

The Influence of Self-Confidence on Perceived and Actual Usefulness of Given Peer
Feedback

Christine Mulrane

2255839

Bachelor Thesis Psychology

Faculty of Behavioural, Management, and Social Sciences

University of Twente

First Supervisor: Dr. N. Dmoshinskaia

Second Supervisor: Dr. J. Steinrücke

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Abstract

Feedback is an especially relevant part of teaching, also in higher level education. Students receive feedback from their teacher which reflects on their academic achievements with indications on how to improve. With a high workload and a growing student population, giving fair and detailed feedback to all students, is becoming less and less realistic for teachers. Therefore, peer feedback can be implemented to decrease teachers' workload. Students, in most cases are not as much of an expert on as many topics as teachers are. This research paper attempts to assess the perceived and actual usefulness of given peer feedback and in what regard academic self-confidence might be a predictor of both kinds of usefulness. 49 university students gave feedback on an essay and were then asked to assess the usefulness of their feedback. The actual usefulness was assessed by the researcher. No significant prediction of perceived or actual usefulness of given feedback from academic self-confidence levels was observed in this study. However, academic experience, for example, which study-year students are in, seems to show a significant influence on the level of actual usefulness. As academic experience is either collected over the years or can be enhanced by, for example, trainings, it is recommended to further research implementing trainings employed to teach students how to give useful feedback to their peers. Since academic self-confidence was not found to be a significant predictor for perceived and actual usefulness, further research should focus on other personality traits and abilities in connection to the perceived and actual usefulness of peer feedback, which may help to enhance students' ability to give high quality and useful peer feedback.

Keywords: peer feedback, academic self-confidence, perceived usefulness, actual usefulness

The Influence of Self-Confidence on Perceived and Actual Usefulness of Given Peer Feedback

Introduction

Nowadays as human beings we encounter feedback in many different settings in our day-to-day life. The idea of feedback as a concept has a long history, with first notions of feedback being included in works of Edward L. Thorndike, B.F. Skinner, or A. Bandura (Hounsell, 1987). The term feedback itself has its origin in control engineering. No matter if one refers Thorndike, whose Law of Effect linked the construct of knowledge and that one's actions carry consequences, or Skinner, who connected the knowledge of consequences and the immediate implementation of correct answers, after reinforcement, to each other, definitions of feedback were always rigid and precise. In more recent years the term feedback has been more loosely applied to many different fields of day-to-day life. In the academic setting, for example, teachers are often tasked with giving feedback to their students, which to them means explaining to the students how well or poorly they are doing in their academic work at that point in time (Hounsell, 1987). Assessment, not only of students, but in particular of their work and their academic achievement, has been frequently applied in educational settings since the 1960s. By updating the students on their academic performance, feedback helps students reflect and supports their personal development (Hattie and Timperley, 2007; Theising et al., 2014).

Ever since then giving feedback to students has become an everyday task for teachers not only in primary and secondary schools, but also those in higher education. Unfortunately giving feedback is a rather time-consuming task for most teachers, who already have a high workload (Hounsell, 1987). In most cases, especially with increasing student numbers, it has become harder for teachers to provide enough and detailed feedback to each student in a class, while still managing their usual workload. It becomes a more unrealistic expectation that teachers are unable to meet, especially if detailed written feedback is expected (Applebee & Lange, 2011). Therefore, peer feedback is often utilised to avoid further increasing the teacher's already high workload (Gielen et al., 2010; Wu & Schunn, 2021).

In the case of peer feedback, the feedback provider is a student's peer instead of their teacher. Giving peer feedback, as described by Popta et al. (2017), includes the student acting as the assessor, giving feedback on the work of one of their peers, and simultaneously acting as the assessee, receiving feedback from one of their peers themselves. Therefore, the same student acts as both the assessor and the assessee when giving feedback to and receiving feedback from a peer. The feedback is exchanged between peers either during a conversation or in written form. In most cases the peers will be of equal status, meaning they are from the same class or

year and have roughly the same level of knowledge on the relevant topic area (Popta et al., 2017).

Many different studies have investigated possible benefits and drawbacks of giving and receiving peer feedback. Beside reducing teachers' workloads immensely as mentioned by Hounsell (1987), researchers such as Liu and Carless (2006) highlighted that the peer feedback process, both giving and receiving feedback, involves students more actively in learning processes and can be beneficial for their self-management and judgment skills. Improving students' self-management and judgment skills can, for example, be helpful to students for when they move on to their later careers (Nilson, 2010; Popta et al., 2017). Another benefit of peer feedback is the deeper level of understanding of the course material that many students manage to achieve through the process. A study by Davies (2000) showed that more than 60% of the questioned students admitted that they felt as if they had been able to achieve a deeper level of understanding of the material by giving peer feedback on a course-related assignment (as cited in Li et al., 2010). With this deeper level of understanding, students are able to apply the learned knowledge to a new and similar task, to be more successful when completing further tasks.

In other prior research Li et al. (2010) presented results that suggest a significant relationship between the quality of the feedback a student provided to their peer and the quality of their own final work. Similarly, more recent research concludes that providing another peer with feedback has been associated with the fact that the feedback provider in turn will more thoroughly revise their own work (Wu & Schunn, 2021). Therefore, a peer can already benefit from giving peer feedback without having yet received feedback themselves. Students might already draw conclusions about the quality of their own work and what they need to improve based on reading another peer's work. But Wu and Schunn (2021) do also mention that students who give feedback themselves will more likely implement more of the received feedback from their peer. A further benefit which Liu and Carless (2006) highlight is that peer feedback helps to encourage social interaction between peers, by encouraging them to work with each other and help each other reflect on their academic achievements, becoming part of a peer's academic support system.

On the other hand, a worry regarding the process of peer feedback, for both teachers and students, is that students may not have sufficient knowledge on a specific topic to qualify as an expert and therefore, might not provide their peer with valid feedback (Gielen et al., 2010; Lin et al., 2001). The recommendation to help overcome this worry is to assist students when giving peer feedback by supplying them with a well-structured marking rubric, to not only make

the feedback process easier for the students but also to increase the validity, reliability, and quality of their feedback (Patchan et al., 2018).

