Investigating the Vocational Orientation (VO) Approach

A Qualitative Study of VO as a Didactic Approach to Teaching and Learning English in Upper Secondary Vocational Education in Norway

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Summary

This article-based thesis investigates the vocational orientation (VO) approach to the teaching and learning of L2 English in Norwegian upper secondary vocational programmes. The thesis defines VO as a didactic approach that systematically integrates general and vocational content for the purpose of teaching general subjects. It responds to a gap in educational research concerning didactic approaches tailored to the teaching of general subjects in vocational education. More specifically, it investigates how, on the one hand, teachers view, understand and make use of VO teaching, and on the other hand, how students interpret and respond to the VO approach. It also investigates classroom practices.

The study can be described as a multi-site and multi-method (Teddlie & Tashakkori, 2003) qualitative study with exploratory features (Patton, 2015; Stebbins, 2001). It utilised a strategically selected sample consisting of 10 vocational English classrooms in 10 schools across western and eastern Norway. It drew from three qualitative data sources: individual teacher interviews (10 interviews), group interviews with students (13 interviews involving 50 students) and classroom observations (10 VO trajectories in 10 classrooms, for a total of 46 hours and 20 minutes of observation). Altogether, 10 teachers and 132 students participated in the study.

This thesis includes three empirical articles. Article 1 reports English teachers' views on and experiences with VO teaching. The study found that teachers used VO to create what they perceived to be a better fit between L2 English instruction and the target group of vocational students. They viewed VO as a didactic approach that adapted the teaching of general L2 language skills to fit the student group rather than as a way to teach work-related English. They did, however, describe work-related vocabulary instruction as a priority. The teachers believed that VO teaching would increase students' engagement with L2 English and support their learning. However, they also identified some challenges to successful VO teaching. These challenges were related to the need to become familiar with the vocational programmes, issues with collaboration, demotivated students and a lack of quality learning materials.

Article 2 investigates vocational students' views of factors in the learning environment that influence their engagement in L2 English lessons. It utilised interview data from 13 group interviews with vocational students in Norwegian secondary schools. The study identified three factors of particular importance for student engagement: vocationally relevant content and learning outcomes, active ways of learning (including collaborations and groupwork) and teachers who balance support with autonomy and succeed in making students feel noticed. The findings support the assertion that VO teaching promotes vocational students' engagement in English lessons but also demonstrate that other factors—namely, classroom activities and teacher support—play a central role.

Article 3 utilises classroom observations to examine the vocabulary instruction that occurs as part of VO teaching. The study found that vocabulary work was highly present in VO teaching in 8 out of 10 classrooms in the sample and that it occurred across instructional formats (whole-class, group/pair work and individual work). The study identified many instances of L1–L2 translations and described how target words were typically studied in isolation. It concluded that within a VO frame, vocabulary teaching practices would benefit

from increased attention to language production and to a type of competence that traverses contexts, such as communication and learning strategies.

In sum, the thesis concludes that VO can have a favourable impact on English teaching and learning in vocational study programmes. It also demonstrates how VO functions as a didactic approach to stimulate vocational students' engagement with—in this case—English language learning. It concludes that VO can make a substantial contribution to student engagement but warns against prioritising students' *perceptions* of relevance at the expense of a relevant learning outcome. Furthermore, it serves as a reminder that VO teaching requires the same thoughtful consideration and planning as any other type of teaching to be successful.

Sammendrag

Denne artikkelbaserte avhandlingen undersøker yrkesrettet engelskundervisning i de yrkesfaglige utdanningsprogrammene i norsk videregående skole. I avhandlingen defineres yrkesretting som en didaktisk metode som systematisk integrerer generelle og yrkesfaglige aspekter i undervisning av et fellesfag. Studien er et bidrag til et lite utforsket felt, nemlig forskning på undervisning av fellesfag i yrkesfaglige utdanningsprogrammer. Mer spesifikt undersøker avhandlingen hvordan lærere betrakter, forstår og benytter seg av yrkesretting i engelskfaget, og hvordan elever tolker og reagerer på deres tilnærminger. I tillegg undersøkes klasseromspraksiser.

Studien er en kvalitativ studie med klare utforskende trekk (Patton, 2015; Stebbins, 2001). Den benyttet et strategisk utvalg bestående av 10 yrkesfaglige engelskklasserom fordelt på 10 skoler på Vest- og Østlandet og tre datakilder: individuelle lærerintervjuer (10 intervjuer), gruppeintervjuer med elever (13 intervjuer, 50 elever) og klasseromsobservasjoner (10 undervisningsforløp i 10 klasserom, totalt 46 timer 20 minutter med observasjon). Til sammen deltok 10 lærere og 132 elever i studien.

Avhandlingen innbefatter tre empiriske artikler. Artikkel 1 omhandler engelsklæreres syn på og erfaringer med yrkesrettet undervisning. Studien fant at lærere brukte yrkesretting for å skape et engelskfag som de mente var bedre tilpasset yrkesfagelever. De oppfattet yrkesretting som en didaktisk tilnærming for å lære bort generelle engelskferdigheter på en tilpasset måte, heller enn en metode for å undervise arbeidsrelatert engelsk. De uttrykket imidlertid at de prioriterte yrkesrelevant vokabularundervisning. Videre mente lærerne at yrkesrettingen støttet elevenes læring og økte deres engasjement i engelsktimene. De oppga også noen utfordringer. Disse var knyttet til behovet for å bli kjent med elevenes yrkesutdanninger, og problemstillinger knyttet til lærersamarbeid, demotiverte elever og mangel på gode læringsressurser.

