

MASTEROPPGAVE

One Size Does Not Fit All –

Feedback must be individualized to fulfil the requirements of in-depth learning

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INTRODUCTION

Norwegian education underwent major changes as new teaching plans, LK20, were implemented in 2020. New to these plans was the introduction of in-depth learning as the overreaching goal of all education. Current pedagogical research shows that discussions on the content of in-learning have been plentiful and consensus on best practices has been difficult to reach, even though the long-term effects of in-depth learning are undisputed (Gilje, Landfald & Ludvigsen, 2018). Utdanningsdirektoratet defines in-depth learning “...as the gradual development of knowledge and lasting understanding of concepts, methods, and contexts in subjects and between subject areas.” (My translation, Utdanningsdirektoratet, 2019).

From the perspective of the individual teacher in the Norwegian classroom, the focus on in-depth learning in LK20 gives rise to several considerations. One such consideration is how to design assessment practices. Sawyer (2014), for example, claims that the concept of in-depth learning changes how educators should plan for assessments and feedback (Sawyer, 2014). However, what consequences the addition of in-depth learning have for class-room practices in Norwegian education have so far yielded little attention in academic research. Such studies are important as the goal of any teaching is to help students excel in their schoolwork, classroom practices must lead to end results which are relevant for the overreaching goal of the education.

Assessment is mandatory for all education in Norway, an integral part of the LK20, and highlighted in the literature as a crucial key to student learning. Hattie and Timperley (2007) go as far as to claiming that feedback and assessment design is one of the most powerful tools to synthesise learning (Hattie and Timperley, 2007). Integral in such designs is formative assessment, which LK20 defines as assessment given during the training to motivate and encourage educational development.” The consensus in the literature seems to be that rather than focusing on summative assessment, where focus is squarely on “[...] provid[ing] information on competence [...]” (my translation, Utdanningsdirektoratet, 2022), focus should be on fostering a study environment where students engage with assessment in a long-term process. In the paper “Model of long-term student engagement with feedback”, for example, Carless (2018, p. 712), describes a long-term learning process as a spiral with a series of cycles “building on student engagement with previous feedback” (p. 713). The idea here is that each assessment cycle has a cumulative impact on long-term learning. Put differently, single assessments accumulate to long-term and thus in-depth learning.

Although LK20 states that in-depth learning should apply to all education, it simultaneously states clear expectations on what competences students are expected to gain from each subject. In this thesis, focus is on Norwegian Upper Secondary students' written competence in the subject English. Written competence is defined as a "basic skill" for English as a second language in Upper Secondary Norwegian schools in LK20, which entails that competence in written discourse should be practiced and mastered through the course of the training. In line with the general literature on assessment, the importance of assessment designs is also well-recognized in the literature on second-language writing. Hyland & Hyland (2006), for example, underscore that feedback is a central aspect of second language writing across the world, and that effective feedback is essential for the development of second language writing skills (Hyland & Hyland, 2006).

From the above, it can be concluded that in-depth learning is emphasized as the main desired outcome of education in the LK20, and that effective feedback on written competence can be considered essential for the subject-specific aims for English in Upper Secondary school. Despite this, there is not much research on the effect of particular assessment designs for Norwegian students' written competence in English in specific Upper Secondary classrooms today. Such research is crucial if we are to understand the 'real-world' impacts of LK20. Thus, this thesis zooms in on the question whether assessment on a subject-specific task can be seen to yield learning outcomes in accordance with LK20 for Norwegian Upper Secondary students' written competence in English.

More specifically, framed as an action research study, the general aim of this thesis is to explore whether my classroom practices fulfil the requirements of the LK20. In order to meet this goal, I pose the following research question: "Is there indication that feedback on a written single task, designed in accordance with current *best-practice advice* regarding effective feedback, leads to 1) successful changes in the students' text and 2) in-depth learning?"

To answer this question, I consider two sets of written students' texts, students' reflection notes, a third rewritten text and interviews in an action research study. The conclusions drawn from the study point towards the necessity for individualized feedback and task design to accommodate in-depth learning for every student. It will be argued that since in-depth learning requires knowledge of one's own learning process skills, feedback for in-depth learning must focus on each student's underlying values and beliefs to be effective. Hence,

effective feedback on single subject specific tasks is insufficient to ensure in-depth learning for all students.

My conclusion is therefore that one size does not fit all, and that I will modify my future class-room practices in accordance with my findings from this research.

THESIS DESIGN AND RESEARCH QUESTION

This study is designed as action research to look at my own practises considering the new demands of the LK20. As stated above, the goal is to answer whether my practise leads to in-depth learning for the students. I want to see if successful feedback on a single, subject specified task yields long-term effect and hence in-depth learning for my students. To explore this, I must first verify that the feedback is successful on a single task, and if so look for long-term learning effects. The research question is:

“Is there indication that feedback on a written single task, designed in accordance with current *best-practice advice* regarding effective feedback, leads to 1) successful changes in the students’ text and 2) in-depth learning?”

Action research seeks to facilitate development and change through a spiral of planning, implementation, reflection, and assessment with the goal of developing new knowledge (Støten, 2008). Action research blurs or diminishes the divide between practitioner and researcher, as the action researcher is happy to ask, "what do I do and how can I describe and explain what I do?" Jean McNiff defines action research as research on own work and practice (McNiff, 2005).

The study has been conducted on my own practice in Upper Secondary school in Norway and involves data from nine students. A detailed account of the participants, data collections, and the three research phases is resented in the “Materials and research design” section. This section also discusses ethical considerations of the research conducted.

My underlying understanding of learning belongs in the sociocultural tradition, which views learning as a circular process. Terminology such as “feedback-loops” and “single- and double learning loops”, are used to illustrate this circular process. A comprehensive explanation of the terminology and its relevance will be given in the chapter Definitions and Theory” along with the definitions and theoretical background for the study.

The findings from this study are presented and discussed in the chapter “Findings and Discussion”. That chapter makes up the major part of this thesis as it includes the findings, the analyses of the findings and discussions of what the implications and results might be. As the title of this thesis “One Size Does Not Fit All” indicates, my finding show individual differences. A detailed study of four of the participants therefore constitutes the discussion. More details on the organization of the “Findings and Discussion” chapter are found in the chapter introduction.

The last chapter is a concluding chapter which summarizes what I have learned from this research, what limitations the study has brought and what gaps this research includes. As change for improvement is the goal of action research, a presentation of alterations to my own practise is included in the last chapter. Finally, the main findings of this thesis are restated before the references and appendixes are presented.

ACTION RESEARCH

I have conducted this research in my own classroom and on my own students in line with action research methodology (McNiff, 2005). Whereas the requirement for objectivity in many research traditions, particularly in positivist paradigms, is very strict regarding distance between the practitioner and the researcher to eliminate value-charged research based on attitudes from either part (Hess & Mullen 1995), action research works in a different way. In action research, the goal is not necessarily to find a generalizable ‘truth’, but rather to show how truth and action are interdependent and socially constructed in particular historical and institutional practices, and then, by way of critical reflection of empirical data, address how particular problems in these practices can be solved (Bath, 2009, p. 215).

Thus, action research becomes a ‘critical social science’ (Bath, 2009, p. 215) where the researcher and practitioner is the same person. The argument is that “action research is carried out by those who are best placed to solve problems, improve practice, and enhance understanding—that is, the participants in the situation under investigation” (Bailey, Curtis & Nunan, 2001). Put differently, action research thus becomes a study of and about oneself and one’s context, with other participants as co-researchers and learning partners (McNiff, 2005), which gives a unique perspective. Mills (2000) describes action research as "research done by teachers and for teachers and students, not research done on them, and as such is a dynamic and responsive model that can be adapted to different contexts and purposes" (Mills, 2000). Burns (1999) claims that the link between researcher and practitioner has been important for action research in the second language classroom as it encourage teachers to adopt an investigative stance toward their own classroom practices (Burns, 1999).

Burns (1999) describes action research as “the combination and interaction of two modes of activity – action and research.” McNiff (2005) supports that there are two main parts to action research. "Action" means recognition and assessment of what the researcher / practitioner is doing, as well as the context and background of the person in question, and "Research" involves data collection, reflection, collection of evidence and the acquirement of knowledge

(McNiff, 2005). McKay (2010) says action research should be aimed at change, and Stringer (1999) describes action research as seeking to create knowledge, propose and implement change, and improve practice and performance (Stringer, 1999). These characteristics of action research being aimed at change, seem to be broadly accepted (Hiim, 2009).