A marking rubric alone might not be sufficient to override this worry. Gielen et al. (2010) make sure to note that the absence of expertise might change the meaning or impact of the feedback being received by peers. Peers might disregard feedback that they receive, if the feedback giver's level of knowledge does not differentiate much from their own level of knowledge on the topic area. Therefore, they might perceive the usefulness and quality of the feedback as low. In this regard it is important to question which other factors help make students, not only create high quality peer feedback that is more useful for their peers, but also which factors can help students perceive and recognise that the feedback they give is of high quality and usefulness.

One criterion that is important for creating high quality feedback, is for students to give content-oriented feedback. By giving content-oriented feedback, their peers are able to make use of the feedback more easily and it helps both the feedback giver and receiver in order to gain the skills that will improve their own academic achievements (Hounsell, 1987; van der Pol et al., 2008, as cited in van Popta et al., 2017). Good feedback is not only content-oriented or -based but also helps the student understand what they did well, also what they could improve on (Nicol and Macfarlane-Dick, 2006). When mentioning both good and bad aspects, it is important to use an encouraging and positive tone for the feedback, so as not to decrease the student's self-esteem and -confidence. Researchers suggest that self-esteem is affected by especially negative and unexpected feedback. Weaver (2006) adds that the language used in feedback should also be constructive as well as encouraging. Lira-Gonzales and Nassaji (2020) also highlight the importance of detail in feedback, meaning that not only does the feedback mention the error, but also explains why this is an error in relation to the assessment criteria and ideally, also how to correct this error (Weaver, 2006). Relating the feedback to the assessment criteria is extremely important to make the feedback more applicable for the student receiving it (Weaver, 2006).

Many implications about feedback and its content can already help improve the quality and usefulness of given peer feedback. But the student giving the peer feedback, their skills and knowledge also influence the quality and usefulness of peer feedback. The literature on which personality traits or personal abilities ensure high quality feedback is sparse. Much of the literature indicates which criteria the feedback needs to fulfil to be useful and of high quality. Researchers have also expressed that there seems to be a certain lack in quality and usefulness of peer feedback, despite criteria indications in literature (Lam, 2010). Some even go as far as

saying that students have a certain inability to give constructive and useful feedback to their peers. Nilson (2003) describes that the quality of students' peer feedback is not spread evenly. Nilson (2003) then goes on to identify three main reasons why students give low quality peer feedback. Firstly, students let their emotions influence the evaluation of another student's work. Secondly, students tend to ignore the professional expectation and the task they are given. Lastly, students are often inattentive and careless when giving feedback to their peer. So even though there are criteria that have been established to help students give high quality and useful feedback, the literature still calls into question whether students are able to perceive the quality and usefulness of their given feedback, as the quality and usefulness has often been found to be quite low. Can the perceived quality and usefulness of given peer feedback, therefore, be a reliable factor to estimate the actual usefulness of given peer feedback?

To try and eliminate factors preventing the quality of peer feedback, Lam (2010) found that training students in giving peer feedback helped to elicit more useful feedback. Training students in a specific task can make them more confident of their skill and ability to successfully accomplish the task. Viljaranta et al. (2014) asserted that a student's level of self-confidence is associated with the student's interest in a specific subject, which can prevent them from approaching a task with carelessness, which could lead to poorer quality work, and motivate them to do well on the task. Goel and Aggarwal (2012) mention that self-confidence allows student to face challenging tasks with perseverance instead of laziness and ignorance. Farrand et al. (2006) emphasize that self-confidence is the key to performing effectively to the best of one's abilities. Stankov et al. (2013) also stress the importance of confidence within the academic setting, as it has been found to have predictive validity for a student's academic achievements. As self-confidence has been suggested to vary depending on the situation, academic self-confidence would be more specific in the context of academic achievement (Stansbury, 1986). In this regard, Nelson Laird (2005) mentions that research has indicated in the past that higher levels of academic self-confidence are related to better academic performance and achievement (Al-Hebaish, 2012; Astin 1993b, as cited in Nelson Laird, 2005). Farrand et al. (2006) and Karimi and Saadatmand (2014) both highlight that working on a student's self-confidence levels could be important when trying to improve that student's academic achievement and performance.

To investigate student's academic self-confidence, Sander and Sanders (2003) developed the Academic Behavioural Confidence (ABC) scale, which they initially labelled the Academic Self-Confidence (ASC) scale (Sander et al, 2011). Sander and Sanders (2000) conceptualised academic behavioural self-confidence. Academic behavioural self-confidence

does not only regard what students expect from the university or school they are attending but also how confident students are about their academic achievements and the ease at which they perform academically. This means that if students have a high academic behavioural self-confidence level, they have more confidence in their ability to be high achievers academically. When connecting this definition of academic self-confidence with previous research on the relationship between self-confidence and academic performance and applying this to students giving peer feedback, a possible assumption would be that the more academic self-confidence a student has in their ability to give good peer feedback the higher the usefulness and quality of the peer feedback. Following this assumption, students could be better able to perceive whether their given feedback is useful for their peer if they are more academically self-confident. It is unclear from the literature whether perceiving their own feedback as useful is also a reliable indicator as to whether their peer will find the feedback helpful and useful.

Current Study

The current study will investigate whether academic self-confidence can influence the quality and usefulness of given feedback positively. Therefore, the effect that students' academic self-confidence levels have on the perceived usefulness, quality, and quantity and the actual usefulness, quality, and quantity of their given peer feedback will be assessed. Additionally, this study will examine the differences between the perceived usefulness, quality, and quantity of given peer feedback and the actual usefulness, quality, and quantity of the given peer feedback. The aim is to identify the level of importance of academic self-confidence for peer feedback and whether perceived usefulness, quality, and quantity can be seen as a reliable indication to assess the actual usefulness of given peer feedback. As recommended by Patchan et al. (2018) participants of this study will receive a marking rubric to support them during the peer feedback process.

Investigating the relationship between academic self-confidence and the perceived and actual usefulness of peer feedback, could help to establish whether improving students' academic self-confidence can help to increase the quality of given peer feedback. Establishing this relation could help decrease the worry about the effect the knowledge gap of students has on the quality and reliability of feedback, when compared to the feedback from a teacher. Further, assessing the relationship between the perceived and actual usefulness of peer feedback, will help to investigate whether students are aware of the quality of feedback they are giving to their peers. Overall, improving the peer feedback process and finding possible ways to enhance the quality of peer feedback could help to decrease the teacher's workload without compromising the quality of the feedback and education that students will receive and

consequently, it could help improve students' academic experience, as well as the skills that they can improve on from taking part in giving and receiving peer feedback.