Artikkel 2 undersøker yrkesfagelevers syn på faktorer i læringsmiljøet som påvirket deres engasjement i engelsktimene. Den benyttet intervjudata fra 13 gruppeintervjuer med yrkesfagelever i norsk videregående skole. Studien fant at tre faktorer var av særlig betydning for elevengasjement: yrkesrelevant innhold og læringsutbytte, aktive måter å lære på, inkludert samarbeid og gruppearbeid, og lærere som balanserer støtte med autonomi og som 'ser' elevene. Funnene støtter påstanden om at yrkesretting fremmer yrkesfagelevenes engasjement i engelskfaget, men at også andre faktorer, som arbeidsformer og lærerstøtte, spiller en sentral rolle.

Artikkel 3 bruker klasseromsobservasjoner for å studere yrkesrettet vokabularundervisning. Studien fant at vokabularundervisning utgjorde en stor del av den yrkesrettede undervisningen i 8 av 10 klasserom i utvalget, og at det forekom på tvers av undervisningsformater (helklasse, gruppe-/pararbeid og individuelt arbeid). Studien identifiserte mange tilfeller av oversettelse mellom norsk og engelsk, og beskrev hvordan ord ofte ble studert i isolasjon, som gloser. Den konkluderer med at innenfor rammen av yrkesretting kan vokabularundervisning dra nytte av økt fokus på elevers språkproduksjon, og på å vektlegge kompetanse som krysser kontekster, for eksempel kommunikasjons- og læringsstrategier.

Avhandlingen fastslår at yrkesretting kan ha en gunstig innvirkning på yrkesfagelevers engelskundervisning og på deres læring. Den viser hvordan yrkesretting er en didaktisk tilnærming som stimulerer yrkesfagelevenes engasjement for— i dette tilfellet—engelsk språklæring. Avhandlingen konkluderer med at yrkesretting kan gi et betydelig bidrag til elevengasjement, men advarer mot å fokusere så mye på elevenes *oppfattelse* av relevans at læringsutbyttet kommer i skyggen. Avslutningsvis kan det nevnes at arbeidet minner oss på hvordan yrkesrettet undervisning ikke er fritatt fra den type gjennomtenkte vurderinger og nøye planlegging som enhver type undervisning trenger for å lykkes.

Contents

Article 1

Skarpaas, K. G., & Hellekjær, G. O. (2021). Vocational orientation – A supportive approach to teaching L2 English in upper secondary school vocational programmes. *International Journal of Educational Research Open*, *2-2*. https://doi.org/10.1016/j.ijedro.2021.100064

Article 2

Skarpaas, K. G. (2022). *'It's Really Cool to See That English and Our Vocational Subjects Are Connected'*: A Study of Factors in the Learning Environment that Influence Upper Secondary Vocational Students' Engagement in L2 English. Under review for *Scandinavian Journal of Educational Research*

Article 3

Skarpaas, K. G., & Rødnes, K. A (2022). Vocabulary Teaching Practices of L2 English in Upper Secondary Vocational Classrooms. *Languages, 7*(1), 1–21. https://doi.org/10.3390/languages7010055

Part I: Extended Abstract

1 Introduction

In Norway, secondary vocational education is intended to provide professional qualifications relevant to specific vocations, trades or industries. However, in many traditional vocations, reading and writing activities have become increasingly important (Karlsson, 2009; Nylund & Rosvall, 2016), and the need for lifelong learning has also been growing (Ministry of Education and Research, 2012, 2015; NOU 2008:18). This development, which is an increasing trend worldwide (see for example Brockmann et al., 2008; Hampf & Woessmann, 2017; Powell & McGrath, 2019; Wheelahan, 2015), necessitates that vocational education combines occupationally relevant skills, competence, and knowledge, with general competence in for example literacy, numeracy, and learner autonomy, to properly prepare students.

For this reason, curricula for the school-based component of secondary vocational education usually combine vocational instruction and training with subjects that have a general academic nature (Hiim, 2017; Sweet, 2010). The ways in which such general subjects (or contents) are incorporated into the curricula vary substantially from system to system (European Centre for the Development of Vocational Training, 2019; Grubb, 2006). In Norway, they are taught as separate subjects. A challenge then, is that the number of discrete subjects may result in low programme coherence (Dahlback et al., 2011; Heggen et al., 2015; Hiim, 2013, 2017). Therefore, in Norway and elsewhere, a recurring concern regarding secondary vocational education is how to improve integration and coherence between general and vocational content knowledge.

This doctoral project is concerned with English language teaching in vocational programmes. In Norway, the English language is used everywhere, being an integral part of teen culture (Brevik, 2016; Brevik & Holm, 2022; Rindal, 2014). The Norwegian population has a high level of English language proficiency, and the country routinely ranks as one of the top five countries concerning L2 English language skills (Bonnet, 2004; EF Education First, 2021). As a small language community with an export-oriented economy and considerable labour import, workers in almost all fields need to communicate with speakers of other languages. In most cases, they will use English. Therefore, English use is not restricted to university graduates, but extends to workers with secondary vocational education who must also be prepared to utilise English for work (Rørstad et al., 2018; TNS Gallup, 2016).