Stringer (1999) points out that the framework in action research to “look, think and act” provides a circular motion which enables professionals to commence their inquiries in a straightforward manner and build greater detail into procedures as the complexity of issues increase. This notion of circularity in action research is widely appreciated (Hiim 2016, McNiff, 2005).

As the notion of circularity is characteristic for my practice and my underlying understanding of learning processes, it provides the foundation of this research both in terms of theory and in the terminology used to explain effective feedback. The "Action" part of this study entails recognition and assessment of what I am doing and constitutes the first phase of the research. The "Research" part involves the data collection, analyses and knowledge acquired through the process, including my conclusions on how my practice can be changed.

The idea that action research leads to change and improvements in one's own practice is particularly applicable to this research, as the very starting point of the study was the implementation of the LK20 in Norwegian schools and the observation that the new curriculum calls for adjustments to classroom practices. My personal practices included.

DEFINITIONS AND THEORY

The theoretical background for the design and findings of my research constitutes the content of this chapter. Definitions and concepts from the curriculum as set out in the LK20, are presented first, followed by an overview of the theoretical background. Terminology referring to learning processes as circular motions are explained in light of the theory presented. Finally, the link between the presented concepts from the LK20 and the theoretical background is described.

Definitions

To clarify the ramifications and help delineate the scope of available theory, the following definitions constitute the building blocks of this thesis.

Formative and summative assessment

The LK20 describes two types of assessments that students should receive on their schoolwork: formative during the training, and summative at the end of the training. This research focuses solely on formative assessment because the aim is to study the effects of teacher feedback on the learning process. The evaluating character of the summative assessment is not relevant for this study.

The purpose of formative assessment is to support the students' in-depth learning, motivation, and mastery as well as to clarify the progression in the curriculum (Utdanningsdirektoratet, 2022). Lauvås (2018), for instance states that all assessment that takes place during the training is formative assessment, and that formative assessment provides a basis for adapted training and contributes to increased competence for students in the subject (Lauvås, 2018). In the LK20, formative assessment is defined under the heading “mid-term assessment”, which states (my translation):

“The mid-term assessment shall contribute to promoting learning and to developing competence in the subject...Students will experience that trying out alone and with others is part of learning a language. The teacher and the students must be in dialogue about the students' development in English. Based on the competence the students show, they will have the opportunity to put into words what they experience that they achieve and reflect on their own professional development. The teacher must provide guidance on further learning and adapt the training so that the students can use the guidance to develop reading skills, writing skills and oral and digital skills in the subject.”

This means that the student should receive information about what they master, as well as guidance on how they can achieve professional development and increase their professional competence. According to LK20, formative assessment shall take place systematically and continuously throughout the school year, and it is necessarily an integral part of the education.

Writing as a basic skill in the LK20

In the teaching plan for the English subject in LK20, writing is defined as a “basic skill”. This entails that it is pertinent that students achieve competence in written discourse through their education. In the description of the components of written competence for English, the LK20 focuses on the ability to “...adapt the language to the purpose, recipient, and situation...”, “...creating different types of coherent texts...” and “...convey views and knowledge...” (my translation, Læreplan for Engelsk ENG01-04, Grunnleggende ferdigheter)

These three components are commonly referred to as features of language, structure, and content. The design of the written task and its standards for evaluating the texts in this research are built on them.

In-depth learning according to the LK20

In-depth learning is described in the LK20 as “learning something so well that you understand contexts and can apply what you have learned in new situations” (my translation, Dybdelæring, Utdanningsdirektoratet, 2019) Hence, in-depth learning means that students gradually develop knowledge and lasting understanding of concepts, methods, and contexts in subjects and between subject areas. “This means that we reflect on our own learning and use what we have learned in different ways in known and unknown situations, alone or with others” (my translation, Kunnskapsdepartementet, 2016).

The overarching part of the curriculum emphasizes the importance of facilitation for in-depth learning so that the students can develop the skills they need for a rapid changing future: “The values of the training must characterize in-depth learning processes to develop good attitudes and judgments and the ability to reflect and critically think and to make ethical assessments.” (My translation, Utdanningsdirektoratet, 2019) This focus demands that the education necessarily makes room for reflection of one’s own learning and prepare students to “use what they have learned in different ways, in known and unknown situations, alone or with others.” (My translation, Utdanningsdirektoratet, 2019).

In-depth learning aims to redeem student dependence on specific feedback and/or instructions to continue their work. The LK20 states that students should “be equipped to think and learn independently” through their schooling (my translation, LK20 “Overordnet Del”). This falls under the notion of “gradually developing knowledge” to enhance independence in students and requires classroom practices which encourage students to reflect on their own learning and understanding in an independent way.

“When students understand their own learning processes and their professional development, it contributes to independence and a sense of mastery...and lay the foundation for learning throughout life” (my translation, LK20). This means that independence in learning is essential for in-depth and long-term learning.

Feedback according to the LK20

The LK20 presents clear expectations of how the teacher should work to give students good academic feedback (Utdanningsdirektoratet, 2019). Feedback should contribute to promote learning, it should give students an overview of where they are in their learning, where they are going and what they should do to advance their learning process. The feedback must have professional content and be linked to goals that are anchored in the curriculum. The Directorate of Education links good feedback practice to in-depth learning and states that effective feedback creates a good learning environment where the student gains information about the learning process (Utdanningsdirektoratet, 2019).

Theoretical background

Academic focus on feedback and feedback efficiency is plentiful and the scope of models and theories is somewhat overwhelming for a master student. The research literature is selected to reflect the discussions and findings of this research. Single- and double-loop learning is included as it denotes the research conducted. The literature presented here is hence a fraction of available theory and delimited to suit the research question.

Single- and double-loop learning

Argyris and Schon’s action model from 1978 (Argyris & Schon, 1987) differentiates between what they call “single-” and “double-loop” actions. Single-loop actions are described “doing things right” and double-loop actions are more complex as they ask, “are we doing the right things?”. Argyris (1990) linked the model to learning in 1990 and introduced the concepts of “single- and double-loop learning”.

When adapting single- and double loop actions to teaching and learning, Argyris argues that single-loop learning teaches the student how to do a task or action correct. In single loop learning the students will modify their actions to reach a desired outcome. Single-loop learning is described as a situation in which we observe our present situation and face problems, errors, inconsistencies, or impractical habits and adapt our own behaviour and action to mitigate and improve the situation accordingly. Single-loop learning is thus likely to be an effect of a student's response to formative assessment described in the LK20. The students receive information about what they master, and guidance on how they can improve their actions. Single-loop learning is therefore an essential step in short-term task performance and learning, but Argyris argues that it fails to provide the student with the underlying aspects of why the task should lead to the desired consequence. Hence, single-loop alone, does not render the students equipped to solve new problems in the future and achieve professional development to increase their competence.

In double-loop learning, on the other hand, the learner addresses the root causes and aims to give the learning long-term effect (Argyris, 1990). In double-loop learning, the framework and underlying assumptions of our actions are in focus. "Why do we do what we do?" Reflection and analysis of our actions is pertinent to understand why we do what we do, and double-loop learning is achieved when students understand the governing variable of why they perform the way they do to gain deeper knowledge as to why their behaviour leads to the results given (Carthwright, 2002). Hence, though double-loop learning students are better equipped to tackle new and unexpected tasks in the future.

In Argyris model, double-loop learning follows from single-loop learning. A student's engagement on improving their work on one specific task represents the single-loop, and their adaption of learning strategies and independence represents the longer run and double-loop learning. The circularity in this perspective means that mastering single-loop tasks is a prerequisite for double-loop learning.