To examine the students' academic self-confidence levels and how they might predict the perceived and actual usefulness, quality, and quantity of given peer feedback and the differences between perceived and actual usefulness, quality, and quantity of given peer feedback, the following research question is central to this study: To what extent does the level of academic self-confidence influence student's perceived and actual usefulness, quality, and quantity of their given peer feedback?

Research Question 1 (R1): To what extent do academic self-confidence levels of participants predict the perceived usefulness of feedback given by them?

Research Question 2 (R2): To what extent do academic self-confidence levels of participants predict the actual usefulness of their given peer feedback?

Research Question 3 (R3): To what extent does the perceived usefulness of given peer feedback predict the participant's score of actual usefulness?

Methods

Participants

Participants of this study were recruited with SONA, the University of Twente's test subject pool. Hence, participants were students studying at the University of Twente within the Faculty of Behavioural and Management Sciences (BMS). A total of 49 participants participated in this study. One of these participants had to be discarded as they had not completed the necessary sections before being debriefed by the researcher, because they had not followed the instructions in the questionnaire. Another participant's data had to be discarded as they piloted the survey in advance of data collection. Therefore, the number of participants relevant for data analysis of this study are 47.

The students of this study's sample were between the ages of 18 and 31 ($M_{age} = 20.74$, $SD_{age} = 2.35$; 48.93% female, 48.93% male, 2.12% non-binary/third gender). Of the used sample, 34.04% were of Dutch nationality, 48.93% of German nationality and 17.02% indicated to another nationality. Participants were students from different years of their bachelor study programme (68.08% 1st year, 23.40% 2nd year, 8.51% 3rd year).

Materials

In order to investigate the perceived and actual usefulness of given peer feedback and the influence of academic self-confidence levels on both types of usefulness, a survey was compiled using Qualtrics. Within Qualtrics, all materials described below including the consent

form, see Appendix A, were combined into one survey to create one questionnaire for participants to complete, in order to minimise the number of windows participants needed to open on their computers during the session. The only material not included in the survey was the essay the students were asked to give feedback on. The different components of the survey and the essay are described below.

Academic Behavioural Self-Confidence Scale

The Academic Behavioural Self-Confidence (ABC) scale, see Appendix B, constructed by Sander and Sanders in 2003, previously referred to as the Academic Self-Confidence (ASC) scale, consists of 24 items, divided over 4 subscales, namely Verbalizing, Grades, Studying, and Attendance (Sander et al., 2011). It is meant to measure how students will respond to the studying demands at a university (Sanders, 2009). The 24-item questionnaire is scored on a 5-point rating scale ranging from 1 meaning “Not confident at all” to 5 meaning “Very confident” (Sander and Sanders, 2007). The score of the ABC scale is established by calculating the mean response of each respondent. The ABC scale demonstrates a high level of internal reliability with a Cronbach’s α of .88 (Sander and Sanders, 2006; Sanders 2009). Sander and Sanders (2003) found the ABC to be sufficiently valid. The ABC scale is a flexible and useful measurement tool and has been cross-culturally validated (Sander et al., 2011).

The questionnaire prompts the respondent to answer the items with “How confident are you that you will be able to”. Respondents answer the items based on how confident they would feel to act like the behaviour that is referred to in the item. The subscale Verbalizing, for example, includes item 5 “Give a presentation to a small group of fellow students” and measures how confident students feel about their ability to be verbal in different study-related situations. The items on the subscale Grades, refer to how confident students are about attaining good grades in different study-related contexts, for example, item 7 “Attain good grades in your work”. The subscale Studying, which includes item 21 “Plan appropriate revision schedule”, refers to how confident students are that they will present exemplary study behaviour. The fourth subscale, Attendance, includes items which measure how confident students are regarding their attendance of study-related events. An example item of this subscale is item 18 “Be on time for lectures”.

Essay

The essay that participants were instructed to give peer feedback on was titled “Causes of teen anxiety and treatment methods concentrating on the range of self-treatment” and can be found in Appendix C. The task formulation for the essay was “For this individual writing assignment, you will write one coherent section that is related to a mental disorder of your

choice. It should include an introduction of the relevant disorder, common causes of it, suitable treatment options and a conclusion, which briefly sums up the content of the previous sections. Use an academic writing style, i.e., objective, concise, mistake and error free.”. The essay had been previously written by the researcher as an assignment not related to this research. Prior to the beginning of this research, the essay was modified to decrease the essay’s quality in order to provide as many options as possible for participants to provide feedback. For many sections of the essay, it was made sure that they fulfilled the lower categories of the marking rubrics, for example, by removing important content and explanations, writing in a non-scientific style (i.e., words such as “very bad”, “normal”), or by removing commas and connecting words. From some sections, for example, the conclusion, topic sentences and summarising sentences were removed to disrupt the flow of the reader. Multiple grammatical errors and spelling mistakes were inserted (i.e., “profession” instead of “professional”).

Marking Rubric

The marking rubric, see Appendix D, for the peer feedback was created based on the marking rubric of the original essay that had been written before the beginning of this research. Some of the marking criteria were added so that the criteria covered by the rubrics included Introduction, Common Causes, Suitable Treatment, Conclusion, Content, Sentences, Paragraphs, Academic Writing Style, Grammar and Spelling, Word Count, Sources. All criteria except Content, Sentences, Paragraphs, and Grammar and Spelling, were formulated with the help of the original task description for the essay. The Content, Sentences, Paragraphs, and Grammar and Spelling were formulated with the help of a general marking rubric for essays (Culbertson, n.d.; McKevitt, 2016; ReadWriteThink, n.d.). Respondents could rate each criterion on a scale of 1 to 4, with 1 being the worst and 4 being the best. The definition of each score was explained per criterion.

