickly become the class's favourite way of receiving feedback.

3. How can peer reviews be implemented as part of the sociocultural learning theory?

To answer this question, the explanation primarily focuses on the theory section of this thesis. First of all, a focus must be placed upon what is most important in the sociocultural learning theory, namely the process of *meaning-making* (Manger et al., 2020, p. 178). In sociocultural learning, it is believed that learning happens when people engage in the process of meaning-making, which can be described as explaining, discussing, and trying to understand the topic at hand from another person's perspective. A foundational part of meaning-making is that those who engage in it need to participate equally. This is why methods such as when a teacher holds a presentation with no student-involvement would not be recommended as part of the sociocultural learning theory. A better way of holding a teacher-led presentation would, according to the sociocultural learning theory, be to involve the students in any way possible. One such way would be to have them ask questions and the teacher then having to answer the questions and explain why what he or she says is valid.

This method of learning is essential to the process of peer reviews. By working with peers in the state of meaning-making, the peer review process aims to place the students in their Zone of Proximal Development (ZPD) (Lantolf, 2000, p. 17). The ZPD is a theoretical zone in which a person manages to reach their potential through the help of others. To be in the ZPD inherently means to be interacting with others. The process of meaning-making in a peer review goes hand in hand with being in the ZPD. Therefore, the peer review works as an essential aspect of the sociocultural learning theory by being a tool which can help place students in their Zone of Proximal Development, which the sociocultural learning theory believes to be essential for students to further their learning.

4. How can peer reviews realistically and efficiently be implemented in classrooms in the Norwegian school system?

The final question of this thesis might be the most complex question so far, with several aspects which needs to be considered. First, the sociocultural learning theory as well as the Norwegian National Curriculum must be taken into consideration. Then, the results this study found must be examined, and finally, one must consider both the students' and the teachers' impressions and experiences with the peer review process. A good idea of how to implement the usage of peer reviews in the Norwegian school system might be found if all of these separate aspects can be unified.

As shown in the 10<sup>th</sup> grade curriculum as well as both VG1 curriculums, students are supposed to be able to revise their own writing based on feedback they receive (Utdanningsdirektoratet, 2019a). This means that part of a teacher's job is to teach students how to manage and improve their work based on feedback. The skill of working with feedback is not necessarily inherent and needs to be practiced over time. Frequently having activities such as peer reviews is beneficial since it gives students the opportunity to practice working with feedback. If used frequently, these activities can be a good tool which might make a difference in the learning of the students.

According to Lundstrom & Baker (2009) students learn the most during a peer review when the students are in the process of reviewing their peer's writing. They further argue that students learn to self-reflect when they learn to perform a peer review, because they practice the skill of looking for strengths and weaknesses in other students' written work. This means that, according to Lundstrom & Baker (2009), peer reviews should be beneficial for students to learn to evaluate their own and other students' writing. It is important to note that Lundstrom & Baker (2009) specifically write that "students taught to give peer feedback" become better writers (p. 38). This means that the same benefits might not be reaped if the students are not properly taught how to give peer feedback, which is where the role of the teacher becomes important. The teacher needs to be able to properly teach the students how a peer review should be performed, as well as provide ample guidance during the peer review.

An interesting factor to consider is the dilemma of conducting peer reviews either face-to-face or online and anonymously. The sociocultural learning theory emphasizes student interaction and the significance of meaning-making during the various learning processes. The concept of meaning-making opposes the idea of anonymous peer reviews, yet Schunn

et al. (2016) argue for online, anonymous peer reviews because they make room for honest and unbiased feedback. However, an anonymous approach to peer reviews sacrifices the social dimension integral to peer reviews and sociocultural learning. Ultimately, fostering a supportive classroom environment where students feel comfortable in exchanging feedback is paramount. Thus, face-to-face peer reviews seem to be preferable, encouraging openness and improving the educational experience for all involved students.

In the survey that was handed out to the three classes, a large majority voted that they either “slightly agreed” to or “strongly agreed” to having a well-working partnership with their learning partner. This experience with working closely with their learning partners would also be lost if the peer review was performed anonymously. Furthermore, it can be argued that all the peer reviews were at least to a degree successful simply by looking at the votes on the question regarding their cooperation. One of the students in the VG1 SF class thought that “sometimes, [receiving feedback] can be better with a learning partner, but then you’d have to choose him or her yourself” (see Appendix C for all comments). This serves as a reminder that even though most of the students voted that they were comfortable with receiving and giving feedback and that they had a well-working partnership, there are also those who did not have such a positive experience. The Norwegian school system places a particular focus on adapting the teaching to everyone’s needs. This means that teachers have to be considerate and careful when placing students with their teaching partners. If the students are not comfortable, it might be more difficult for them to work together as well as to perform well in solo tasks.