Effective feedback and feedback-loops

As described above, the LK20 presents clear expectations of how the teacher should work to give students good academic feedback (Utdanningsdirektoratet, 2019). The LK20 does not define feedback, but emphasizes that feedback should contribute to learning, help students get an overview of the learning process and their current place in it as well as give guidance on how to continue their work. Formative assessment therefore includes receiving feedback on

one's work and progress. This corresponds with Sadler's definition of "feedback" as "information about how successfully something has been or is being done." (Sadler, 1989, p. 120). Ramaprasad (1983) defines it similarly and states that "feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter that gap in some way" (1983, p. 4). Ramaprasad's definition has proven influential for many researchers and research. Ramaprasad emphasizes that effective feedback includes three aspects:

First: that it may be focused on any feature (Ramaprasad, 1983, p. 5).

- Second: the feedback must give information, which is perceived relevant, and
- Third: that this relevance is mutually understood by the receiver and the giver of the feedback (1983, p. 5).

However, although Ramaprasad's criteria for effective feedback might seem clear-cut and easy to follow, it should be mentioned that numerous studies have shown that effective feedback is much more complex than what Ramaprasad's criteria suggests.

Hattie and Timperley (2007) view feedback as information about performance that may come from a range of sources. Recent literature focuses more on students' actions in response to the received information when defining feedback. Carless (2019) describes feedback as a process where students make sense of comments regarding their work and use this understanding to further develop their performance and/or learning strategies (Boud and Molloy 2013; Carless 2015; Carless and Boud 2018). Such focus illustrates a circularity where feedback affects the outcome of a task or assessment.

In an effort to clarify how effective feedback incorporates the convoluted territory of any learning situation, Carless (2019) introduces the concept of feedback loops, and says, "When information leads to actions, a feedback loop is said to be closed" (Carless, 2019 p. 706). He emphasizes that feedback has only been successfully conducted when a feedback loop is complete. In many ways this correlates with Ramaprasad's third condition of effective feedback, as it requires some evidence of the feedback being mutually understood.

This conceptualization of circularity in the feedback process equals Argyris (1990) illustrations of learning loops and permeates the research in this thesis.

The link between LK20 and the theory

The relevance and connection of single- and double-loop learning with how written competence and in-depth learning is described in the LK20 are enhanced below.

Writing as a basic skill – single-loop

As writing is defined as a basic skill in English teaching plans, it follows that teachers should design, plan, and conduct tasks and assessments to help students practise and enhance these skills as part of their English training.

Because written competence for English, in the LK20, is focused on the ability to “...adapt the language to the purpose, recipient and situation...”, “...creating different types of coherent texts...” and “...convey views and knowledge...” (my translation, Læreplan for Engelsk ENG01-04, Grunnleggende ferdigheter), a written task would constitute a single-loop learning situation as the outcome of the student’s work is considered as correct or incorrect. A correct outcome signifies that the action was performed successfully, whereas an incorrect outcome means the action should be repeated. In a learning situation, this means that when a student performs a task and receive feedback on that task, single-loop learning has occurred when the performance is conducted in compliance with the task criteria.

In-depth learning - double-loop

As in-depth learning involves “lasting understanding (LK20), the effects of such learning must be long-term. As argued above, in-depth learning and double-loop learning share principal values. For example, we have seen that in Argyris (1990) model, “double-loop learning” is understood to give long-term effects as double-loop learning means that students are able to “reflect and evaluate” the underlying premisses of their own learning process (add reference here).

Importantly, as mentioned in the introduction, Sawyer (2014) claims that the concept of in-depth learning changes how educators should plan for assessments and feedback (Sawyer, 2014). In-depth learning, as defined in the curriculum, is about the student gradually developing knowledge and lasting understanding of concepts, methods, and contexts in subjects and between subject areas. "This means that we reflect on our own learning and use what we have learned in different ways in known and unknown situations, alone or with others" (my translation, Kunnskapsdepartementet, 2016).

Reflecting on one's own learning constitutes an analysis of one's own actions to understand "Why we do what we do". This is the framework for double-loop learning. Double-loop learning is achieved when students gain deeper knowledge about their actions and understand the underlying assumptions and beliefs which steer them. Double-loop learning is therefore equivalent to what the LK20 describes as in-depth learning.

Summary of theory

The theory described above constitutes the basics for the design of this thesis as well as the discussion of the findings. The concept of circularity in teaching and learning is fundamental to the study, and the terminology used reflects this. For instance, the terms "effective feedback" and "feedback loop" are used interchangeably and is understood to incorporate Ramaprasad's criteria for effective feedback and Carless' (2019) definition of feedback loops.

Single-loop learning is understood as a continuum of successful feedback loops that involve short-term effects of learning and is considered a prerequisite for double-loop learning.

Further, double-loop learning is used interchangeably with in-depth learning, where both are considered to involve long-term learning effects.

This study is an action research study and is designed to consider and evaluate my own practises. The goal is to answer whether my practise leads to double-loop learning for my students. To do so, I must first ascertain if my current practice leads to single-loop learning, and if so if the practice is sufficient to promote double-loop learning. The research question is:

"Is there indication that feedback on a written single task, designed in accordance with current *best-practice advice* regarding effective feedback, leads to 1) successful changes in the students' text and 2) in-depth learning?"

MATERIAL AND RESEARCH DESIGN

This thesis presents an action research study which involves data from nine students in Upper Secondary school in Norway. This section gives a thorough description of the setting and participants, the data, and the three-staged study design. The theoretical foundation and background for the design rests on the theory presented in the previous chapter.

Setting and participants

The research was conducted in three English classes at the first year of Upper Secondary education in Oslo in the fall of 2021. Each class had 30 students, and all the students in each class were initially invited to participate in the study. Approximately ten students from each class showed interest in participating, and from these, nine students were chosen. All three classes had the same teacher, and that teacher is me. The participating student group is made up of both male and female participants, but neither their gender nor their identity is revealed in this thesis as it is not relevant for the research question. Texts and responses were anonymized to ensure their privacy. Each participating student gave written consent to participating in the study.

The data and design of the study

To address the research question *“Is there indication that feedback on a written single task, designed in accordance with current best-practice advice regarding effective feedback, leads to 1) successful changes in the students’ text and 2) in-depth learning?”* The study was designed as a qualitative-method study involving several data sources collected over the course of one semester: two sets of written students’ texts, students’ reflection notes, a third rewritten text and interviews.

Because the research was designed to explore activities which took place during the first semester of a schoolyear, it is bound by time and activity. This makes it a case-study which is a well proven method for qualitative research (Creswell p. 15). The data collection includes written documents, reflection notes and interviews, and this triangulation strengthens the reliability and the validity of the research. It should be mentioned that as this research is conducted as action research, the analysis and conclusions are inevitably influenced by my beliefs and values, but at the same time the action research methodology gave me control over contextual factors that may otherwise have gone un-noticed had I not researched my own classroom (for a more elaborate discussion of action research methodology, see chapter “Action Research”). Also, in line with the goal of action research methodology (Bath, 2009),

the research process helped me gain a clearer understanding of what my own beliefs and values were and are.

The data and data collection

As stated above, the study different types of data: two sets of students' written texts, students' reflection notes, a third rewritten text, and semi-structured interviews.

The first two sets of written texts were collected from a written assignment the students completed early in the schoolyear (in September 2021). The assignment was designed as a process where each student received written feedback from the teacher on their first draft before they wrote their final draft. The written feedback was categorized to accommodate the three components language, structure and content as defined in the LK20, and the drafts were analysed to identify which changes the students made in their final drafts in response to the feedback from the teacher regarding these three components.

Upon completing the two texts, the students were asked to fill out a reflective note. This reflection note was designed with a table for the students to fill in in addition to two open-ended questions. The table had three columns, one for each of the task goals: language, structure, and content. The students were asked to evaluate their own competence level for each of the three goals. The two open-ended questions were intended to give the students room for elaboration if they wanted to. The reflection notes were analysed and used as background information for individual interviews with each participating student.

Individual interviews were conducted after the written assignment and the reflection notes had been completed. The interviews were recorded and were later transcribed and translated as they were conducted in Norwegian. The interviews sought to gain a deeper understanding of the perspectives and attitudes of the participants as required for a qualitative research design (Creswell p. 184). Conducting them allowed me to study the effects of the feedback in depth and ask thorough and clarifying questions when necessary.

The final data set was a second written text, assigned to the students approximately two months after they received feedback on their first written text. These texts were analysed in search of evidence of long-term effects, or double-loop learning, from the feedback provided on their first written text (two months earlier). Thus, the text analysis of the third text was based on the students' mastery of the same three components that were considered and commented on in the first assignment, i.e.: language, structure, and content.