Figure 1

Example of Marking Rubric – Criterion “Suitable Treatment”

Suitable Treatment	The author presents 2 suitable and different forms of treatment for the mental disorder. Both are explained in detail and are clearly presented. The author mentions possible advantages and downsides to both.	The author presents 2 suitable and different forms of treatment for the mental disorder. Both are explained but are not clearly presented to the reader.	The author presents 1 suitable form of treatment for the mental disorder. It is explained in detail and is clearly presented. The author also mentions possible advantages and downsides.	The author presents 1 suitable form of treatment for the mental disorder. It is briefly explained but is not clearly presented to the reader.
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Perceived Usefulness, Quality, and Quantity Scale

The scale regarding the perceived usefulness, quality, and quantity for the given peer feedback was compiled from two different previously existing scales and have been reworded to fit the context of this study. This questionnaire can be found in Appendix E. Additionally, an item has been added for participants to assess the perceived quantity of their feedback. For the perceived usefulness of the given peer feedback the self-report 5-item scale from Dresel and Ziegler (2002, as cited by Rakoczy et al., 2009) was adapted. Internal consistency of the scale displayed a Cronbach's α .86 in the pre-questionnaire and .85 in the post-questionnaire (Rakoczy et al., 2009). Participants rate each item on a 4-point scale ranging from 0, meaning completely disagree to 3, meaning completely agree, for example, item 4 “My feedback lets my peer know which type of tasks they should practice”.

The one item about perceived quantity is worded similarly to the items on perceived usefulness and can be rated on the same scale and it states, “My feedback is detailed enough for my peer to understand it”. The three items of perceived quality were adjusted from a 3-item subscale on perceived product quality from a constructed scale used to test perceived quality levels on product involvement, overall satisfaction, and purchase intentions (Tsiotsou, 2005). The three items were originally scored on a 7-item scale, with 1 meaning very bad quality and 7 meaning very good quality. For consistency in this survey the items were scored on the same 4-point scale as the items regarding perceived usefulness and quantity. The items were also reworded to fit the purpose of this study. Therefore, the three used items for perceived quality were: Item 1 “I would evaluate the quality of the feedback I gave as high”, item 2 “Overall, I

am satisfied with the feedback I gave”, and item 3 “I would give the same quality feedback again”.

Procedure

Participants were able to sign up for the study via SONA, the BMS Faculty Test Subject Pool system of the University of Twente and after completing their participation they were rewarded two credits. Prior to the beginning of the study participants received a reminder 45 minutes beforehand and received the link to the Microsoft Teams call five minutes before the beginning of the study. On average each call included five participants. Once all participants entered the call the researcher explained the set-up of the study. Participants were instructed where to find the “Reactions” option in Microsoft Teams and the researcher also reminded them to work at their own pace and to read the instructions carefully. Participants were not told the true purpose of the study. This means that the researcher did not explain that this research would investigate the relationship between the participant’s academic self-confidence level and the perceived and actual quality of their given peer feedback. This was done, in order to not put participants under pressure to perform well on the feedback task, to further ensure the validity and reliability of the collected data. Then the link to the Qualtrics survey was sent into the chat and participants were asked to start.

In the first stage of the survey participants read the study information and were asked for their consent. Following this, participants were asked to answer a few demographic questions and then answered the questions from the ABC scale. After finishing those questions, the participants were instructed to use the “Reactions” option in Microsoft Teams to notify the researcher they had finished the first stage and to wait for further instructions from the researcher. Depending on the group size participants sometimes had a small break, when finishing before the other participants. As soon as all participants had finished stage one of the survey and had notified the researcher of this, they were instructed to read the essay and then proceed with the survey to fill in their feedback. The essay was shared with all participants via the chat in Microsoft Teams. This way participants were able to look back at the essay while giving feedback. For each criterion of the marking rubric the participants had to select the section that, in their opinion applied most for the criterion in question and were then asked to explain their choice and give suggestions to their peer to improve the criterion. After completing the feedback section of the survey, participants were asked to answer questions assessing the usefulness of the feedback they had just given. Following the assessment of the usefulness of their feedback participants were required to use the “Reactions” option in Microsoft Teams to

inform the researcher that they had finished the second stage and to wait for further instructions from the researcher.

As soon as all participants had finished the second stage they were debriefed by the researcher about the true purpose of the study. Then participants were asked to finish the survey as they still had to give consent after being debriefed. After completing the survey participants were shown a thank-you-screen and were then asked to return to the Microsoft Teams call. The researcher then thanked everyone for taking part and participants left the call.

Data Analysis

The focus of the analysis was comparing the perceived and the actual usefulness of the participant's given peer feedback and exploring the predictiveness of academic self confidence levels on the perceived and actual usefulness of the given peer feedback.

After ending the data collection process, the collected data was imported from Qualtrics and then prepared for analysis. The dataset was checked for missing data and two participants, the one from the pilot test and the other who was debriefed prior to finishing the second section of the survey, were excluded from the data set. The dataset was then imported into SPSS Statistics for data analysis. Descriptive statistics of the demographic information were established. To assess the academic self-confidence level for each participant, the ABC score of the ABC scale was calculated, by taking the average of all the given answer scores. For reasons of simplification, the scores of the Perceived Usefulness, Quality, and Quantity scale were named Perceived Usefulness scores, which is used to assess the perceived usefulness of the participant's given peer feedback. The Perceived Usefulness score for each participant was the sum of all their given answer scores on all items of the three subscales measuring perceived usefulness, quality, and quantity. To validate the newly constructed Perceived Usefulness, Quality, and Quantity Scale, the Cronbach's alpha was calculated to assess the internal consistency of the items' scale ($\alpha = .82$).

To be able to assess the Actual Usefulness of the given feedback of participants, the variable Actual Usefulness had to be established by coding the given feedback of the participants. The given peer feedback of each participant from the dataset was compiled into one Word document per participant to ease the coding process. The participant's given peer feedback was then coded with the help of a coding scheme, which can be found in Appendix F. The final score for each participant to establish the actual usefulness of their given feedback was calculated by summing all their scores from the different criteria of the coding scheme.

First of all, the coding scheme checks whether both the good aspects and flaws that are in the essay were identified correctly. Useful feedback does not only focus on the negative

aspects but also includes positive comments, to create a balance of both positive and negative comments (Nicol and Macfarlane-Dick, 2006; Weaver, 2006). Then the coding scheme assesses whether the feedback giver suggested improvements for all the flaws they mentioned. Weaver (2006) asked students what would make received feedback useful and of high quality and they mentioned that a certain amount of guidance in the feedback is useful. By guidance the students meant improvements that were suggested by the feedback giver, which can help them to reach the desired learning goal.