Trying to make the students as comfortable as possible also presents a challenge of how comfortable teachers should allow the students to actually be. Ideally, teachers never want them to be uncomfortable. However, the school’s most important mission is to prepare students for their future as adults. Based on common logic, it is known that a person will eventually encounter uncomfortable situations as an adult. The severity of the situation is impossible to predict, however, no regular person will live their entire life without any hardships or uncomfortable situations. Thus, it becomes the school’s responsibility to prepare the students for these uncomfortable situations, in a comfortable environment.

The previous paragraph clearly shows the importance of fostering a comfortable and safe environment where students can be gently placed outside of their comfort zone so that they

may learn to handle uncomfortable or challenging situations in the future. Schunn et al. (2016) explain that for the students to be able to give honest and reliable feedback, they need to be comfortable and feel safe when doing so (p. 14). Furthermore, fear of social repercussions is an important factor which limits the effectiveness of the peer review. This demonstrates that the key to a good peer review is a safe environment, even if the students are not necessarily comfortable with giving and receiving feedback. If they can partake in this uncomfortable situation in a safe environment, they should theoretically be in their ZPD, which creates much room for the students to grow and learn. Finding this balance between the amount of discomfort the students feel when giving and receiving feedback compared to how safe they feel in the classroom should be a key factor to consider when the teacher prepares the class for performing peer reviews.

#### 6.2. How to Give Feedback when Less Students are Present for the Peer Review

In the 10<sup>th</sup> grade class, as mentioned in section 4.1., 22 students participated in the first writing session, but only 16 students participated in the peer review session. This created some challenges, particularly with how to handle the second writing session. Those who were not present in the peer review session lacked feedback on their texts and their teacher feared that they would therefore struggle during the second writing session. To solve this, the teacher decided to give them feedback herself. Since she thought the other students could, and probably would, find this unfair, she decided to give all her students feedback. Those who attended the peer feedback session still had their peer feedback available, but they then also had the teacher feedback. Those who did not attend the peer feedback session only had teacher feedback to improve their essays with (participating teacher, personal communication, February 28., 2024).

This experience raises a question regarding the realistic usage of peer reviews. What does a teacher do when some students do not attend the peer review session? This question is important to answer when looking at how to perform a peer review properly, because this is a situation that undoubtedly will arise if peer reviews are used regularly. The execution of the experiment in the 10<sup>th</sup> grade class gives some information regarding how to handle such a situation. As mentioned in section 5.1., their teacher decided to give them feedback

herself. In the survey, the 10<sup>th</sup> grade students voted more positively for the teacher feedback than the peer feedback. This shows that the students experienced receiving teacher feedback as something positive. From this experience, the extrapolation can be made that receiving a combined peer and teacher feedback might be beneficial and create more comfort and safety for the students.

Several of the 10<sup>th</sup> grade students wrote that they were unsure of the validity of the feedback they had received from their peers, and therefore did not know how much of the feedback they could safely incorporate. By receiving both teacher and peer feedback, the students have the choice of what feedback they wish to include, based on what they experience as valid feedback. This also acts as a safety net in case students do not perform the peer review properly. Another option is to work with the students' perception of the peer feedback they received. Schunn et al. (2016) found that students in their study were as good or better at rating essays than their teachers were, which means that students are able to give accurate judgements of the level of proficiency of their peers' essays (p. 19). This does on the contrary not guarantee that the feedback they give is correct and valid. To ensure that the students give and receive good feedback, the teachers must help their students learn how to give constructive feedback that other students can learn from. Schunn et al. (2016) have shown that students are able to identify the grade an essay deserves, which means that they only lack the tools to identify where the essay has room for improvement. If they can manage to identify the level their own essay is on, then use tools the teacher has taught them to identify their own strengths and weaknesses, they will be able to drastically improve their own written work.

### 6.3. Amount of Peer Reviews

In the peer review experiment of Schunn et al. (2016), they employed an online tool to explore the validity of the ratings the students gave each other's essays. With this online tool, they assigned the students five essays each to review, which meant that each essay ultimately received an average grade from five reviews from different students. The purpose of assigning five essays to each student was to ensure that the average grade was as reliable and valid as possible. In their research paper, Schunn et al. (2016) write that most students

experienced that the workload was demanding, and that only reviewing four essays would be more reasonable than having to review five essays (pp. 20-21). This shows that the students in this experiment managed to handle the workload, and that they would have been more content with a marginally smaller workload.

As discussed in 6.1., using an anonymous online tool seems counterintuitive based on the sociocultural theory the Norwegian School system is built upon. However, this does not prevent a debate to be had regarding the amount of essays students should review. Although the purpose of reviewing several essays in the study done by Schunn et al. (2016) was to ensure a fair and valid grade, other benefits of receiving feedback from several sources have already discussed. As mentioned in section 5.8., the students in the 10<sup>th</sup> grade class appreciated receiving feedback both from a peer as well as from their teacher as this allowed them to compare and consider which feedback they wanted to incorporate, and it also gave them more perspectives on their essays. Furthermore, one of the students in the 10<sup>th</sup> grade class wrote in the survey that they had done something similar in his or her Norwegian class, where they had given each other feedback in groups of four, which this student had preferred. Considering the study by Schunn et al. (2016) as well as the results from the 10<sup>th</sup> grade class, it seems reasonable to consider performing peer reviews in a fashion other than a one to one peer review situation.