The design

The study was carried out in three phases, as described in the subsections below.

Phase 1 – looking for single-loop learning: draft 1 and 2 and the students' reflection notes.

The first phase of the study focused primarily on whether the formative feedback on the first written assignment (described under subsection X, data collection, above) was effective in terms of single-loop learning. In other words: Would I be able to find evidence of single-loop learning? In this phase, analyses of the first and second drafts of the first written assignment along with analyses of the reflection notes were carried out.

This phase is modelled on the methods employed in the studies by Straub (1997) and Bueie (2016). A response situation was designed, in which the teacher gave written feedback to an authentic text written by students in grade level VG1. The text was written as a first draft response to a process writing task. The task had clear assessment criteria, and the students were familiar with them.

The grounds and assessment criteria for the task were based on the LK20 “Writing as a basic skill” (Utdanningsdirektoratet, 2020), and the objective was to practise academic writing. The students were given the choice between three tasks, each formulated to support the learning goal “Writing is about planning, designing, and processing texts...” found in the beginning of “Writing as a basic skill” (LK20). Furthermore, the students were expected to use formal language to meet the criteria of “... adapting the language to the purpose, recipient, and situation...” (Writing as a basic skill, LK20), and because the “situation” in this task was academic text production, the students were expected to use the five-paragraph-structure for their essays. To support the last criterion in the “Writing as a basic skill”, “Writing.... also involves using different types of sources in a critical and accountable way”, the students were expected to use and cite external sources in their texts. These three elements from the LK20 were defined as components of language, structure, and content. The task is attached in Appendix B.

The task design and feedback from the teacher were based on Ramapradsa's (1983) three criteria for effective feedback:

- First: be focused. The written feedback and the assessment criteria were directed at a selection of learning outcomes for written competence, divided into specific criteria for language, structure, and content of the work.

- Second: be relevant. The written feedback gave suggestions on how to improve the text. In addition, the students received the assessment criteria and two model texts as standards against which the performance and feedback were measured.
- Third: be mutually understood. The task was designed as a process where the final draft was submitted after the initial feedback. If the feedback was mutually understood, the revised text was expected to mirror changes in line with the suggestions for improvements provided in the feedback.

Phase 2 – making sense of the students' learning processes: interviews

The goal of this phase was to gain deeper understanding of how the students perceived the feedback on their written text, what feedback they acted on and why. All the participating students were interviewed in-depth to explore their reflections and attitudes towards their personal writing experience, as well as their prior feedback experiences and the assignment process. The interviews were semi-structured and thus conducted with an interview guide. The design of the guide was inspired by Saliu-Abdulahi (2017, p. 152) and Lee (2008, p. 164). The interview guide is attached in Appendix C.

The first questions were warm-up questions concerning the students' overall attitudes and thoughts on writing in English. The second set of questions addressed the types of feedback the students typically encountered and invited them to describe previous feedback experiences. The third section sought to find out what types of feedback the students find useful and why. The final set of questions were focused on other factors concerning feedback, such as timing and motivation.

The interviews were conducted in and transcribed in Norwegian. All the quotes from these interviews in this thesis are therefore translated.

Phase 3 – double-loop learning

To explore the long-term effects of the initial feedback and answer the second part of the research question, the analysis of texts from a second written assignment is included in the study. The data collection and analysis of this text constitutes the third phase of the study.

Towards the end of the semester (in December) the students were asked to complete the exam set made by Utdanningsdirektoratet for the English first year Upper Secondary exam Spring 2021. Due to the corona pandemic, all planned exams were cancelled in Norway in the spring of 2021, and hence the exam set had not been used as an exam earlier.

Ethical Considerations

This study and the methods employed have been approved by the Norwegian Centre for Research Data (NSD), see Appendix A. I distributed consent forms with information on the project in September 2021 and obtained signed consent from all the participants. The students were informed that participation is voluntary, and that they can revoke their consent at any time during the process.

It should also be observed that in line with action research methodology, I have interpreted the findings presented. My preconceptions on the topic of feedback and my knowledge of and relations with the participating students may affect these interpretations. I have conducted this research on my own practice and in my own classrooms, and objectivity is therefore improbable.

FINDINGS AND DISCUSSION

To explore if my practice promotes in-depth learning as required in the LK20, this study examines if effective feedback on single tasks promotes in-depth learning. Argyris (1990) theory of single- and double-loop learning provides the foundation for the research, and this terminology is used accordingly. A detailed description of the theory and terminology, and its relation to concepts and demands from the LK20, is given in the “Theory” chapter.

FINDINGS

This chapter presents the results of the analysis of two sets of written texts, the students’ reflection notes, the students’ rewritten texts and the semi-structured interviews. The design of the study is action research, and the informants are students in classes I teach.

The findings from phase one

The first phase of the study sought to find evidence of single loop learning. The students were asked to write a first draft of their texts, on which I gave them formative feedback. They then rewrote their texts. Table 1, and table 2 present summaries of the analyses of these texts and provide evidence of single-loop learning. all nine students detected gaps between their own writing and the standard, and the students remedied these gaps. Hence, it can be concluded that the single feedback-loop was closed during the first phase of this study.

This does not, however, mean that all the students complied specifically with the feedback I had given them. In fact, three students did not follow suggestions from the written feedback at all. Still, all nine students improved their texts. To explain this improvement, it is important to remember that feedback may come from other sources than the teacher (Sadler, 1989). The students were given model texts and had access to a variety of other sources as well. As the discussion will show, the modelling texts were pertinent for these improvements.

The first draft

Table 1 summarizes what aspects of the first draft the students received feedback on. This is relevant as it gives background information on what changes the students made in their rewritten texts.

Table 1 Summary of the feedback on the first draft

Student #	LANGUAGE	STRUCTURE	CONTENT	Other comments
1		Comment		No
2		Comment		No
3	Comment	Comment		No
4	Comment			No
5	Comment		Comment	No
6	Comment	Comment		No
7	Comment	Comment	Comment	No
8		Comment	Comment	No
9	Comment	Comment	Comment	No

As shown, seven of the nine students received feedback on how to improve the structure of their texts to meet the requirements of a five-paragraph essay. Six out of the nine received feedback on how to make their language more formal, and four of the students also received feedback on how to use and include external sources in their argumentation. Two students received comments on how to improve all three aspects, and three students were only requested to improve one aspect (two relating to structure, and one to language). None of the students received comments on how to improve other aspects than language, structure, and content in their texts, but all nine students were given positive feedback on aspects of their texts they had done well.

The second draft

As stated, evidence of single-loop were found for all the students in their first texts sets. A summary of which aspects of the texts the students changed is presented Table 2.

Table 2 Summary of the changes students made in their rewrite

Student #	LANGUAGE	STRUCTURE	CONTENT	Other changes
1		Some changes		yes
2		No changes		yes

3	Followed	Followed		no
4	Followed			yes
5	Followed			yes
6	Followed	Followed		no
7	Followed	No changes	Followed	no
8		No changes	No changes	yes
9	Followed	Followed	Followed	no

This is relevant as it points to elements in the feedback that had and/or had little effect. The table shows that four of the students followed all the suggestions from the feedback and improved their texts on all the commented aspects, language, structure, and content. Two students did not follow any of the suggested changes, and the last three students followed some, but not all, of the suggested changes.

We see from Table 2 that students #3, #4, #5, #6 and #9 complied with the suggestions in the feedback from the initial feedback, but that students #1, #2 and #8 did not follow the initial feedback from the teacher. Student#7 complied with the teacher’s feedback regarding “language” and “content”, but structural improvements were harder to detect. The lack of improvement in this area might indicate that Ramaprasad’s third requirement; that the receiver understands the feedback, was not met. Still, of the nine feedback points regarding language and content, only one was not remedied by the students in the second draft. This is in line with Hyland & Hyland (2006), who found that about 80% of the rewritten drafts in their study showed positive effects from feedback on both grammar and content (Hyland & Hyland, 2006 p. 6). There may be several explanations for why the link between feedback on structure and compliance with such was harder to detect, and it may be argued that the feedback-loop is rendered incomplete. But Hyland & Hyland (2006) claim that attempts to establish a direct link between feedback and acquisition is oversimplistic because it fails to accommodate that language acquisition develops over time (p. 5). In other words, the uptake of feedback might be evident at a later stage in the students training.