Another part of the coding scheme checked if the given feedback matched the assessment criteria chosen by the feedback giver. Students in Weaver's (2006) research also mentioned that feedback is more useful to them if the given feedback relates to the used assessment criteria. Nicol and Macfarlane-Dick (2006) mention seven principles for good and helpful feedback. One of these principles is to encourage feedback receivers and their positive motivational beliefs in the given feedback. This can be done by using a polite and constructive tone in the given feedback. Lastly the coding scheme checked whether the identified flaws were explained in detail. Students find feedback that is too general and vague less helpful and require more detail from the feedback giver to understand what exactly they did well or bad and how to possibly improve it if necessary (Lira-Gonzales, M. L., and Nassaji, H. 2020; Weaver, 2006). In this study another researcher assisted during the coding process to ensure interrater reliability. The other researcher coded 10 out of 47 feedback documents, which were approx. 21% of all documents, and indicated an interrater reliability of .6.

Both R1 and R2 were investigated with the help of a MANOVA analysis. The results of the MANOVA analysis were firstly used to assess the predictiveness of academic self-confidence levels for the perceived usefulness of given peer feedback, as questioned by R1. Therefore, the MANOVA investigated whether Perceived Usefulness scores, as the dependent variable, can be predicted by ABC scores, the independent variable. Due to the nature of the variable, which is continuous, ABC scores was added as a covariate to the MANOVA. The results of the MANOVA were secondly used to assess the relationship between ABC scores, as the independent variable, and the Actual Usefulness scores, as the dependent variable, as R2 calls to investigate to what extent academic self-confidence levels predict the actual usefulness of given peer feedback. The participants' study-year and the participants' age were also included as variables in this MANOVA to assess their influence. The participants' study-year was added as a fixed factor, due to its categorical nature and the participants' age, as a continuous variable, was added as a covariate.

To investigate R3 a linear regression analysis was used to explore the predictiveness of the perceived usefulness scores of a participant's given peer feedback's actual usefulness score.

Results

The following results were based on the previously established sample size of 47 participants. The data was assessed for possible outliers, and none were identified. Participants overall scores on the ABC scale were closer to the category "Very confident" assigned to the value 5 than to the lowest value 1 "Not confident at all" ($M = 3.67$, $SD = .54$). The general perceived usefulness scores, indicating the usefulness of the feedback perceived by the feedback provider, as shown in Table 1, had a mean score of 18.46 with a standard deviation of 4.10, out of a possible maximum score of 27 ($Min = 0$, $Max = 27$). The participants had a mean score of 15.23 and a standard deviation of 2.39 for the overall scores of actual usefulness, out of a possible maximum score of 24 ($Min = 6$, $Max = 23$).

Table 1

Descriptive Statistics of Scores

Variable	<i>M</i>	<i>SD</i>	Scored <i>Min</i>	Scored <i>Max</i>	Possible <i>Max</i>
ABC Score	3.67	.54	2.25	4.71	5
Perceived Usefulness Score	18.46	4.10	11	27	27
Actual Usefulness Score	15.23	2.93	10	23	24

The MANOVA analysis included Perceived Usefulness and Actual Usefulness scores as the dependent variables and ABC scores, the participants' study-year and age were included as the independent variables. The results of this MANOVA yielded that there was no statistically significant difference between ABC scores on the combined dependent variables, Perceived and Actual Usefulness, Wilk's $\Lambda = .926$, $F(2, 41) = 1.64$, $p = .206$. For the variable participants' age, the results of the MANOVA also showed that there was no statistically significant difference of participant's age on the combined dependent variables, Wilk's $\Lambda = 1.000$, $F(2, 41) = .01$, $p = .990$. The MANOVA results for the variable participants' study-year on the other hand, yielded that there was a statistically significant difference between the three different study-years (1st, 2nd, and 3rd year) on the combined dependent variables, Wilk's $\Lambda = .791$, $F(2, 82) = 2.55$, $p = .045$. Consequently, for the participants' study-year the test of between subjects' effects was assessed. The results demonstrated that the participant's study-year has a statistically significant effect on Actual Usefulness scores, $F(2, 42) = 3.80$, $p = .030$,

but does not have a statistically significant effect on Perceived Usefulness scores, $F(2, 42) = 1.63, p = .208$.

A linear regression analysis was selected to assess the prediction of Actual Usefulness scores from Perceived Usefulness scores, and a significant model was observed [$F(1, 45) = 4.59; p = .037$]. In this model 9.3% of the variance in Actual Usefulness Scores can be explained, $R^2 = .093$. The results of this linear regression analysis suggests that Perceived Usefulness scores significantly predict Actual Usefulness scores, $t(1, 45) = 2.14, p = .037, B = .22$.

Conclusion & Discussion

The previous results section allows all the research questions in this paper to be answered. The first research question: “To what extent do academic self-confidence levels of participants predict the perceived usefulness of feedback given by them?” questioned whether academic self-confidence levels could predict the perceived usefulness of given peer feedback. From the results it can be observed that the academic self-confidence level of participants in this study did not significantly predict the perceived usefulness of their given peer feedback, contrary to expectations, that a higher academic self-confidence level would indicate a higher perceived usefulness of the given feedback. This analysis also showed that neither do the study-year or age of participants significantly predict the perceived usefulness of participant’s given peer feedback. This suggests that a participant’s academic self-confidence level does not seem to significantly influence their own perception of the quality of their academic work.

The results can partially be explained by the small sample and rather small combined effect size of the perceived and actual usefulness. Due to the rather sparse amount of literature on the relationship between academic self-confidence and the perceived usefulness of given peer feedback, or academic achievements in general it would be recommended to further test this indication by studying the relation between these two variables with a larger sample.

The second research question: “To what extent do academic self-confidence levels of participants predict the actual usefulness of their given peer feedback?” called to investigate whether academic self-confidence levels predict the actual usefulness of the given peer feedback. Regarding this research question, it can be observed from the results that academic self-confidence levels of participants seem to not significantly predict the actual usefulness of their given peer feedback in the context of this study. The same applies to participant’s age. Interestingly though the analysis for the second research question suggests that a participant’s study-year, whether they are attending the first, second, or third year of their Bachelor study, does significantly predict a participant’s actual usefulness scores. A positive correlation was observed, which shows that students from higher study-years received higher scores for the

actual usefulness of their given peer feedback, suggesting that the more academic experience a student has the better the usefulness, quality, and quantity of their given peer feedback.