However, it is also important to consider what is realistic for a teacher to do frequently in a classroom of 10<sup>th</sup> graders or VG1 students. Assigning four or five essay to each student creates a large amount of work per student, which would correlate to a large amount of time spent to finish these reviews. Frequently using a tool which would hold up the entire class's progress through the curriculum seems as counterintuitive as using an online tool to perform peer reviews. This does not prevent the idea of using peer reviews in other ways than the classic one on one review situation, but it becomes clear that four or five reviews per student seems unrealistic and overambitious. What is worth considering is, as the 10<sup>th</sup> grader mentioned, performing peer reviews in different ways such as group work, or also receiving some feedback from the teacher. These methods would also give the students more safety since their unease of relying on only one student's feedback would be lessened.

If a teacher wishes to have each student review several peer essays, it seems to be beneficial to have a more longitudinal project where the teacher could work to scaffold the class up



from one-on-one peer reviews to having each student perform multiple reviews. By increasing the amount of peer reviews in smaller increments, the teacher scaffolds the students learning and gradually increases their workload tolerance.

#### 6.4. Working with Attitudes

An important aspect worth considering when performing a peer review is the attitudes of both the students and the teachers. Throughout the education to become a teacher, it is taught that if a teacher does not believe in what he or she is teaching the students, they will most likely not believe in it and engage with the material as much as they would do if the teacher was interested and had a strong belief and passion for what he or she was teaching. Furthermore, if the students are not interested or do not believe it is important for them to learn what is being taught, they will most likely not work as seriously as they could.

Of particular interest for peer reviews is students' impressions of receiving feedback from other students, as well as their belief in the entire peer review method as a good method for improving writing proficiency. Schunn et al. (2016) write in their conclusion that "student's perceptions of fairness are a significant challenge to the use of peer assessment" (pp. 21-22). This further underlines the point that students need to believe that the feedback they receive is fair and valid, especially if the peer review also decides their grade, as it did in the study by Schunn et al. (2016). Allowing students to decide one another's grades seems unrealistic in the Norwegian school, but it is nonetheless important for students to experience the feedback they receive as good and useful feedback. If some students experience that the feedback they receive is of lower quality than what other students receive, they are likely to be dissatisfied with the peer review. This challenge is also relevant to consider when sorting the students into pairs. In the 10<sup>th</sup> grade survey, several students explained that they felt the peer review would have a better or worse outcome depending on if they were placed with a higher- or lower-proficiency student. They thought that the higher-proficiency students could contribute more to their essay than the lower-proficiency students could.

Finally, in relation to student and teacher attitudes, the negative attitude related to writing and academic work in general in YF-classes must be worked on. This is less of an issue

related to peer reviews and this thesis in particular and more of an issue related to teaching in general, so it will only be touched upon briefly in this thesis. As was explained in the discussion of research question number two, YF students were the most negative to this method of working with writing. As this thesis and most research papers show, peer reviews are beneficial to the students. Therefore, it seems that the key factor holding back the students in the VG1 YF class is their own attitudes. It is important to remember that these attitudes do not necessarily come from within. Societal ideas, attitudes, and pressure is more than likely affecting these students daily. Personally, I was told that I was “too smart” to study to become a car mechanic when I was around 15 years old. Although personal anecdotes do not prove anything scientific, this is an experience that supports the point of a general attitude that needs to be worked against. In the future, more studies should be performed to assert if this attitude actually is present and affecting the students to the degree which is presumed for this study, or if it is only a small factor in the larger picture, or if it does not exist at all. When these attitudes are further explored, systematic work can be made against them if necessary.

#### 6.5. Holding Students Accountable for Their Peer Feedback

Schunn et al. (2016) also raise the point of holding students accountable for the feedback they give their peers. They explain that if the students are not held accountable for their reviews, they might not take the peer review seriously, and that there would be no guarantee that they follow the instructions for the peer review. In general, not holding the students accountable creates a layer of uncertainty around the entire peer review process (p. 14). To ensure that the students follow the instructions for the peer review, Schunn et al. (2016) argue that the peer review should affect the student’s grade. In the study by Schunn et al. (2016), the use of an online platform allowed them to grade all the students’ peer reviews (pp. 15-16). However, as previously discussed in 6.1., the use of online platforms which makes the peer review process anonymous and socially disconnected would not be recommended.