Hyland & Hyland (2006) found that text improvements seem more likely if indirect feedback methods are used. This might explain why only three of the seven feedback points regarding structure were followed. The explanation is that indirect feedback demands more effort from the

student and hence renders greater results. Another explanation might be that the academic structure was new to the students, and hence required repetition and time to consolidate.

Reflection notes

The first phase also included analyses of the students' reflection notes. These provided an illustration of how the students reflected on their own effort towards attaining the goals for the task. I have found it unnecessary to include a detailed analysis of these notes as their significance showed more relevant as background for the questions in the interviews than as stand-alone findings.

Findings from phase two

The materials in Phase Two were individual, semi-structured, in-depth interviews with the students. The aim was to find out more about the students' reflections on and attitudes towards their personal writing experience, prior feedback experiences and the assignment process. The goal was to gain deeper understanding of how the students perceived the feedback, what feedback they acted on and why.

The interviews show some signs of single-loop learning. Gamlem & Smith (2013) found that students want feedback while they are in the process, as it may support their learning (Gamlem & Smith, 2013). This correlates with my findings, several students expressed that they liked the design of the task.

Student #2 said "...it was good that we could write it again, so we could correct our mistakes..."

A persistent theme in the students' reporting in the interviews was their strive to understand the teacher's expectations on the assignments. This correlates Ramaprasad's (1983) second condition for effective feedback. The students wish to possess a concept of the standard being targeted.

Student #6 reported that the feedback on the first task helped to understand which part of the text had to be elaborated or clarified:

"You said what I had to do, and I did it"

This indicates that the feedback was effective and single-loop learning was achieved.

Double-loop learning was also evident. Comments from the interviews show that the students rely on feedback given prior to this task as important sources of information about their own overall competence in English.

Student #5 said: “I usually do well on tasks like these”

And Student #1: “The last three years my reports have been pretty good”

This indicates double-loop learning prompted by effective feedback, but not necessarily from the feedback I gave them on text 1 in this study. Doan (2013) found that students use feedback when it is “timely and prompt”, “clear and easy to understand”, “relevant and meaningful” and “constructive and encouraging” (from Lauvås p. 183). These students have clearly experienced effective feedback in their prior education.

Findings from phase three

The findings from this phase show that evidence of double-loop learning is difficult to detect even in cases where single-loop learning was found. This correlates with findings from Hyland & Hyland (2006), who say that empirical research suggests that effective feedback does lead to writing improvements (referred to as single-loop learning in this thesis) but that long-term effects are harder to detect. Still, Hyland & Hyland (2006) point out that most research on long-term effects are limited to one semester. This is also the case with my study.

Table 3 shows a summary of how the students complied with the feedback on the text produced in the September (column 2), and the results of the text analyses of the text submitted in December for the same areas, i.e., content, language, and Structure (column 3). Compliance with feedback in September and a “Very well done” result in December indicates double-loop learning, whereas a comment such as ‘structure’ means that the student was unable to use the feedback on structure in assignment 1 to produce a structurally better text in the December assignment. Seven of the nine participating students completed the mock exam. Two students were ill on the test date and did not complete this task.

Table 3 – “Mock exam” December 2021

Student #	Compliance with feedback from September	Result in December
#1	Small changes to structure	Very well done

#2	No changes to structure	Lacking structure
#3	Extensive changes to structure	Lacking structure
#4	Changes made to language	Structure
#5	Changes made to language	Was ill, did not write it
#6	Changes made to all aspects	Was ill, did not write it
#7	Changes to language and content, not structure	Lacking structure
#8	No changes	Very well done
#9	Changes to all aspects	Very well done

As can be seen, three of the students who wrote the mock exam produced texts that did not repeat problems detected in their first-draft September texts. For these three students, it can be assumed that the feedback had long-term effect and double-loop learning was attained.

However, for four students, the results were less promising. These students received the same type of comments regarding the structure of their text on the mock exam as they had received on the September texts. Thus, for these students double-loop learning was not detectable.

Summary of findings

The aim of this thesis is to explore whether effective feedback have long-term effects and hence lead to in-depth learning, and the goal is to make sure my own teachings meet the demands of the LK20. The findings presented above have shown that single-loop learning is attained for the nine participants in this study. This result was assumed since the task and feedback design comply with theory on effective feedback. On the other hand, double-loop learning is not evident for all the participating students, which indicates that the feedback design is less effective than was assumed. Put differently, as the materials provided show that my initial feedback had been effective, and that single-loop learning was attained, but that evidence of double-loop learning was absent in many cases, an important question is why double-loop learning was not achieved. Thus, the next section seeks to explore possible explanations of why double-loop learning was not obtained in some cases and, in line with action research methodology, the section also discusses what improvements I should make in my feedback design to facilitate double-loop learning.

Discussion of four students

My findings show that only some of the participating students attained double-loop learning. The question then becomes whether it is possible to dig deeper into the material to find potential answers to why double-loop learning did not take place or why it did. In the analysis of the individual students, students #3, #4, #8 and #9 turned out to be particularly interesting in this respect, and thus this chapter includes a closer look at the materials from these students. This entails that the other participating students will not be discussed in detail.

Student #3

In this study, student #3 did not show evidence of double-loop learning, even though single-loop learning was evident. The student had made extensive changes to the structure in the second draft of the September text but failed to follow this structure in the December text. Since using the results from one task in another is obligatory for double-loop learning, this suggests that the student did not reach in-depth learning, or double-loop learning, of the issues pointed out in the feedback on the September text. In the wording of the LK20 the student did not obtain the criterion of: “learning something so well that you understand contexts and can apply what you have learned in new situations” (My translation, Utdanningsdirektoratet, 2019).

The fact that single-loop learning did occur, however, points to a growing readiness on the student’s part to work towards a goal. The interviews underscored that this willingness was likely related to the careful feedback design, in particular to the fact that the feedback was formative and well-timed. As described earlier, the requirement of comparing the current level of performance by means of formative feedback where the desired level of performance is made explicit, is found in both Sadler’s (1989) and Ramaprasad’s (1983) conditions for effective feedback and was carefully integrated in the task design for this specific task as well (see also Appendix B). Student #3 liked this, as evident in the following statement:

“I liked it actually, how we were given the chance to do it again. ”

The reaction by student #3 is yet another indication that formative assessment is absolutely crucial for student motivation. As pointed out again and again in the research (see e.g., Gamlem, 2015) feedback given after the student has completed their work is perceived as a report from the teacher on what they do not master or have not been able to show that they master - without an opportunity to use the information for an improvement, while feedback

during the process is viewed as more helpful. Gamlem and Smith (2013) even found that feedback which students initially viewed as positive lost its value and became negative if they were given after the student's work was done (Gamlem, 2013).

However, there is also indication in the interview that the student was not necessarily used to working with the type of formative feedback that I gave, and thus may have needed some time to adjust to the study environment before they could make optimal use of the feedback. One issue here may be the teacher-learner relationship, or more specifically, a lack of trust.

Gamlem and Smith (2013), for example, found that students emphasize the relationship to the teacher as pertinent when receiving and adhering to feedback. This study was made early in the schoolyear and the student-teacher relationship was still young and perhaps fragile at this point.

A potential lack of trust can be gleaned in comments from Student #3 stating that they had been angry with the teacher after reading the written feedback on the first text:

“To be honest, I was angry with you. I had worked so hard, and I thought I did great. I did not understand why the feedback was so bad.”

Still, the student followed the feedback and improved the text. On inquiries on why, the student answered:

“I pulled myself together and wrote the text again.... I want to learn this stuff, and I for sure have now.... That five-paragraph stuff...”

One explanation for this readiness to ‘do the work’ is potentially a mis-match between the student’s self-efficacy and performance. The student was disappointed in that the first text did not meet the required standards, and clearly found that they had the capacity of doing a better job. In the words of the student:

“I was disappointed with myself really...”