Similarly, to R1, it was expected that the results would show a significant influence of academic self-confidence on actual usefulness, this was not the case. Likewise, Arrison (1998), in a different study set up with first year university student making up the entire sample, found that there was no significant positive correlation between academic self-confidence and the quality of the students' achievement or effort. These results could explain why the actual quality of the given peer feedback is not significantly influenced by the academic self-confidence levels of participants. The significant influence of the participants study-year on actual usefulness can be supported by a few studies. The higher a participant's study-year, the more academic experience they should have, as they have been studying for a longer period. Academic experience can be collected over the years but can also be increased through trainings. Training students in peer feedback has been shown to increase the usefulness and quality of given peer feedback (Darvishi et al., 2022; Lam, 2010). Camarata and Sileman (2020) compared the quality of feedback of two cohorts to each other. One cohort had received training on how to give peer feedback during a course while the other cohort had just followed the general curriculum of the course. The quality of the feedback in the cohort that had received additional peer feedback training, significantly improved the quality of the feedback they gave.

Overall, for R2, the low interrater reliability needs to be acknowledged. The interrater reliability of the coding process was .6, normally an interrater reliability of .7 is acceptable for studies. Therefore, the coding of the actual usefulness of the given feedback might have been a bit more lenient or strict depending on the researcher, which is why the actual usefulness scores should be assessed carefully. Another factor to keep in mind is that the distribution of students across the different study-years was very uneven in this study's sample.

The third research question: "To what extent does the perceived usefulness of given peer feedback predict the participant's score of actual usefulness?" called to assess whether the perceived usefulness could predict the actual usefulness of given peer feedback. The results indicate that the perceived usefulness of given peer feedback can predict its actual usefulness. A high rating of perceived usefulness indicates a high rating of actual usefulness. From these results one can conclude that students tend to correctly perceive the quality of their feedback. It was previously expected that students would overall be less able to accurately assess the quality of their feedback and that there would be a rather observable difference between scores of perceived and actual usefulness.

The difference between scores is observable but students seemed to have been able to assess their peer feedback with the correct tendency as to its quality and usefulness, meaning, the self-assessment of their peer feedback is rather accurate. Research, such as a meta-analysis by Falchikov and Boud (1989) of student's self-assessment abilities, showed that there are factors at play that help make a student's self-assessment more accurate. The perceived usefulness score students received in this study was based on their own assessment of their feedback, which is why the comparison is made here to self-assessment. The explicitness of the rating or marking criteria helps students to assess their own work more accurately (Falchikov and Boud, 1989). In this study, students used the Perceived Usefulness, Quality, and Quantity scale to assess their given feedback, which could indicate that this scale was useful to students during the assessment of their feedback, as it helped them to accurately assess the usefulness and quality of their feedback when compared to their actual usefulness scores.

The scale, which was constructed to assess the perceived usefulness, quality, and quantity of the given peer feedback, did show an acceptable Cronbach's α , but the scale would need to be validated by multiple studies to ensure that the reliability and validity of the scale is up to research standards. In addition to the previously mentioned methodological limitations per research question, some students also mentioned during the data collection sessions or in their feedback documents that they found it rather hard to give accurate and serious feedback as they knew they were giving feedback within a hypothetical situation. In this regard, students might not have put all their effort into giving the best possible and most useful feedback they could have given, but rather simplified their feedback and only mentioned the most salient comments and improvements.

To answer the central research question of this study, which is: "To what extent does the level of academic self-confidence influence student's perceived and actual usefulness, quality, and quantity of their given peer feedback?", the results indicate that the academic self-confidence level of a student does not significantly influence the perceived and actual usefulness, quality, and quantity of their given peer feedback. From this research alone, it is not possible to conclude that improving a student's academic self-confidence could significantly help to improve their judgement of the quality and the actual quality of their given peer feedback.

Connecting these previous results to the academic setting where peer feedback is used can have some implications for teaching and academic curricula. From the results it can be concluded that a student with more academic experience is more likely to give better quality feedback to a peer and for the most part, students seem to be able to assess their own given feedback accurately. Therefore, students seemingly can identify what useful and high-quality

feedback is, but they could be lacking the skills themselves to enhance the quality of their given feedback. Teachers and schools could therefore employ trainings for students on how to give useful feedback to their peers. Nilson (2003) and Lam (2010) also mention the benefit of trainings on how to give useful peer feedback that can enhance the quality not only of the given feedback but also of the final assignment students hand in (Camarata and Sileman, 2020; Darvishi et al., 2022). In this case the trainings should also cover information on how to best use and incorporate feedback into one's own work. Employing these trainings as early as possible in the academic curricula of, for example, secondary schools could benefit students greatly, as knowing how to give useful peer feedback not only improves their self-management and judgment skills but also benefits them in their academic path and later career (Liu and Carless, 2006; Nilson, 2010; Popta et al., 2017).

As indicated by the results, students' academic experience seems to have an influence on the actual usefulness of their given peer feedback. If, after further research, this indication is validated, teachers should adapt their expectation of how useful peer feedback will be, depending on the students' academic experience level. Also, a possible help to students with lower academic experience could be to make the feedback they are expected to give less complex and to also make feedback tools, such as marking rubrics, as clear as possible (Patchan et al., 2018).

As it can be concluded from this research that academic experience could potentially influence the usefulness and quality of given peer feedback, but on the other hand academic self-confidence seems not to be influential in this regard, other possible personality traits or skills might be of interest in future research. Research mentions factors related to peer feedback, such as self-regulation, critical thinking ability (Nicol and Macfarlane-Dick, 2007), and self-reflection (Yu and Wu, 2013). Nicol and Macfarlane-Dick (2006) listed seven principles to ensure useful feedback. Self-regulation and critical thinking support many of the seven principles. Another ability that Darvishi et al. (2022) researched was the ability to self-monitor or to self-regulate. Together with peer feedback training and AI-assistance, these abilities were shown to be influential for the quality and usefulness of peer feedback.

Other research also connects personality traits such as openness to the process of giving and receiving feedback (Yu and Wu, 2013). Hence the usefulness of peer feedback, perceived and actual, could be assessed in connection to not only personality traits such as openness, but entire personality types. Future research should focus on establishing ways to enhance the quality of peer feedback in order to further relieve teachers of their high workload, as well as investigating efficient ways to embed peer feedback trainings in school curricula.

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**Appendix
Appendix A
Consent Form**

Consent Form

Please tick the appropriate boxes

Yes No

Taking part in the study

I have read and understood the information of the study dated [DD/MM/YYYY], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.

I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.