There are some options to consider when debating how to hold students accountable for in-person peer reviews. First, the students could write their peer reviews in a digital document,

and hand it in to the teacher who would then read through all the reviews. Having read the reviews, the teacher could either give the students a grade on the review, or the teacher could give the students a plus or a minus on the final grade of their own essay. The question then becomes how to grade the peer reviews. One could either create a set of criteria for how a good peer review should be done, and then grade the students based on how well they achieve said criteria. Alternatively, the teacher could judge the peer reviews based on whether or not the participating students tried their best. If the student made a low amount of effort, it would count negatively, and if the students made a high amount of effort, it would count positively. However, this might be problematic due to the inaccurate nature of judgements based on amounts of effort. Therefore, if a teacher wishes to hold their students accountable for their peer reviews in the way of giving grades, creating criteria for the peer review beforehand and then judging the reviews based on the criteria seems to be the best method.

#### 6.6. Practical Applications of Peer Review

In the Norwegian classroom, students often sit at desks with another student next to them. These pairs are often referred to as “læringspartnere”, learning partners, or some variation thereof. The purpose of having a learning partner is that they should be able to help each other when needed, so that both students’ learning may be furthered by sitting together. This praxis is inspired by the sociocultural learning theory, where it is argued that students learn better from being together and working on challenges and problem-solving together. Although this should be studied further, from my own professional experience as a teacher, these learning partners are often underutilised and end up being nothing more than two students sitting next to each other working on their own.

In the English curriculum, students are supposed to “experience that experimenting on their own and with others is part of learning a new language” (Utdanningsdirektoratet, 2019). Looking at the underutilisation of the learning partners, a good opportunity to follow the guidelines set in the National Curriculum “Kunnskapsløftet 2020” becomes clear. In the surveys from the VG1 SF class and the 10<sup>th</sup> grade class, the students answered that they were more motivated to ask their peers for help in the future after performing the peer

review. This shows that peer reviews can be used as a tool to make the students more comfortable and used to asking each other for help instead of solely relying on the teacher when they need help, which could create a class environment more in line with the sociocultural learning theory as well as the National Curriculum by creating more room for the learning partners to engage in the act of meaning-making.

## 7. Conclusion

This thesis aimed to examine the use and usefulness of peer reviews in light of the sociocultural learning theory in a Norwegian classroom setting. Furthermore, this thesis aimed to identify how peer reviews could be performed successfully through a synthesis of previous studies and the data collected from the experiment performed for this study. The results of the experiment show that peer reviews led to a statistically significant increase in all the measured categories in the three classes, except for the category of grammar in the VG1 YF class, whilst the category of structure improved the most across the three classes. Next, the results show that the participating students in the VG1 SF and 10<sup>th</sup> grade classes mostly agreed to the perceived benefits of the peer review, whilst the students in the VG1 YF class disagreed with these supposed benefits. I hypothesize that this difference in results and experience stems from a difference in attitudes between the vocational and general studies, where I believe that choosing to study vocational studies comes with the negative association that the students made their choice because they are uninterested in academic work.

This thesis makes an important contribution to the field of sociocultural learning theory in the Norwegian school system, since the Norwegian school system has a high degree of focus on the application of sociocultural learning without an equal degree of information and tools available to aid teachers in actually implementing more sociocultural learning in their teaching habits. By comparing different studies on the topic of peer reviews to the actual experience of three classes and two teachers performing peer reviews, it has been found that possibly the most important aspect of sociocultural learning is the act of meaning-making. Meaning-making places students in their Zone of Proximal Development, which means that they are in a state of increased learning. Peer reviews work as a tool to place students in their ZPD, thus creating a good opportunity for teachers and students to reap the benefits of sociocultural learning just as the Norwegian school system recommends. Furthermore, the National Curriculum states that students are supposed to be able to improve their writing based on feedback. Through performing peer reviews, students become accustomed to giving and receiving feedback, as well as using said feedback to improve their essays.

Looking at the practical aspect of peer reviews, several recommendations have been made. First, it is essential to have the peer reviews face to face and not digital and anonymous. To do this successfully, it is important to create a safe classroom environment where students feel comfortable with giving and receiving honest feedback. Second, peer reviews might be uncomfortable. However, students need to experience an appropriate amount of discomfort so that they might be better equipped for the future. This further pushes the point of creating a safe classroom environment so that students can safely move out of their comfort zone. Third, if an uneven number of students are present, it might become difficult to handle the feedback-situation. To solve this, teachers can either perform the peer review in groups or give additional feedback themselves. Fourth, to ensure that the feedback is useful, it is important that the teachers teach the students to give constructive feedback. Fifth, students should be held accountable for their peer reviews. Creating criteria for how the peer review should be done and then grading the reviews off of those criteria seems to be the most reasonable approach to this challenge. Finally, teachers should keep the peer reviews realistic and doable. The students need to understand why they are doing what they are doing, and they need to believe it is fair and worthwhile. Overcomplicating the peer review procedure is unlikely to improve the students' impressions of the peer review.