The issues I have outlined in the three preceding paragraphs form the backdrop of this thesis, in which I investigate the teaching of L2[1] English as a general subject in vocational upper secondary programmes in Norway. More specifically, the thesis is concerned with a particular teaching approach known in Norway as *yrkesretting*. In this thesis, I will refer to this approach as *the vocational orientation (VO) approach*. In Sections 1.2 and 1.3, I will further elaborate on what the VO approach entails.

[1] I refer to the English subject in Norway as *L2 English* to signal that English is an additional language that defies classification as either a second or a foreign language. See Rindal & Brevik (2019) for a more detailed discussion.

1.1 Overarching Aim and Research Questions

My doctoral project involves the study of the VO approach in the context of L2 English teaching in Norwegian upper secondary vocational programmes. VO is considered a didactic method, in line with the European tradition of using *didactics* as a term that encompasses the practice of planning, carrying out, evaluating and improving teaching (Simensen, 2018). On one hand, I have investigated how teachers view, understand and make use of VO teaching, and on the other hand, I have investigated how students interpret and respond to the approach. I have also observed instruction. Although this project was not designed to assess the quality of participating teachers' VO practices, it will describe differences in their approaches and discuss didactic opportunities based on the views of teachers and students in the project.

To understand the phenomenon that is VO in the Norwegian school system, I have chosen to conduct a qualitative study that comprises interviews and classroom observations from 10 different, strategically chosen school settings. The results are combined to illuminate the VO approach from three perspectives: teachers' experiences, students' experiences and classroom practices.

The following overarching research question guides the project: *What role does the VO approach play in the teaching and learning of L2 English in secondary vocational education in Norway?* To illuminate this from the aforementioned three perspectives, I formulated the following research questions:

1. What are English teachers' views of and experiences with VO teaching?
2. What role does VO teaching play in vocational students' descriptions of English teaching in upper secondary schools?
3. How is VO teaching implemented in English classroom instruction?

The research questions largely correspond to the objectives of Articles 1–3.

1.2 Defining VO

In Norway, a common definition of *the VO approach* is as follows:

> A vocational orientation of the general subjects entails that the subject matter, learning methods and vocabulary used in the teaching of the general subject should be relevant for the individual student's vocational practices to the greatest extent possible. Vocational orientation involves explaining how competence in a general subject is used, and useful, in the learning of vocational subject matter and for the vocational practices within relevant vocations (NOU 2008:18, p.80; my translation).

The Norwegian FYR project,[2] which has been a key initiative with regard to developing teachers' VO competence (see Section 1.3), used a definition of VO similar to the previous one; however, it added the following section:

> The competence aims[3] of the general subject will be interpreted in the context of competence aims of the students' vocational subjects. Further, subject matter and

[2] The acronym FYR is the short form of *Fellesfag, yrkesretting, relevans-prosjektet,* which in English translates as *General subjects, vocational orientation and relevance.* It was as a nationwide project (2010–2016) first led by the Ministry of Education and Research and then by The Norwegian Directorate for Education and Training, aimed at improving the vocational orientation of general subjects.

[3] Competence aims are aims for the students' learning as defined in subject curricula.

> classroom activities in the general subject will be directed at the vocational subjects. Basic skills are integrated into the curricula on the subjects' own premises, and training in basic skills is therefore part of the work within the vocational orientation approach (Norwegian Directorate for Education and Training, 2014, p.5; my translation).

The aforementioned definitions of VO depict how it is commonly understood in the Norwegian school system. Their emphasis on the individual is important because the spectrum of vocational programmes in Norway is quite broad, and students in the same class may aim for different professions as they graduate. For this reason, VO teaching is, as with all teaching in the Norwegian school system, subjected to adapted teaching (Ministry of Education and Research, 2017). Furthermore, the phrase 'to the greatest possible extent' suggests that the VO approach should be a comprehensive and underlying practice throughout the school year. Nevertheless, exactly how teachers should balance VO with non-VO content has not been described. The definition also stipulates that a central concern for VO is to emphasise how general competence is 'used and useful' in vocational education and relevant vocational practices. This suggests that VO includes meta-level discussions, raising the students' awareness of how various subjects, including English and vocational subjects, work in synergy and complement each other.

The definition above mentions that a strategy for VO teaching is to read general subject competence aims in the context of vocational competence aims. This strategy is needed because while the vocational programmes are quite diverse (e.g. the technical and industrial production programme is very different from the restaurant and food-processing programme), the English competence aims are uniform for all. Thus, the addition stipulates that VO is not (only) to be operationalised at a general level (e.g. writing job applications or practicing formal language); rather the content must be adapted to specific programmes.

Finally, the definition mentions basic skills, which in the Norwegian system encompass reading, writing, oracy, numeracy and digital skills. The link between VO and basic skills can be viewed in at least two complementary ways. First, vocational content and material can be utilised to practice and develop relevant basic skills in general subjects, for instance when students utilise technical material to practice reading skills in English. Second, vocational practices may give reasons to work with basic skills. Using the English subject as an example, any activity targeting oracy can become relevant if the goal of the activity is anchored in vocational practices. A healthcare worker may, for instance, need to explain something in English to a patient. An electrician may need to interact with an English-speaking customer before doing a job. In these two examples, communication skills are important, and if students are reminded of the relevance of developing English oracy skills for work, communication tasks with even a general orientation may be perceived as promoting future work competence.