I understand that taking part in the study involves providing some demographic information, giving peer feedback on a written piece, and answering a questionnaire on the process of giving feedback.

Use of the information in the study

I understand that information I provide will be reported anonymously and used for the completion of a bachelor thesis.

I agree that my peer feedback can be quoted in research outputs if needed.

I consent to having read the information above carefully and have understood all of the above provided information.

**Study contact details for further information: Christine Mulrane,
c.m.mulrane@student.utwente.nl.**

Appendix B

Academic Behavioural Self-Confidence Scale by Sander & Sander (2003)

How confident are you that you will be able to:

1. Study effectively on your own in independent /private study.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
2. Produce your best work under examination conditions.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
3. Respond to questions asked by a lecturer in front of a full lecture theatre.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
4. Manage your work load to meet coursework deadlines.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
5. Give a presentation to a small group of fellow students.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
6. Attend most taught sessions.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
7. Attain good grades in your work.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
8. Engage in profitable academic debate with your peers.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
9. Ask lecturers questions about the material they are teaching, in a one-to-one setting.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
10. Ask lecturers questions about the material they are teaching, during a lecture.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
11. Understand the material outlined and discussed with you by lecturers.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
12. Follow the themes and debates in lectures.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
13. Prepare thoroughly for tutorials.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
14. Read the recommended background material.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
15. Produce coursework at the required standard.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
16. Write in an appropriate academic style.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
17. Ask for help if you don't understand.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
18. Be on time for lectures.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
19. Make the most of the opportunity of studying for a degree at university.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
20. Pass assessments at the first attempt.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
21. Plan appropriate revision schedules.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
22. Remain adequately motivated throughout.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
23. Produce your best work in coursework assignments.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident
24. Attend tutorials.	Not at all confident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Very confident

Appendix C
Essay for Participants to Give Feedback on

Causes of teen anxiety and treatment methods concentrating on the range of self-treatment

Word count: 780

Causes of teen anxiety and treatment methods concentrating on the range of self-treatment

Introduction of teen anxiety

Nowadays teens are exposed to many different external influences, more than teens in past decades. These influences mostly made up of social media bring a lot of negative situations like bullying and superficiality with them (Hurley, 2019). Scrolling through social media or playing games on phones tends to become an escape for teens from situations they are not interested in or simply bored by. Behaviour can lead to actions which can cause anxiety among teens (Morin, 2017). The teens' easy access to mobile phones limits their chances to develop real life skills to ensure that they will be able to cope with most of the challenges they will face not only later on in life but also in their present life (Morin, 2017). As stated by Meyer, Weinberg, Klein, and Hajcak (2012) anxiety can have its roots in the early childhood of an individual and is linked to the individuals development. Without the coping skills to handle challenging situations teens will obviously become stressed out or feel uneasy under those circumstances. By observing these exact feelings, such as stress, level of fear, and the feeling of being on edge that hold on longer than proportionally normal for the trigger, a generalized anxiety disorder can be identified (*Anxiety Disorders*, 2018).

Common causes of teen anxiety

These feelings can start to come up in many different situations which are accompanied by different causes. One of the most common causes is stress which can come from many different areas of a teens life (*Anxiety Disorders*, 2018). Of course, parents can put their teen under a lot of stress, for example by putting a lot of pressure on them to get into the best college possible and that they must excel in all subjects of their education to be able to succeed at life challenges (Morin, 2017). Additionally parents will start to force their children into doing a lot of different activities besides their educational enrolments (Morin, 2017). Morin (2017) also states that

these teens will then end up with less time that they can spend with their friends developing the everyday skills that will be crucial for their lives. These skills can also be underdeveloped because of their parents overprotectiveness (Morin, 2017).

Suitable treatment of teen anxiety

The treatment of anxiety disorders can be approached in a variety of ways. In most cases treatment of any type of anxiety disorder will be a combination of therapy or counselling and medication (Felman, 2018). But it is not always necessary to try and decrease a teens anxiety with medical help. But in many cases especially when stress, no matter from which source, different types of a treatment form called self-treatment have been seen to be effective (*Anxiety Disorders*, 2018). The first type of self-treatment would be stress management, which involves planning ahead especially when stressful situations can be anticipated (Felman, 2018). A second type of a self-treatment method would be trying meditation through videos or apps which the teens can easily access with the help of their mobile phones (Felman, 2018). The third self-treatment method to try would be physical exercise so individuals could try and find a way of letting of pressure (Felman, 2018).

There are also other, new type of self-treatment methods that involve less conventional ideas of self-help. To make availability of treatment better a range of computerized interventions has been developed, so called 'E' therapies (Stasiak et. al., 2016). A program used in 'E' therapy is *BRAVE*, a self-help computer programme, put in place to treat children with different types of anxiety disorders (Moor et. al., 2019.) *BRAVE* offers children and teens a number of interactive exercises to educate them on relaxing techniques, problem solving and other critical life skills (Moor et. Al., 2019). Another example for an 'E' therapy is a programm named *Think Feel Do*, which involves sessions of 30-45 minutes to help decrease symptoms of anxiety and was proven effective in resolving social anxiety and self-esteem issues (Stasiak et. al., 2016).

Conclusion

In conclusion a lot of teens are affected by anxiety, and this is often a very bad influence on them, especially looking into their future. But not only social media is at fault. Parents of course push their kids to do different hobbies, so they do not have the chance to find friends or get a job. In my opinion schools should focus more on anxiety as it is such a serious topic. Treatment for anxiety is essential and there are many different options in this case. You need to talk to a profession or you can try to help yourself first with self-treatment.

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Appendix D

Essay Marking Rubric

Instructions: Fill in the table below by marking one section per criteria that most applies to the essay you just read. This can be done by highlighting the section you would mark the essay on for those criteria. Afterwards make sure to give a more detailed explanation for your choice per criteria in the commentary section below, to help your fellow student understand your marking choice.

For this essay students received the following instructions:

For this individual writing assignment, you will write one coherent text that is related to a mental disorder of your choice. It should include an introduction of the relevant disorder, common causes of it, suitable treatment options and a conclusion, which briefly sums up the content of the previous sections. Use an academic writing style, i.e., objective, concise, mistake and error free.