#### 7.1. Limitations and Suggestions for Future Research

The plan for this experiment was that the teachers would send in the grades they had given their students on the categories of content, grammar, and structure. Then, these results would be compared and analysed. However, one of the teachers sent in the results as grading sheets (vurderingsskjema) for each essay. On these grading sheets, the grades are given through low, middle, or high achievement on the different categories, instead of a grade from 1-6. Low achievement corresponds to a grade 2, middle achievement to a grade 3-4, and high achievement corresponds to a grade 5-6. Additionally, an overall grade was given on each sheet. This meant that conclusions had to be drawn about whether a middle grade was equal to a 3 or a 4, and if a high grade was equal to a 5 or a 6. This was done by considering the overall grade, and then looking at the individual categories. If an overall grade of 5 was given, with every category on a high achievement grade, then a 5 was given on each category. If an overall grade of 4 was given, with two categories on a middle achievement grade and one on a low grade, then a 2 was given on the low grade and a 4 on

the middle grades. These judgements were made through personal experience with grading papers and using grading sheets in professional teaching. This also meant that the gradings were on a scale from 2-6 instead of 1-6 as originally intended. The problem this created was that the grades had to be interpreted, which created room for uncertainty and inaccuracy, which was not optimal. For future studies, all results should be given on a proper scale that leaves nothing up to the researchers to decide. However, due to a miscommunication as well as time constraints, this was not the case for this study.

As mentioned in section 5.1., one of the participating teachers also experienced some issues when performing the peer review. Due to the difference in number of attending students for the first draft session and the peer review session, she felt the need to give the students feedback personally. The recommendation she was given in relation to this experiment was to do what she thought was best, since part of the aim of this study is to see how peer reviews realistically work in a Norwegian classroom. The fact that she gave the students feedback makes the data more difficult to use and less representative for the research questions asked in this study, but it also does provide valuable information for this study by creating an opportunity to compare the students' impressions of receiving peer feedback to teacher feedback. This has allowed the study to take a different approach to the 10<sup>th</sup> grade results than first anticipated, which has given more depth to the results and discussion.

Another limiting factor is the fact that this study lacked a control group. Although using a control group is neither common in educational research nor in master theses, having a control group would have given this study a layer of certainty and validity that would have strongly benefitted the research. Due to this lack of a control group, there is no guaranteed way to ensure that the data found in this study is strictly due to the peer review. Both the students and the teachers believe that these results were achieved due to the peer review, but there is no data that excludes the fact that they simply had more time to write. A control group would either confirm or deny the possibility that additional time would allow the students to improve as much as they did. However, these findings still contribute valid and important data to the field of the sociocultural learning theory and process-oriented writing by showing that students improved their writing and were positive to the methodology involved. In future studies, a control group should be included to either confirm or deny the

possibility that having more time was enough for the students to improve their writing by the amount they did.

Due to the nature of writing this thesis, there was no opportunity to perform a longitudinal study. A longitudinal study which investigates retention and long-term improvement could have shown if the participating students actually became better at identifying strengths and weaknesses in their own writing, or if the peer reviews only helped the students improve their writing in the short term, without any longitudinal learning. Therefore, I suggest that such a study should be performed, preferably in the Norwegian school system, to investigate if peer reviews lead to long-term improvements in writing.

Finally, in this study, I hypothesized that attitudes around academic work, particularly related to the vocational studies, might have an effect on the efficiency of peer reviews. Since this was not part of my original research questions, I was not able to further research this possibility. However, I hope that by bringing this topic to the surface I might motivate and encourage future studies to investigate this connection. Researching this connection between attitudes around academic work and vocational studies might lead to breakthroughs in how teachers handle academically focused tasks in vocational studies, and it might also lead to solutions for combating negative attitudes in Norwegian schools.



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## 8. Appendices

### 8.1. Appendix A

Original survey

Spørreundersøkelse peer review/hverandrevurdering

Alle spørsmål vil kunne besvares på en skala fra 1 til 5, hvor 1 = «helt uenig», 2 = «litt uenig», 3 = «hverken enig eller uenig», 4 = «litt enig», og 5 = «helt enig».