While the definition of VO provides teachers with some guidelines, it is clearly open to interpretation and variations. For this reason, a project like this one is needed to gain further insight into the operationalisation of VO as a teaching phenomenon that may be pursued in multiple ways.

1.3 Brief History of VO

At least since the 1800s, Norwegian vocational education has been in need of general or theoretical competence. Initially, developing this competence, for example in reading and mathematics, was the responsibility of the master and other craftsmen involved in the training

of young apprentices. However, in 1912, the first national night school for technical subjects was established in Norway, and the curriculum included Norwegian, mathematics and natural science as three of seven subjects. Social science was integrated into the Norwegian subject. This curriculum was revised in 1935 and remained mostly unchanged until the 1970s (Wasenden, 2001). According to Berg (2001), the term 'yrkesretting' (VO approach) originated in the 1960s in the context of mathematics and science subjects as an approach to aid students who struggled to pass the subjects. It was not considered necessary in the Norwegian subject, which was already treated as an instrumental subject serving vocational needs. In 1974–1994, mathematics and science too were classified as vocational subjects that served as instruments to learn work-related content (Wasenden, 2001).

With the 1994 reform of upper secondary education, hereby referred to as R94 (Ministry of Education, 1994), the vocational education in Norway became more uniform. Where previously there had been several different structures, the main structural model for vocational programmes now became two years in school and a two-year apprenticeship (NOU 2008:18). The reform drastically reduced the number of programmes from 110 to 13 vocational foundation courses (NOU 2008:18). Further, the reform introduced more general subjects in vocational education. English was a new addition; Norwegian and social science were separated into discrete subjects and mathematics and science were no longer defined as vocational subjects (Berg, 2001). Another novelty was the introduction of almost identical curricula across study programmes, where the main difference between vocational and general subjects was the number of learning aims. The structure introduced in R94 was retained in the educational reform of 2006, 'Læreplanen Kunnskapsløftet 2006' (hereby referred to as LK06), but with a further increase in study hours for general subjects (NOU 2008:18). In addition, it is worth mentioning that with LK06, the English subject became identical for all general and vocational programmes. The newest educational reform, 'Læreplanen Kunnskapsløftet 2020' (hereby referred to as LK20), brought additional changes in the general subjects of vocational programmes. The most significant of these was the introduction of selected vocational competence aims in the—otherwise general—curricula.[4]

In R94, VO was framed as a premise for teaching general subjects (Berg, 2001; NOU 2008:18). However, the evaluation of R94 signalled that VO was not sufficiently prioritised (Monsen, 1998). In fact, it has been argued that the use of VO decreased after the introduction of R94, and even more so with the introduction of LK06 in 2006 (Norwegian Directorate for Education and Training, 2017a). Therefore, there was a need for attention to VO in the wake of LK06 and in 2010, a principle stating that general subjects are to be adapted to students' education programmes was included in the regulations of the Education Act §1–3 (Norwegian Directorate for Education and Training, 2017a; Regulations of the Education Act, 2006). The following years, from 2010 until 2016, offered increased attention to VO in the aforementioned FYR project. After FYR's completion, the VO approach has retained a central position, not least because the newest curriculum revision, LK20, introduced vocational competence aims in general subjects and continued the legally established principle of adapting instruction to the students' study programmes.

[4] What this means for the English subject is further explained in Section 1.4.2.

1.4 The Norwegian Educational System

1.4.1 Educational Structure

In Norway, young people have the right to full-time upper secondary education and training either in a vocational education programme[5] or a programme for general studies.[6] This right is absolute, regardless of an individual's attainment in lower secondary school. Compulsory school education (Years 1–10) is mandatory for all students in Norway, while upper secondary school education (Years 11–13) is voluntary. The structure of secondary education is illustrated in Figure 1, where the blue squares depict the vocational track, and the green squares depict general studies. In addition, compulsory school education is shown in green, as it has a general orientation, whereas higher education is shown through a mix of green and blue, representing how tertiary education typically mixes general and vocational aspects.