This shows the importance of giving the feedback during the process, and not at the end. For one: if the feedback, and assessment had been given at the end, there is a chance that the student may have been broken. However, with the formative assessment, the student was given a chance to improve. In other words, from the student’s perspective, the feedback from the teacher is relevant when it is timed so that the students may make use of it to improve a current task. What is perhaps even more interesting is that student #3 did pick up some of the

new ideas about structure introduced in the task, and in the formative assessment. In the interview, Student #3 claimed:

“I definitely know how that five-paragraph stuff works now.” And upon the question from the teacher: “So would you use it again” Student #3 answered “Definitely”.

Still, the student did not. One explanation for this failure may be that the structure introduced was still too new to the student, and potentially also that the idea of using feedback across assignments was new. Gamlem & Smith (2013), for example, found that practice is required for students to use information from one situation to solve another (Gamlem & Smith, 2013).

So, the lack of double-loop learning in the case of student #3 may be related to *the type* of problems this student received feedback on, i.e., on structure. A longitudinal study across several years might have answered this for Student #3 and would also have revealed more about the process of double-loop learning.

A speculation is that it is likely that the double-loop learning process is similar to the famous U-shaped process in second language acquisition: For second-language acquisition, Ellis (1997) found a U-shaped course of development where learners who were initially able to use a correct form, regressed later, before finally using the structure according to the target language norms (see e.g., Doughty & Long, 2003). At issue in this case is that it requires time and effort on the student’s part to work out structure in the five-paragraph essay works – the rules of the game. In other words, the uptake of feedback on the September text might be evident at a later stage for Student #3, for example in the assignments following the December text – even if the student did not seem able to use the input on structure on the September text in the December text and despite the student’s confident utterance in the interview after the September text that they knew “how that five-paragraph stuff works now” . In sum, this means that Student#3 might be in the initial stages of double-loop learning even though evidence of such was lacking in this study.

Student #4

Student #4 improved the text in the rewrite of the September text and hence showed signs of single-loop learning. The December text was also in compliance with some of the feedback from the September text, which means that the student showed evidence of double-loop learning as well. The feedback in September had focused on formality of language and this was remedied in both the rewrite and in the December text.

Still, Student #4's December text lacked in areas where the student had shown competence in September. Interestingly, the area in which Student #4 did not perform as well in the December text as in the September text was structure, which we have seen was difficult also for Student #3. For Student #4, the September text had a suitable structure for an academic text in September, but not in the December text.

One explanation for this may be that the student lacked autonomy with regard to academic text structure. For the September text, the assessment set-up included both a model text and formative assessment, and Student #4 was able to draw on these to improve their text, also for structure in the interviews, it was clear that the model text had served a particularly useful role in this regard. That is, Student #4 said that they had used both teacher feedback and the module text in rewriting their draft one, but reading the module texts had been more helpful than the teacher's feedback:

"I wrote it a little better after the comments, but when I read the really good text, I saw that mine wasn't so good anyway and I rewrote it."

In making the type of judgments indicated in the quote above, Student #4 shows Carless & Boud (2018) call *student feedback literacy*; the student is capable of appreciating, evaluating, and following the feedback that is given to them (Carless & Boud, 2018). This then indicates that the student is able to analyse their own learning process and is thus evidence of double-loop learning.

For the December text, in contrast, no opportunity for formative assessment was given, and Student #4 would have needed to draw on previous feedback, which may not be accessible to the student yet. That is, Student #4 seemed independent in terms of developing their formal register for academic essays, but not in terms of the attending to academic genre expectations on structure. Failing to comply with text requirements for structure when such requirements were not emphasized by the teacher or by model text may be thus a sign of student dependency.

That is to say: Student #4 show feedback literacy but may still be what Beaumont et al (2011) talk about as 'student dependency' with regard to certain areas of text production. To explain, Beaumont et al. (2011) claim that feedback on draft submissions may create "student dependency" meaning that the student depends on comments from the teacher to improve their work (Beaumont, O'Doherty and Shannon 2011, p. 681). The LK20 aims to redeem such dependency through in-depth learning "When students understand their own learning

processes and their professional development, it contributes to independence and a feeling of mastery” (my translation, LK20, “Vurderingspraksis”). Student #4 shows this ability in the rewriting of the September text, and in following advice from the September text on formal language use in the December text, and also in making use of the model text, but not in drawing on the guidance on structure provided by teacher comments and the model text in September on the December text.

One explanation for the lack of double-loop learning in terms of structure may in fact be that the teacher feedback on structure was sparse in September. Feedback can be understood as “a process through which learners make sense of information from various sources and use it to enhance their learning strategies” (Carless & Boud, 2018, p. 1). This involves emphasizing the students' role in using feedback to create meaning (sense-making) and is something more than the teacher informing a student about strengths, weaknesses and how to improve. In the interview (quoted above), it became obvious that Student #4 relied more on the model text to make sense of the requirements for structure than the teacher comments, and it is possible that double loop learning was hindered by this. The student may very well have understood the model text as uniquely useful to the September assignment. Thus, to achieve double-loop learning regarding how to structure text, more explicit teacher comments on structure may have been more useful to the student.

However, my comments on structure in the September assignment were scarce. As described, the first assignment was conducted early in the school-year. A solid student-teacher relationship had not been built at this point. This might have influenced my comments to Students #4. As I did not yet know how motivated this student was for further schoolwork, I assumed that a few comments would suffice. As described earlier in this thesis, my thinking here was in line with Ramaprasad (1987) who argues that effective feedback should not overwhelm the student but focus on few aspects of the work (Ramaprasad, 1987), so the student does not become overwhelmed. However, in the interview, it became clear that student #4 would have been able to handle more detailed and comprehensive feedback. In the words of Student #4:

“I like when it (THE FEEDBACK) says a lot because then I know what I can and cannot do...”

So, for Student #4 more comprehensive feedback on the September text may have yielded different results for the December text. It can also be observed that the observation that some

students can handle quite a bit of feedback correlates with findings by Leki (2006), referred to by Hyland & Hyland (2006). Leki found that students reported that they found feedback very useful, and that many also said they would have liked even more feedback (Hyland & Hyland p. 10).

Student #8

Student #8 did not show evidence of single-loop learning in the September task but did so in the December text. I regard this as an example of both single- and double-loop learning, although the evidence of the learning was only visible in the December text.

In line with Carless (2018, p. 706), who states that a feedback loop is only closed if the feedback leads to actions, it may of course be argued that the feedback loop was not closed for Student #8 in the September task. As described earlier, if the gap between current and desired abilities is not altered, the given comments become mere information rather than feedback (Carless, 2018). In slightly different terms: if information is passed to a student who does not have the competence to act on the information, the learning loop is incomplete (Sadler, 1989).

However, there were signs that Student #8 did in fact take in the feedback on the September task since they followed the expected academic structure required for that text in the December text although they had not done so in the September text. In other words, the results for the December text show that the student complied with the initial feedback given on the September text and thus show signs of double-loop learning.

The question then becomes why the student did not make any changes in the September text, if, as assumed above, they in fact understood the feedback. Some potential explanations for this are suggested in Student #8's reflection note and interview. One explanation may quite simply be the student was not motivated to improve the September text. The reflection note showed that the student was highly ambitious and viewed their own competence "above average". Further, in the interview it became clear that the rewriting task did not seem challenging to Student #8 as the initial feedback from the teacher indicated that the text was "above average" and that prior results had indicated the same. The student said: "I thought I did pretty good".

Hence, rewriting the text may have seemed like a waste of time because the text was already as expected in the student's mind. If so, my initial feedback to Student #8 failed to motivate for further work on the text. What should be kept in mind here is that a teacher needs to

supply every student with tasks that are both ambitious and manageable for the student. Focusing on formal instructions that seem minuscule to the student, may in fact be demotivational. Dörnyei claims that negative factors in the classroom may diminish motivations, and that such factors may well be the teacher (found in Gass, 2013). According to Gass (2013) "...we try hardest for things we consider challenging but not nearly impossible." (p. 458).

Another possible explanation may be that the form of initial feedback was unfamiliar to the student. The student asked for rubrics in the initial task, and in the interview, it became clear that the student had developed strategies for tending to feedback articulated through rubrics, as evident in the following quote:

"I look though them and at what I have done well and not. I mainly look for what I can improve."