1. Å gjennomføre en hverandrevurdering opplevdes som lærerikt  
1 2 3 4 5  
Vet ikke

2. Jeg lærte av å gi tilbakemelding til læringsvennen min sin tekst  
1 2 3 4 5  
Vet ikke

3. Jeg lærte av å få tilbakemelding på teksten min fra læringsvennen min  
1 2 3 4 5  
Vet ikke

4. Det var motiverende å få tilbakemelding fra en medelev  
1 2 3 4 5  
Vet ikke

5. Jeg opplevde hverandrevurdering som en god metode å bruke for å forbedre teksten min  
1 2 3 4 5  
Vet ikke

6. Jeg opplevde hverandrevurdering som en god metode for å bli flinkere til å se styrker og svakheter i mine egne tekster  
1 2 3 4 5  
Vet ikke

7. Jeg synes det var lærerikt å se hvordan læringsvennen min besvarte oppgaven  
1 2 3 4 5  
Vet ikke

8. Jeg og min læringsvenn hadde et samarbeid som fungerte godt  
1 2 3 4 5  
Vet ikke

9. Jeg gikk nøyer igjennom tilbakemeldingene fra min læringsvenn enn jeg ville gjort med tilbakemeldinger fra læreren  
1 2 3 4 5  
Vet ikke

10. Jeg var komfortabel med å gi og få tilbakemeldinger fra læringsvennen min

1      2      3      4      5  
Vet ikke

11. Jeg foretrekker å få tilbakemeldinger fra læreren min

1      2      3      4      5  
Vet ikke

12. Omtrent hvor stor mengde av tilbakemeldingene du fikk brukte du i den andre skriveøkten?

1 = 0%-20%    2 = 21%-40%    3 = 41%-60%    4 = 61%-80%    5 = 81%-100%

1      2      3      4      5  
Vet ikke

13. Jeg er mer motivert til å be læringsvennen min om tilbakemeldinger på skolearbeidet mitt i fremtiden

1      2      3      4      5  
Vet ikke

Andre kommentarer:

## 8.2. Appendix B

### Redesigned survey

#### Spørreundersøkelse peer review/hverandrevurdering

Alle spørsmål vil kunne besvares på en skala fra 1 til 5, hvor 1 = «helt uenig», 2 = «litt uenig», 3 = «hverken enig eller uenig», 4 = «litt enig», og 5 = «helt enig».

1. Å gjennomføre en hverandrevurdering opplevdes som lærerikt

1      2      3      4      5

Vet ikke

2. Jeg lærte av å gi tilbakemelding til læringsvennen min sin tekst

1      2      3      4      5

Vet ikke

3. Jeg lærte av å få tilbakemelding på teksten min fra læringsvennen min

1      2      3      4      5

Vet ikke

4. Jeg lærte av å få tilbakemeldinger på teksten min fra læreren

1      2      3      4      5

Vet ikke

5. Det var motiverende å få tilbakemelding fra en medelev

1      2      3      4      5

Vet ikke

6. Det var motiverende å få tilbakemelding fra læreren

1      2      3      4      5

Vet ikke

7. Jeg opplevde hverandrevurdering som en god metode å bruke for å forbedre teksten min

1      2      3      4      5

Vet ikke

8. Jeg opplevde hverandrevurdering som en god metode for å bli flinkere til å se styrker og svakheter i mine egne tekster

1      2      3      4      5

Vet ikke

9. Jeg synes det var lærerikt å se hvordan læringsvennen min besvarte oppgaven

1      2      3      4      5

Vet ikke

10. Jeg og min læringsvenn hadde et samarbeid som fungerte godt

1      2      3      4      5

Vet ikke

11. Jeg syntes det var mer nyttig å snakke med læringspartneren ansikt til ansikt enn det var å få skriftlig tilbakemelding fra lærer

1      2      3      4      5  
Vet ikke

12. Jeg var komfortabel med å gi og få tilbakemeldinger fra læringsvennen min

1      2      3      4      5  
Vet ikke

13. Jeg foretrekker å få tilbakemeldinger fra læreren min

1      2      3      4      5  
Vet ikke

14. Omtrent hvor stor mengde av tilbakemeldingene du fikk fra læringsvennen brukte du i den andre skriveøkten?

1 = 0%-20%    2 = 21%-40%    3 = 41%-60%    4 = 61%-80%    5 = 81%-100%

1      2      3      4      5  
Vet ikke

15. Omtrent hvor stor mengde av tilbakemeldingene du fikk fra læreren brukte du i den andre skriveøkten?

1 = 0%-20%    2 = 21%-40%    3 = 41%-60%    4 = 61%-80%    5 = 81%-100%

1      2      3      4      5  
Vet ikke

16. Jeg er mer motivert til å be læringsvennen min om tilbakemeldinger på skolearbeidet mitt i fremtiden

1      2      3      4      5  
Vet ikke

Hva tenker du er mest positivt og mest negativt med denne måten å gi og få tilbakemeldinger?

### 8.3. Appendix C

#### Comments from the 10th grade class

Opplevde det som gøy og lærerikt, men dumt at læringspartner hadde et møte den timen, men jeg fikk god hjelp fra lærer.

Jeg syntes alt var chillern.