Criteria	4	3	2	1
Introduction	The introduction introduces the mental disorder and clearly defines it. The introduction of the mental disorder is structured in a logical way, i.e., the reader can follow the authors reasoning.	The introduction introduces the mental disorder and partially defines it. The introduction is mostly structured in a logical way. It is harder to follow the authors reasoning.	The introduction introduces the mental disorder and hardly defines it. The introduction is hardly structured in a logical way. It is hard to follow the authors reasoning.	The introduction introduces the mental disorder but does not define it. The introduction is not structured in a logical way. It is not possible to follow the authors reasoning.
Common Causes	The author presents multiple relevant causes of the mental disorder and explains them in detail and how they are linked to it.	The author presents multiple relevant causes of the mental disorder and explains them briefly and touches on how they are linked to it.	The author presents some relevant causes of the mental disorder and explains them but presents no connection how they are linked to it.	The author presents no relevant causes of the mental disorder and does not explain them or how they are linked to it.
Suitable Treatment	The author presents 2 suitable and different forms of treatment for the mental disorder. Both are explained in detail and are clearly presented. The author mentions possible advantages and downsides to both.	The author presents 2 suitable and different forms of treatment for the mental disorder. Both are explained but are not clearly presented to the reader.	The author presents 1 suitable form of treatment for the mental disorder. It is explained in detail and is clearly presented. The author also mentions possible advantages and downsides.	The author presents 1 suitable form of treatment for the mental disorder. It is briefly explained but is not clearly presented to the reader.

Conclusion	The conclusion sums up the content of the article to the point. The author does not refer to their opinion on the mental disorder, its causes, and suitable treatment.	The conclusion mostly sums up the content of the article. The author hardly refers to their opinion on the mental disorder, its causes, and suitable treatment.	The conclusion hardly sums up the content of the article to the point. The author slightly refers to their opinion on the mental disorder, its causes, and suitable treatment.	The conclusion does not sum up the content of the article to the point. The author clearly refers to their opinion on the mental disorder, its causes, and suitable treatment.
Content	The content is fully organized in a logical way and is coherently structured. The author sufficiently uses facts and information to support their reasoning.	Most of the content is organized in a logical way and is mostly coherently structured. Most of the time the author uses facts and information to support their reasoning.	Hardly any of the content is organized in a logical way and is hardly coherently structured. The author hardly uses facts and information to support their reasoning.	None of the content is organized in a logical way and is not coherently structured. The author insufficiently uses facts and information to support their reasoning.
Sentences	All the sentences are clear and coherent.	Most of the sentences are clear and coherent.	Hardly any of the sentences are clear and coherent.	None of the sentences are clear and coherent.
Paragraphs	There is always cohesion between paragraphs. The author therefore makes use of topic sentences and logical transitions. Each paragraph consists of 6-10 lines.	There is cohesion between most paragraphs. Most of the time the author makes use of topic sentences and logical transitions. Most of the paragraphs consist of 6-10 lines.	There is hardly any cohesion between paragraphs. The author hardly makes use of any topic sentences and logical transitions. Hardly any of the paragraphs consist of 6-10 lines.	There is no cohesion between paragraphs. The author makes no use of topic sentences and logical transitions. None of the paragraphs consist of 6-10 lines.
Academic Writing Style	The author uses appropriate language and does not write	Most of the time the author uses appropriate language and	The author hardly uses appropriate language and	The author does not use appropriate language and

	opinionatedly. If appropriate, the author uses scientific language.	sometimes writes opinionatedly. If appropriate, the author mostly uses scientific language.	often writes opinionatedly. Even if appropriate, the author inadequately uses scientific language.	always writes opinionatedly. Even if appropriate, the author does not use scientific language.
Grammar and Spelling	There are no spelling and grammar mistakes.	There are few spelling and grammar mistakes, but they do not interfere with the understanding.	There are several spelling and grammar mistakes that interfere with the understanding.	There are numerous spelling and grammar mistakes that interfere with the understanding.
Word Count	The essay's word count is exactly between 650 and 800 words.	The essay's word count is a maximum of 10% above 800 or below 650 words.	The essay's word count is a maximum of 20% above 800 or below 650 words.	The essay's word count is more than 20% above 800 or below 650 words.
Sources	The author uses at least 4 reliable sources, a minimum of 2 of these are scientific, peer-reviewed articles.	The author uses at least 2 reliable sources, a minimum of 1 of these is a scientific, peer-reviewed article.	The author uses at least 1 source, which is a scientific, peer-reviewed article.	The author uses no sources at all.

Appendix E
Perceived Usefulness, Quality, and Quantity Scale

Items	Com- pletely Dis- agree	Com- pletely Agree
	0	3
1. After receiving my feedback, my peer will make more effort.		
2. My feedback will help my peer reach their learning goal.		
3. My feedback will help my peer recognise where they can improve.		
4. My feedback lets my peer know which type of tasks they should practice.		
5. My feedback lets my peer know whether they should/have to prepare themselves better.		
6. My feedback is detailed enough for my peer to understand it.		
7. I would evaluate the quality of the feedback I gave as high.		
8. Overall, I am satisfied with the feedback I gave.		
9. I would give the same quality feedback again.		

Appendix F
Coding Scheme for Coding the Given Feedback

Criteria	4	3	2	1
Identify Potential/Good Aspects	The feedback giver identified all the good aspects.	The feedback giver identified most of the good aspects.	The feedback giver identified some of the good aspects.	The feedback giver identified none of the good aspects.
Identify Flaws	The feedback giver identified all the flaws.	The feedback giver identified most of the flaws.	The feedback giver identified some of the flaws.	The feedback giver identified none of the flaws.
Suggested Relevant Improvements for all suggested Flaws	The feedback giver suggested relevant improvements for all the suggested flaws.	The feedback giver suggested relevant improvements for most of the suggested flaws.	The feedback giver suggested relevant improvements for some of the suggested flaws.	The feedback giver suggested relevant improvements for none of the suggested flaws.
Feedback Criteria matches Given feedback	All the feedback matches the chosen marking criteria.	Most of the feedback matches the chosen marking criteria.	Some of the feedback matches the chosen marking criteria.	None of the feedback matches the chosen marking criteria.
Language used in feedback	All the language used is polite and constructive.	Most of the language used is polite and constructive.	Some of the language used is polite and constructive.	None of the language used is polite and constructive.
Detail of Feedback	All the identified flaws are explained in detail.	Most of the identified flaws are explained in detail.	Some of the identified flaws are explained in detail.	None of the identified flaws are explained in detail.