Clearly, attending to rubric was part of this student's feedback literacy. As part of seeking to understand teachers' conceptions of quality, a strategy of copying and pasting assignment guidelines and rubrics in essay drafts was something they had done earlier. They said it could help to self-evaluate work-in-progress against the stated requirements. The strategy of combining comments with rubrics is also known in the literature. Hyland & Hyland (2006)., for examples, sites Arndt 1993; Hedgcock & Lefkowitz 1994 who say that "...students like to receive written feedback in combination with other sources" (p. 9).

Student #9

Student #9 showed evidence of both single- and double-loop learning. This student seemed work strategically with feedback, and thus possess feedback literacy. A persistent theme in the student's reporting in the interviews was their strive to understand teachers' expectations for assignments. This correlates to Sadler's (1989) first condition for effective feedback, and Ramaprasad's (1983) second condition, namely that students wish to possess a concept of the standard being targeted.

Student #9 reported that the feedback on the first task helped to understand which part of the text had to be elaborated or clarified. According to the student "It was hard to follow the five-paragraph stuff, but when you told me what I needed to do, it was ok"

We can take from this that Sadler's and Ramaprasad's requirements for effective feedback were met, and the student acted accordingly. The feedback-loop was closed and evidence of single-loop learning established.

Despite being feedback literate, however, there were also some signs that Student #9 was dependent on feedback to make changes, i.e., what Beaumont et al (2011) refer to as 'student dependency' (see the discussion above regarding Student #4, p.) In the interview with Student#9, the student said that they did not necessarily make any changes in the text in the parts of the text that had not been commented on by the teacher. They assumed that the teacher would comment on issues that needed to be changed to improve the text. This is an example of student dependence, although when prompted by the teacher that they would in fact not make any changes in the parts of the text that were not commented on, they modified their answer:

"No, I don't think so. I would think that it was OK. Or.... ehm, if I saw something spelled wrong, I probably would correct it. But I wouldn't if I didn't see it...."

In this example Student#9 shows great dependence which might hinder the student's further development of self-efficacy. Lauvås, for example, claims that the effects on students' metacognitive control are more important than the goals of any one task (Lauvås, p. 193), and if the student is unable to self-assess the parts of the text where there are no comments, this may be a sign that the student does not have metacognitive control independent of prompt.

Still, Student #9 did seem to comply with the feedback given on the September in the December text. This indicates long-term effect and double-loop learning, and also sufficient metacognitive control of the areas comment to last across assignments. Student #9 thus lends support to the advice for effective feedback used in this study and also to Argyris' (1990) claim that double-loop learning follows from single-loop learning.

Summary of discussion

The findings show evidence of single-loop learning for all the participants, but double-loop learning is only indicated for some. To explore potential explanations for why double loop learning may or may not take place four of the participating students have been discussed in detail, and these discussions have highlighted distinct explanations, different for each of the

students. Based on this result, I would claim that to meet the demands for in-depth learning posed in LK20, feedback must be individualised. One size does not fit all.

The overarching part of the LK20 curriculum emphasizes the importance of facilitation for in-depth learning to help the students develop the skills they need for a rapid changing future.

The following passage underlines this focus: “The values of the training must characterize in-depth learning processes to develop good attitudes and judgments, and the ability to reflect and critically think and to make ethical assessments.” (My translation, Utdanningsdirektoratet, 2019) This entails that the education should make room for reflection of one own’s learning and prepare students to “use what they have learned in different ways, in known and unknown situations, alone or with others.” (My translation, Utdanningsdirektoratet, 2019). One of the key insights from the research I have conducted this last year and present in this thesis is that my assessment and feedback practice could be better designed to accommodate this demand.

In the model “Model of long-term student engagement with feedback” (Carless, 2018, p. 712) Carless describes the long-term learning process as a spiral with a series of cycles “building on student engagement with previous feedback” (p. 713). The idea that single-loop learning has cumulative impact on double-loop learning is consistent with the findings of my research. However, what was not clear to me at the outset, but was made clear by the findings of this study, in particular the in-depth study of the four students is that double-loop learning processes are individual and that assessment hence must be individualized to accommodate each student. In line with action research methodology, where the process of critically examining one own’s practice should be supported with a plan for improvement of the same practice, the next chapter in this thesis includes a plan for how I wish to address the findings from this study in my future teaching.

LESSONS LEARNED

Drawing on the findings from this study, I would like to propose an assessment design that I find have better chances of promoting double-loop learning for my students.

As will be evident further down, I will make some additions to the feedback design used in this study, but I will also keep some of it. My study has shown that Ramaprasad's criteria for effective feedback work well on single-loop learning outcomes, and in my improved practice I will therefore use the same criteria to enhance double-loop learning, but I will need to focus more on each student's learning process. Adapting Ramaprasad's criteria for effective feedback on in-depth learning may hence be along the lines of:

- First: Focused on one, or few, feature(s) of the learning process: the student's reflection, motivational factors and/or student dependence. The goal is to understand why they have done what they have done.
- Second: Be relevant – help the student in their progress
- Third: Be mutually understood - both the student and the teacher must recognize where the student is in their learning progress. This supports the argument of keeping the feedback dialogue-based, as misunderstandings and misconceptions are better remedied through dialogue than through monologue.

As indicated in the third bullet point, one important addition in my improved feedback design is the addition of dialogues. That is, I will continue to plan assessments and feedback in cycles, but I will include individual dialogues with all students in addition to the subject-specific assessments. Each cycle will include a variety of single-loop subject specific learning assignments, and individual dialogues. The aim of the dialogues is to monitor the accumulative effect of the single-loop tasks and modify succeeding cycles to accommodate each student's learning progress to ensure double-loop learning. The addition of dialogues is in line with Argyris & Schön's (1978) recommendation to include inquiry-based dialogue to enhance double-loop actions. Such dialogue should question the validity of underlying assumptions and beliefs regarding the action (Cartwright, 2019).

Further, in-depth learning, as defined in the curriculum, is about the student gradually developing knowledge and lasting understanding of concepts, methods, and contexts in subjects and between subject areas. In the words of Kunnskapsdepartementet: "This means

that we reflect on our own learning and use what we have learned in different ways in known and unknown situations, alone or with others" (my translation, Kunnskapsdepartementet, 2016). A feedback plan to enhance double-loop learning must therefore give room for dialogue between the teacher and student to modify goals and plans but also to find the best balance between motivation and attitudes.

Hopefully, the dialogues will also make it possible to change the assessment design in line with Lauvås' recommendation that teachers should think of themselves as coaches. Lauvås (2019) looks to sports and sport coaches to find new inspiration on how to conduct assessments and feedback more effectively. He suggests that students will be more involved in school if teachers take on the role of a coach, more than an evaluator. Lauvås says that involved students are better suited for the future demands of society (p. 64). Students' involvement is also crucial in both Ramprasad's and Sandler's conditions for effective feedback.

Including individual dialogues allows for student's involvement in their own learning process. Lauvås (2018) refers to Race (2011) in suggesting that comprehensively involving students have important motivational factors, it reduces student-dependence and may remedy insufficiency in feedback (p.193). Periodically planned conversations focused on each student's learning process are hence pertinent to enhance the efficiency of ant teaching. I plan to implement the following yearly plan for double-loop learning in my future teachings:

WHEN	WHAT	WHY
Early September	Dialogue between teacher and student	To raise awareness of the values and motivation of each student
November	Dialogue between teacher and student with focus on student's reflections	Acknowledge process and set goals for the near future
January	Dialogue between teacher and student with student's reflections on own progress	To promote double-loop learning Review the results from previous tasks, set goals for the future and make a plan for progress
March	Dialogue between teacher and student	Review the learning process so far and set goals for the future
May	Supportive tasks	Additional tasks to close the double-loop if necessary

McKay (2010) says that action research should be aimed at changes (McKay, 2010). Stringer (1999) claims much of the same and describes action research as seeking to create knowledge, propose and implement change, and improve practice and performance (Stringer, 1999). With action research being the frame and goal for the research conducted for this Master thesis, I conclude that I will modify my classroom practices based on my findings and lessons learned from this research.

Limitations of this research

The greatest shortcoming of this research is its failure to provide clear answers to the research question: “Is there indication that feedback on a written single task, designed in accordance with current *best-practice advice* regarding effective feedback, leads to 1) successful changes in the students’ text and 2) in-depth learning?”