Ingen kommentar

Jeg synes det var en god måte å reflektere på

Noe positivt var at jeg kunne få tilbakemelding fra læreren til slutt. Noe negativt var at jeg fikk tilbakemelding fra en inkompetent kar som ikke hadde lest teksten min godt nok fordi han ikke skjønnte prinsippene i teksten som var veldig viktig for å forstå deler av den godt formulerte teksten som mange kunne

Jeg synes det er positivt at samarbeidet øker og blir bedre. Det som kan være negativt er at man kan bli ukomfortabel hvis man kommer med en elev som ikke er på et annet nivå slik at det er flaut å vise frem teksten sin.

I det siste har jeg hatt problemer med å skjønne vurderingene jeg har hatt for jeg er ikke vant til å ha lav måloppnåelse i engelsk, men jeg liker å få tilbakemeldinger om hvordan jeg skal skrive en bedre tekst. Å få tilbakemeldinger hjelper hver elev med å bli bedre så fortsett med det dere gjør.

Det er positivt å få tilbakemeldinger fra en annen synsvinkel. Ofte ser eleven på andre ting enn læreren og forstår hvordan det er å få tilbakemeldinger. Problemet med et slikt opplegg er at det spørs hvem læringspartneren din er. Jeg var heldig og hadde en positivt fordi man får se teksten fra både en elev sitt syn og læreren sitt syn. Denne typen vurdering henger i stor grad sammen med hvem du jobber med. Den eleven jeg jobbet med var særlig kompetent innenfor faget og vi er på likt nivå.

Effektiviteten av hverandrevurdering avhenger av om læringspartneren din er på et høyere nivå enn deg eller ikke. (Fra lærer: denne eleven skulle egentlig samararbeide med en svært sterk elev, men fikk en svært svak en i stedet da begge manglet

Jeg synes det er bra å få meninger fra flere, men vi gjorde noe lignende i norsk der vi fikk tilbakemelding fra 3 personer (gruppe) og det likte jeg bedre. Hvis den ene ikke kan stoffet så godt eller vet hvordan de skal skrive, gir de kanskje tilbakemeldinger som gjør teksten din verre. Jeg syntes også at det var vanskelig å vite hvor ærlig jeg skulle være, siden jeg ikke ville såre læringspartneren min. Jeg tror det ville vært enklere å

Student was easily aggitated. Would rather get my text graded by my teacher. (Fra lærer: Eleven jobbet sammen med elev som svarte noe lignende litt lenger opp. Det var absolutt ikke et godt samarbeid, men for å være ærlig så tror jeg ikke de ville ha hørt på så mange Det mest negative er at man kan være på ulike stadier i engelsken sin slik at den ene er på et høyere nivå enn den andre. Jeg vil heller ha vurdering fra lærer med konkrete ting jeg kan gjøre bedre og ting som er positivt. Det mest positive er at det kan være mer motiverende for noen, og det er sikkert noen som lærer en del av det.

Jeg syntes at dette var en grei måte å få tilbakemelding på, men du vet jo aldri hvor god den som vurderer deg er i engelsk selv. Det gjør at jeg foretrekker tilbakemelding fra lærer, som vet hva han/hun snakker om. Å få tilbakemelding fra både medelev og lærer kan motivere meg til å ville endre teksten og lære mer, men jeg tror det er viktig å få begge deler.

Jeg skulle gjerne ha vært her og vært med på opplegget. Sånn ellers så syntes jeg at det var en grei oppgave. Det er fint å få øvd seg på slike korte tekster før eksamen.

Positivt fordi man lærer av det.

Jeg syntes det var en fin måte å få tilbakemelding på, fordi da kan jeg få se på en annen måte å skrive tekst på, og se flere muligheter. Det er også gøy å høre hva en annen elev synes om teksten min.

Det mest positive ved denne måten er at vi får tilbakemeldinger fra flere steder enn bare læreren. Det mest negative er at det kan hende at du ikke får riktige tilbakemeldinger om hva du burde gjøre.

Jeg synes det er positivt at læreren gir meg tilbakemeldinger om hvordan jeg kan forbedre teksten min. Jeg synes ikke jeg lærte så veldig mye av tilbakemeldingene jeg fikk av læringspartneren min. Det er fordi de sa at alt var bra og at det ikke var noe som skulle endres på, men da jeg så tilbakemeldingen fra læreren var det flere ting som jeg kunne fikse på.