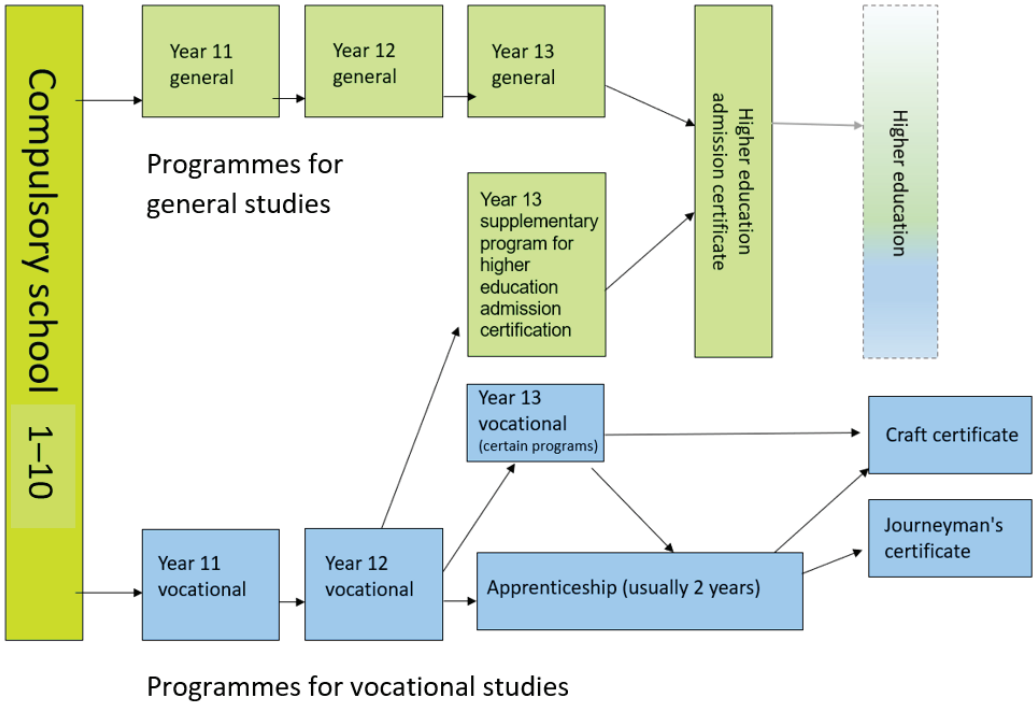

Figure 1 The structure of upper secondary education in Norway

What is not included in Figure 1 is a de-facto option to move from a craft or journeyman's certificate to selected programmes of higher education. This requires a transition from work to specific work-related university or college programmes and is called *y-veien* in Norwegian. Y-veien can be translated as *the V route*, where 'v' stands for vocational.

Approximately 98% of all lower secondary school students go on to upper secondary school, and in 2021 49% of these students started a vocational programme (Norwegian Directorate for Education and Training, 2021c). However, the percentage of students graduating on time with vocational qualifications is lower. This is because a proportion of students switch from a

[5] Vocational programmes in the current curriculum, LK20 [my translation]: Agriculture, fishing and forestry, Building and construction, Crafts, design and product development, Electronics and computer technology, Hair dressing, florist, interior- and exposure design, Healthcare, childhood and youth development, Information technology and media production, Restaurant and food processing, Sales, service and tourism, Technical and industrial production

[6] General programmes in the current curriculum, LK20 [My translation]: Art, design and architecture, Media and communication, Music, dance and drama, Specializations in general studies, and Sports.

vocational to a general track (e.g. by entering the Year 13 supplementary programme), and because more students in vocational programmes drop out than do students in general programmes (Statistics Norway, 2021).

1.4.2 English in Vocational Education

In Norway, most vocational study programmes follow a 2 + 2 model, meaning that the programmes are structured as two years in school (years 11 and 12) followed by a two-year apprenticeship. As mentioned previously, the school part of the programmes includes vocational and general subjects. The general subjects comprise English, mathematics, natural science, Norwegian, physical education and social science (Norwegian Directorate for Education and Training, 2021a) and make up 30% of the timetable. Vocational students are grouped into classes according to programmes and are usually taught all their subjects (general and vocational) in these classes.

For this project, I collected data under the national curriculum LK06. However, since the autumn of 2020, students have followed the national curriculum LK20. Hence, I will briefly account for the English subject in both curricula and urge the reader to keep in mind that some of the practical arrangements described in my articles are no longer in effect. However, it is worth emphasising that the role of VO teaching in Norway has not been reduced by any means. If anything, its role is enhanced by the LK20 revision.

Under LK06, students in all study programmes—or vocational—would follow the same English curriculum and sit for the same exam. The English subject comprised 140 teaching hours, which for vocational students were split between Year 11 (84 hours) and Year 12 (56 hours). Students in general programmes completed the course in Year 11. With LK20, certain changes were introduced. In terms of teaching hours, the subject is still 140 hours per year, but these are now studied in their entirety in Year 11, regardless of the general or vocational track. Changes have also been made to the curriculum and the exam: After the introduction of LK20, the English curriculum has 12 competence aims that are shared by all students and five competence aims that are specific to students in vocational programmes. There are also five competence aims that are specific to students in general programmes (Ministry of Education and Research, 2019). The written exam reflects the curriculum, comprising both shared and track-dependent tasks.

The shared portion of the English curriculum prioritises communicative and intercultural competence, basic literacy skills and cultural and societal knowledge (Norwegian Directorate for Education and Training, 2019). This is quite similar to the content of the LK06 version of the curriculum, where all competence aims were programme independent (Norwegian Directorate for Education and Training, 2006). The additional vocational competence aims in the LK20 curriculum are as follows:

The pupil is expected to be able to:

- listen to, understand and use terminology appropriate for the trade, both orally and in writing, in work situations
- explain the reasoning of others and use and follow up input during conversations and discussions on vocationally relevant topics
- read and summarise vocational content from English-language documentation

- create texts relevant to the vocation with structure and coherence that describe and document the pupil's own work and are adapted to the purpose, recipient and situation
- describe key features of the development of English as a language in working life (Norwegian Directorate for Education and Training, 2019)

While the abovementioned competence aims have a built-in VO mode, English teachers may choose to implement a VO strategy while teaching generalised competence aims.

1.4.3 The English Competence of Vocational Students in Norway

Although most students in Norway develop satisfactory L2 English skills in primary school (Years 1–10), students in vocational upper secondary programmes, on average, achieve poorer academic results for English compared to their peers in general programmes. For example, for the 2020–2021 school year, the average overall English achievement grade for vocational students was 3.8, while the corresponding grade for students in general studies was 4.4 (Norwegian Directorate for Education and Training, 2021b). The grades follow a scale from 1 to 6, where 6 is the highest obtainable grade. Due to the COVID-19 pandemic, the most recent written exam was held in June 2019, in which the average grade for students in vocational programmes was 3.3 and that for those in general programmes was 4.1 (same scale: 1–6). The failure rate was 5.1% for vocational students and 0.6% for students in general studies (Norwegian Directorate for Education and Training, 2021b).