One reason for this shortcoming is the scope of the study. As being the end of a master’s degree, this thesis was bound by time and range. The research design and method were planned for in the first semester of working with this thesis, the execution of the research took place in the second semester, and the analyses and writing took place in the third semester. A new round of interviews after phase three would have been interesting, but the timeframe and scope of the research did not allow me to include this. This deems the results uncertain as the triangularisation from phase one and two is lacking in phase three. The findings in phase three are based on text analyses alone, and that does not comply with the requirements for valid and reliable research.

Another shortcoming may be found in the choice of using Action Research as method. In Action Research the researcher should also be a practitioner. This contradicts traditional scientific research where distance between the practitioner and the researcher is valued to eliminate value-charged research based on attitudes from either part (Hess & Mullen 1995). Traditional scientific research is very strict regarding this point. As I have acted as both researcher and practitioner in this study, the findings do not meet the standards of unbiased scientific research (Hess and Mullen, 1995).

The third possible shortcoming lays in the choice of theoretical background. The model of single- and double-loop learning was introduced in the 1970s; Ramaprasad published his theory of effective feedback in 1983; and Sadler had published his even earlier, in 1978.

Using theories from the last century might seem irrelevant and outdated for a master's degree in 2022. In the other hand, the notions of circularity in Argyris and Schön's model rings true and meaningful when it comes to feedback-loops and in-depth learning, which are currently hot topics in educational research, and the effectiveness of both Ramprasad's and Sadler's theories have stood the test of time.

It may also be argued that the premise of Argyris and Schön's Action Model (1978) rests on assumptions that learning is "detection and correction of errors" (Robinson, 2001), which is an assumption that has been found insufficient. Still, I find that their theory is highly acclaimed and referred to in both educational and organizational research.

[Suggested future research](#)

One of the main insights of this study is that longitudinal research projects are necessary to shed light on how students make sense of feedback and use this in their learning processes. To date, however, longitudinal studies on effective feedback in Second Language Acquisition rarely span more than one semester (Hyland and Hyland, 2006), which is a challenge when studying long-term and double-loop learning. Clearly, such research would require a greater time span than what I have had at disposal for this thesis. For example, we have seen that it is difficult to determine how a double-loop process unfolds when the time-frame is limited. Put differently, a demonstration of how a student can utilize teacher feedback to successfully edit one draft of a paper to the next gives sparse information on how and what the student has gained long-term.

Studies on what consequences the implementation of learning outcomes aiming for in-depth learning have for classroom practices in Norwegian education are likewise meagre, although I have found a few recent dissertations which propose actions in such regards. As in-depth learning is one of the main requirements of Norwegian education with the implementation of LK20, however, studies on how to best achieve in-depth learning are prerogative. Thus, such research will hopefully be pursued in a number of PhD projects in the future.

CONCLUSION

The importance of useful feedback and assessment for increasing student learning served as the starting point for the research presented in this thesis. The teaching plans for Norwegian education (LK20), define assessment as mandatory for all students in primary and secondary education and formative assessment is to be given during the school year as a complement to the summative assessment given at the end of the school year (Utdanningsdirektoratet, 2020). Simultaneously, the teaching plans states that the main desired outcome of education is in-depth learning. In this thesis, formative single task assessments are equated with single-loop learning, and in-depth learning is equated with double-loop learning as it focuses on learning strategies and long-term effects. Thus, the purpose of the study was to shed light on the effectiveness of feedback and feedback processes on Norwegian upper secondary students' written production on English when this feedback is designed in line with current theories of effective research.

The focus on written production permeates English lessons in Norwegian schools and writing skills have been the core of this research. The specific aim of my study was to explore if effective feedback on single tasks lead to in-depth learning for my students.

The results show that effective feedback yields short-term effects on student learning, but that further studies and research is pertinent to understand more about why and how long-term effects may be achieved. A holistic approach to formative assessment with a yearly feedback plan has been offered at the end of this thesis, but the scope of this thesis does not allow for a detailed discussion of the plan.

A key insight from my study is that as a consequence of implementing in-depth learning in the LK20, my class-room practices must be altered and changed to accommodate the new demands. My research underlines that individual assumptions and values – both on the part of the student and the part of the teacher - affect the possibility for double-loop learning, and hence such learning requires tailored feedback and task design. I believe that student involvement is essential in achieving such tailoring and have therefore suggested a dialogue-based feedback plan to support my students' in-depth learning.

Research shows that the quality of teachers is one of the most important factors for students' learning (Hattie, 2009; Nordenbo et al., 2008). Price et al (2012) (found in Steen-Utheim, 2019 p. 15) defines assessment literacy as the ability to design, apply and evaluate

assessments. Stiggins (2014) says assessment literacy is a prerequisite for being a teacher. The ideas are that if teachers cannot measure what they teach effectively, they will not be able to help students develop themselves. Irrecusably, teachers must be up to date on educational reforms and relevant pedagogical competence to stay assessment literate. In line with action research goals, this thesis has given me the opportunity to critically assess my own practice and as a result my assessment literacy has improved tremendously. I believe myself to be a better teacher because of it.

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[Meldeskjema](#) / [Teacher Feedback and student actions](#) / Vurdering

Vurdering

Referansenummer

944099

Prosjekttittel

Teacher Feedback and student actions

Behandlingsansvarlig institusjon

Høgskolen i Østfold / Fakultet for lærerutdanninger og språk / Institutt for pedagogikk, IKT og læring

Prosjektansvarlig Lene Nordrum**Student**

Hege Astrup Sannum

Prosjektperiode

01.01.2021 - 01.07.2022

[Meldeskjema](#) 

Dato

21.09.2021

Type

Standard

Kommentar

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg 21.09.2021
Behandlingen kan starte.

DEL PROSJEKTET MED PROSJEKTANSVARLIG

Det er obligatorisk for studenter å dele meldeskjemaet med prosjektansvarlig (veileder). Det gjøres ved å trykke på "Del prosjekt" i meldeskjemaet. Om prosjektansvarlig ikke svarer på invitasjonen innen en uke må han/hun inviteres på nytt.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 01.07.2022.

LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER

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

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen •
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet medprosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

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

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

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

FØLG DIN INSTITUSJONS RETNINGSLINJER

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

<https://meldeskjema.nsd.no/vurdering/612e3af8-0778-407e-afe0-12ee4004540f>

1/2

16.06.2022, 13:02

Meldeskjema for behandling av personopplysninger

(art. 5.1. f) og sikkerhet (art. 32).

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

MELD VESENTLIGE ENDRINGER

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

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

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet i tråd med den behandlingen som er dokumentert.

Kontaktperson hos NSD: Olav Rosness, rådgiver Lykke til med prosjektet!

<https://meldeskjema.nsd.no/vurdering/612e3af8-0778-407e-afe0-12ee4004540f>

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APPENDIX B

Write an argumentative essay. Choose topic A or B or C:

1. Should 16-year-olds be allowed to vote in state elections?
2. Why environmental issues are paramount in this year's election. NB! In this task you may replace "environmental issues" with the topic you studied in your expert group.
3. Why misinformation is a threat to democracy.

Your essay should be between 300 and 1000 words and must be written as an academic essay. Use the five-paragraph structure, properly cite your sources, and use formal language.

APPENDIX C

INTERVJUGUIDE for Masteroppgave

«Teacher feedback and student actions» av Hege Astrup Sannum

Innledning:

Kort om hvordan eleven har opplevd prosjektet.

Bakgrunnsspørsmål:

Spørsmål om elevens arbeid med siste utkastet til tekst. Hva har eleven gjort for å forbedre det siste utkastet.

Utfyllende informasjon:

Spørsmål om hvorfor eleven gjorde endringene. Formålet er å få konkrete eksempler, ikke generelle betraktninger.

Her ønsker jeg å finne ut om eleven har gjort endringene «fordi læreren sa det» eller om de selv ser at teksten blir bedre ved å gjøre endringene.

.

Avslutning:

Hvordan ser eleven for seg fremtidig arbeid med tekst, og fortelle kort om veien videre i prosjektet.

Nb! Metoden er kvalitativ, så andre spørsmål med relevans til prosjektet kan legges til.