Comments from VG1 YF and SF:

I received little feedback

Sometimes, it can be better with a learning partner, but then you'd have to choose him or her yourself

Jeg syntes det var bra å få tilbakemelding av læringspartneren min siden han kunne se feil jeg ikke kunne se selv. Han sa også hvordan jeg kunne forbedre teksten min til neste gang. Det negative er at han ikke vet hva læreren vil ha, og at det kan hende at han



### 8.4.2. Results VG1 SF

First draft SF	Number	Content	Grammar	Structure	T.test content	T.test grammar	T.test structure
	1	3	3	2	0.0002	0.0004	0.0000002
	2	4	6	2			
	3	2	3	2			
	4	3	3	3			
	5	3	3	2			
	6	3	4	4			
	8	2	3	3			
	9	3	4	2			
	11	3	4	2			
	12	2	3	2			
	13	2	2	2			
	14	3	3	3			
	15	2	3	2			
	16	2	3	2			
<b>Average</b>		2.64	3.36	2.36			
StDev		0.63	0.93	0.63			
Second draft SF	Number	Content	Grammar	Structure			
	1	5	4	5			
	2	6	5	6			
	3	6	6	6			
	4	3	5	4			
	5	4	3	5			
	6	6	6	6			
	8	3	3	5			
	9	3	5	5			
	11	3	5	5			
	12	4	4	5			
	13	3	5	3			
	14	4	5	4			
	15	4	5	5			
	16	3	5	5			
<b>Average</b>		4.07	4.71	4.93			
StDev		1.21	0.91	0.83			



### 8.4.3. Results 10<sup>th</sup> grade

First draft 10th grade	Number	Content	Grammar	Structure		T.test content	T.test grammar	T.test structure
	2	3	4	4		0.001	0.014	0.027
	3	4	4	4				
	5	5	5	4				
	7	5	4	4				
	8	4	4	4				
	10	4	3	4				
	11	4	5	4				
	12	3	4	4				
	13	3	4	3				
	15	4	4	5				
	16	4	4	4				
	17	3	3	3				
	18	5	4	4				
	19	4	4	3				
	20	4	4	3				
	22	3	3	3				
	Average	3.88	3.94	3.75				
	StDev	0.70	0.56	0.56				
Second draft 10th grade	Number	Content	Grammar	Structure				
	2	4	4	4				
	3	4	4	4				
	5	5	5	5				
	7	5	4	4				
	8	5	4	4				
	10	5	4	4				
	11	4	5	3				
	12	4	4	4				
	13	4	4	4				
	15	4	5	5				
	16	4	4	4				
	17	4	4	4				
	18	6	6	6				
	19	5	5	4				
	20	4	4	4				
	22	3	3	3				
	Average	4.38	4.31	4.13				
	StDev	0.70	0.68	0.70				

## 8.5. Appendix E

### 8.5.1. Survey VG1 YF

Question nr	Rating -->						Don't know
	1	2	3	4	5		
1	1	2	7	0	0	2	
2	2	3	6	1	0		
3	2	4	4	1	0	1	
4	2	2	7	0	1		
5	3	2	6	1	0		
6	3	2	4	3	0		
7	3	0	7	2	0		
8	0	2	2	5	2	1	
9	5	2	2	3	0		
10	1	0	3	0	6	1	
11	0	1	3	2	5		
12	5	2	2	1	0	1	
13	2	3	4	2	0	1	

### 8.5.2. Survey VG1 SF

Question nr	Rating -->						Don't know
	1	2	3	4	5		
1	0	1	5	4	4		
2	1	1	5	4	2	1	
3	2	1	3	5	3		
4	4	0	2	7	0	1	
5	1	3	4	5	1		
6	0	2	2	7	3		
7	2	0	0	6	5	1	
8	1	1	0	7	5		
9	4	1	4	1	3	1	
10	1	2	2	3	5		
11	0	1	3	2	7	1	
12	2	4	5	3	0		
13	3	1	1	4	4	1	

8.5.3. Survey 10<sup>th</sup> grade

Question n	Rating -->					Don't know
	1	2	3	4	5	
1	1	0	3	11	3	
2	1	2	8	6	3	
3	1	2	4	9	4	
4	0	0	6	5	9	
5	1	2	6	6	5	
6	0	2	7	5	7	
7	3	1	5	5	7	
8	0	0	6	9	3	
9	1	2	5	5	5	
10	2	0	1	3	9	
11	1	3	3	3	6	
12	0	2	2	2	12	
13	0	0	3	4	9	
14	4	2	3	5	2	
15	1	3	3	5	4	
16	4	2	3	5	4	

## 8.6. Appendix F

### Peer review sheet

	Yes	Some	No	Comment
<p>The essay includes paragraphs</p> <p>Each paragraph starts with a topic sentence</p> <p>The paragraph discusses what the topic sentence introduces</p>				
<p>The introduction has a thesis statement that is easy to understand</p> <p>The conclusion summarises what the essay discussed and clearly shows that the essay is ending</p> <p>Sources have been cited correctly when necessary</p>				
<p>The essay has a clear and logical structure</p>				
<p>The essay answers the task's prompt</p>				
<p>The writer explains their arguments throughout the essay</p>				
<p>The language is accurate</p> <p>Do sentences or paragraphs contain unnecessary words or phrases?</p>				
<p>Are there grammatical mistakes?</p> <p>Are there recurring mistakes (small "l" instead of a capital "I", mistaking they, their, and there, etc.)?</p>				
<p>The essay includes key words</p> <p>They are used correctly throughout the essay</p>				