1.5 Structure of Extended Abstract

The remaining chapters of the extended abstract are structured as follows. In Chapter 2, I review documents and literature that form a background for understanding the role of VO teaching in Norwegian English classrooms. Chapter 3 describes my theoretical approach and the theoretical perspectives that underpin the thesis' discussion (in Chapter 6). In Chapter 4, I present the methodology and some ethical considerations, while Chapter 5 synthesises the findings of the articles and describes how they relate to the overarching research question. In Chapter 6, I discuss the contributions of my project before highlighting some implications. Throughout this extended abstract, I will reference the corresponding articles in the order in which their analyses were conducted.

Article 1: Vocational orientation—supportive approach to teaching L2 English in upper secondary school vocational programmes; published in *International Journal of Educational Research Open* (Skarpaas & Hellekjær, 2021)

Article 2: 'It's Really Cool to See That English and Our Vocational Subjects Are Connected'. Learning Environment Factors Influencing Upper Secondary Vocational Students' Engagement in L2 English; under review for *Scandinavian Journal of Educational Research*

Article 3: Vocabulary Teaching Practices of L2 English in Upper Secondary Vocational Classrooms; published in *Languages* (Skarpaas & Rødnes, 2022)

2 Background and Literature Review

In this chapter, I review documents and studies that can elaborate on the role of VO teaching in the general subjects of upper secondary vocational education. For reasons which I explain in Section 2.2.2, I have limited my presentation to Norway and Sweden. Furthermore, I have prioritised material from 2010 onwards, as this was when VO was ratified in the Norwegian Education Act.

This chapter presents a variety of sources that provide information about VO, including policy documents, research reports, MA studies and doctoral projects. The majority of cited works are not research from scholarly journals, instead they comprise documentation that provides an overview of the role of VO in educational discourse in Norway. In my three articles, I have prioritised academic rigor and international perspectives, and in terms of topics, Articles 2 and 3 have emphasised fields outside the scope of VO teaching. Altogether, this left little room for some very important background material that I therefore decided to prioritise in this extended abstract. For this reason, and to avoid duplication, most of what I present in this chapter has not (or just briefly) been mentioned in my published work. The only exception to this is Section 2.2.1, where I summarise the international perspectives presented mainly in Article 1. Finally, it is worth mentioning that there are very few refereed studies on the VO approach (Stene et al., 2014), which is an additional, though less important, reason why this chapter mainly presents other types of sources.

The chapter is structured as follows: First, I provide a background for my study, introducing approaches to VO teaching (Section 2.1.1) and its treatment in Norwegian policy documents since 2008 (Section 2.1.2). Then, in the literature review, I summarise international research (Section 2.2.1) before concentrating on research in Norway and Sweden (Sections 2.2.2-2.2.5), including research reports commissioned by the Norwegian Ministry of Education and Research and the Swedish School Inspectorate (Section 2.2.3), an overview of findings from 40 MA theses (Section 2.2.4), and five doctoral theses that concern relevant aspects of VO teaching (Section 2.2.5). To conclude, I describe what I perceive to be the research gap concerning studies of VO (Section 2.3).

2.1 Background

2.1.1 Vocational English teaching

In vocational education in the Anglophone countries, English as a second language (ESL) is typically taught as a form of content-based instruction (Murray, 2011; Platt, 1996), that integrates vocational content with language teaching aims (Brinton et al., 1989). For students whose first language (L1) is English, the language subject is typically integrated either by embedding language learning in vocational subjects (Bak & O'Maley, 2015; Black & Yasukawa, 2011; Casey et al., 2006; Roberts et al., 2005) or by utilising a VO-type approach, where general and vocational teachers incorporate concepts from other disciplines into their curricula (Conroy & Walker, 2000; Grubb et al., 1991; Hoachlander, 1999; Quinn, 2013).

VO instruction of English as a foreign language (EFL) belongs to a wider context of language learning that emerged in the mid-1960s with the development of English for specific purposes (ESP). ESP offers an alternative to general EFL learning by utilising needs analyses to target the language of occupations and professions (Basturkmen, 2006; Hyland, 2007; Johns &

Dudley-Evans, 1991; Paltridge & Starfield, 2013). Because of its emphasis on needs, ESP can become too instrumental to be a good fit in secondary school systems and in other contexts with a more holistic approach to learning. An alternative is offered in the theoretical construct *vocationally oriented language learning* (VOLL) (Egloff & Fitzpatrick, 1997; Vogt, 2009; Vogt & Kantelinen, 2012), where language needs are seen as traversing occupational and educational contexts (Vogt & Kantelinen, 2012). The approach is suitable for combining vocational and general educational components to equip students with the skills to manage all (future) English needs (Egloff & Fitzpatrick, 1997). In its current operationalisation, VO in Norway is quite close to VOLL, but because there are some important differences between the two, I have chosen to use the term VO (not VOLL) in this thesis. Importantly, VO is a didactic approach that in Norway is used in the secondary school system and that extends to all subjects. VOLL, on the other hand, relates to a more diverse target group, including adult- and tertiary education, but is relevant for language subjects only (Vogt & Kantelinen, 2012). Further, when comparing VOLL to VO, there seems to be a difference in emphasis. The full term Vocationally oriented language learning (VOLL) places emphasis on the students' learning, suggesting that the learning outcome is decisive when calling something VOLL. The term Vocational orientation (VO), however, describes how teachers operationalise their teaching in relation to the national subject curriculum and its competence aims, in other words it is more closely related to teaching than to learning.

Finally, it could be mentioned that in terms of English language teaching, VO is distinct from *content and language-integrated learning* (CLIL). Where CLIL entails the fusion of a foreign language and a non-language subject (Coyle et al., 2010), VO is an approach to language learning through and through, with no intention of teaching vocational content (beyond that which relates to language use).

2.1.2 The Role of VO in Norwegian Policy Documents

Historically, VO was introduced as a means to support vocational students for succeeding in their general subjects. Especially since the introduction of common, general subjects to vocational programmes in 1994, the educational discourse in Norway has problematised the supposedly adverse effects of these subjects on issues such as student motivation and capacity to graduate with credentials (Berg, 2001; Iversen et al., 2014; NOU 2008:18). However, these subjects were also presented as imperative for a future-oriented education, and their introduction reflected an increased emphasis on furnishing a highly competent yet flexible workforce (Stene et al., 2014). General subjects were designed to include core skills considered necessary in all lines of work and to improve students' preparedness in the face of change. The argument was that in a world of rapid development, skilled workers must be capable of retraining to meet future needs or to deal effectively with work redundancy caused by technical or scientific developments (Ministry of Education and Research, 2008; NOU 2008:18). General subjects were also to function as a gateway to further and higher education (NOU 2008:18) and safeguard the educational principle that higher education should be open to everyone, including vocational graduates (Ministry of Education and Research, 2012, 2015). In addition, general subjects are believed to support students' democratic citizenship and contribute to social equality by giving everyone the same opportunities to develop and respond to challenges (Ministry of Education and Research, 2008, 2015; NOU 2008:18).

In today's world, completing upper secondary school is imperative for gaining stable employment (Ministry of Education and Research, 2020; NOU 2008:18). Therefore, it is a

positive development that dropout rates have declined over the past few years. Still, 22% of the students who had started upper secondary school in 2013 had not obtained qualifications after five or six years[7] (Ministry of Education and Research, 2020). Furthermore, a larger proportion of students in general studies (89.1%) graduate with credentials compared to vocational students (68.3%) (Statistics Norway, 2021). Although there is no clear answer as to why students drop out of school (Reegård & Rogstad, 2016; Thrana, 2016), one pattern seems to be that students with poor academic results in lower secondary school are much less likely to complete upper secondary, regardless of programme (Ministry of Education and Research, 2020). Therefore, while education in Norway is intended to have an inclusive function, the same inclusive measures can become sources of marginalisation for students who struggle with motivational issues and/or school learning (Ministry of Education and Research, 2020; NOU 2008:18). This perspective has been highlighted in the public debate concerning dropout, which, in the case of vocational students, has tended to place much of the blame on theoretically oriented general subjects that are 'removed from occupational practices and the everyday lives of teens' (NOU 2008:18, p.80; my translation).

The combination of increasing competence demands with high attrition rates is crucial to understand the prominent place VO has assumed in policy documents since the introduction of LK06. Furthermore, it illuminates the intended role of VO teaching in educational policy. When dropping out is understood as the result of low motivation, theoretical struggles and a general disengagement with school, a suitable countermeasure would be one that facilitates more adaptive teaching while retaining high-quality standards (Hegna et al., 2012; NOU 2008:18). VO teaching can, according to policy documents, function in this way. To explain how, stakeholders typically mention relevance (Iversen et al., 2014) in the sense that VO makes general subjects more relevant to vocational students (NOU 2008:18; NOU 2014:7). When instruction seems more relevant, it will also, arguably, seem more useful, interesting and important (Iversen et al., 2014; Ministry of Education and Research, 2015), all of which should contribute positively to students' willingness to stay in school.

VO has often been presented as a synonym for relevant instruction, therefore, it is treated as a goal in its own right (Ministry of Education and Research, 2015; NOU 2008:18; NOU 2014:7; NOU 2015:8; Stene et al., 2014). This view has been challenged, for example, by Wendelborg et al. (2014), who discussed how students' sense of relevance is highly related to their teachers' teaching style, self-efficacy, classroom management and communicative approach. VO instruction will only have a positive impact insofar as students accept it as relevant and teachers successfully combine the approach with quality teaching (Ministry of Education and Research, 2015; Wendelborg et al., 2014). Therefore, in newer policy documents, VO is described as a means to achieve relevance, making relevance the actual goal.

To summarise, Norwegian policy documents highlight VO as an approach that leads to more relevant instruction. Sometimes, VO is seen as synonymous to relevance, and more recently, VO has been described as a means to achieve relevance. Overall, in these documents, the role of VO emerges as a tool to facilitate—as a minimum—school completion, but preferably also a to increase subject learning by giving students reasons to engage with learning.

[7] Reported after five years for students in general studies and six years for students in vocational programmes

2.2 Literature Review

To review research on VO teaching in the English subject, I utilised Web of Science, ProQuest, and the Norwegian search engine Oria.no. However, since vocational orientation (VO) is a term that I have coined on the background of its Norwegian language counterpart, the term was not helpful when conducting searches. For this reason, I instead searched for a combination of the search words 'language learning', 'language teaching' 'English' and 'EFL', with 'vocational student' or 'vocational programme', to identify studies that concerned phenomena comparable to VO. Because I had conducted a similar review for Article 1, I set out to identify newly published work and sources I had initially missed. However, as my efforts did not result in any additional studies, I cannot provide an updated review here. Instead, I will give a short overview of the international research already presented in my three articles. I have kept the summary short to avoid duplicating the articles.

2.2.1 Summary of International Research: English in Vocational Programmes

To summarise, we find research that addresses English teaching in vocational programmes in most parts of the world but combined the number of studies remains quite small. Overall, findings are somewhat pessimistic on behalf of VO teaching; for example, they describe VO teaching as difficult to operationalise (El Kandoussi, 2017; Platt, 1996; Widodo, 2017) or not prioritised by language teachers (Hua & Beverton, 2013; Institute for Learning (IfL), 2013). Researchers in Sweden have suggested that simplification is a common approach when general teachers adapt instruction to students in vocational programmes (Korp, 2011; Niemi & Rosvall, 2013; Norlund, 2011; Nylund & Rosvall, 2011, 2016; Nylund et al., 2017; Rosvall, 2015). In Norway, general subject teachers have been found to support the idea of VO teaching (Olsen & Reegård, 2013), and they want to expand their VO practices (Olsen & Reegård, 2013; Skålholt et al., 2013). However, VO is seen as pedagogically demanding (Myren & Nilsen, 2001; Wendelborg et al., 2014), and some even raise doubts about whether it does more harm than good (Utvær, 2014). Similar perspectives are elaborated further as I review a selection of research reports from Norway and Sweden (Section 2.2.3).

2.2.2 Explaining Review Focus: Norway and Sweden

I will now move towards a more in-depth view of VO teaching in Norway and Sweden by presenting VO in relevant research reports, MA and doctoral theses. Here, all subjects are included, as very few studies specifically address English. Due to space constraints and issues of research rigour, the review of MA theses only includes work from Norwegian institutions. However, in the subsequent sections, I have included Swedish sources as well. There are three reasons for this choice. First, the language barrier between Norwegian and Swedish is surmountable for someone like me, who speaks Norwegian as a first language. Second, the school systems in Norway and Sweden are comparable in terms of how general subjects are structured in vocational programmes (Stene et al., 2014). Denmark, a country otherwise comparable to Norway, was omitted from the review because its system of vocational education differs greatly from the Norwegian system (Ministry of Children and Education, 2019). Finally, in both Norway and Sweden, teachers are expected to adapt a curriculum that is quite general in orientation to fit with specific vocational programmes (Regulations of the Education Act, 2006; Skolverket, 2011). I have not been able to identify any other countries that fulfil all three criteria. In Finland, for example, vocational students study general subjects, and teachers are to adapt competence aims to fit the students' study programmes (researcher M. Virolainen, email correspondence 24.03.2022). However, the subjects follow a different

organisational structure than in Norway and Sweden and are thus less comparable. Furthermore, in Finland the competence aims of the English subject are inherently vocational in orientation (Finnish National Agency for Education, 2022), which is substantially different from the conditions in Norway and Sweden. Therefore, from what I understand to be a lack of comparability in terms of VO, Finland and other otherwise comparable countries have been left out of this in-depth part of the review.

2.2.3 Research Reports from Norway and Sweden

This section will present findings from three Norwegian reports commissioned by the Ministry of Education and Research (Haugset et al., 2014; Iversen et al., 2014; Wendelborg et al., 2014) and one Swedish report commissioned by the Swedish School Inspectorate (Swedish school inspectorate, 2017).

First, in a Norwegian survey comprising 521 vocational students and 81 English and mathematics teachers, Haugset et al. (2014) found that almost all teachers saw VO as important in vocational programmes. The prime reason was its contribution to adapted teaching. Beyond this shared starting point, there were significant variations in the teachers' approaches to VO. The report exemplifies how some teachers prioritised VO as a means to support academically struggling students, while others mainly saw VO as a motivational strategy and as a way to encourage engagement in learning. Although most teachers believed that VO necessitated collaboration between general and vocational teachers, only one-quarter reported to have such collaborations. There were considerable variations in the students' answers in this study, and thus only a few clear trends could be observed concerning their views. One trend was that the students scored their subject understanding of English and mathematics as higher than their enjoyment of the same subjects. Further, regardless of substantial variations across study programmes, they generally reported their English instruction to be more vocational in orientation compared to mathematics. On average, the students rated the relevance of their English instruction as intermediate.

Second, Wendelborg et al. (2014) conducted a qualitative study in which they interviewed three English teachers and three mathematics teachers from two different schools and observed their instruction for vocational students. They also interviewed students from the same classrooms. The study described how all the teachers wanted to utilise the VO approach but that some found it quite challenging. It mentions that teachers who felt uncomfortable and insecure when drawing on vocational perspectives were prone to lose control of the situation and perform poorly. In the interviews, the students would sometimes describe VO lessons as 'unnatural and dull' (p. 28), but they would still express positive sentiments towards the prospect of more VO teaching. This inconsistency suggests that students do not approve of all types of VO, and the researchers propose that problems occur whenever teachers struggle to frame VO lessons as relevant. On these grounds, the report argues that VO teaching is only helpful insofar as it contributes to students' perceptions of the relevance or utility or comes with other benefits. The report concludes that if teachers are unable to access their regular didactic repertoire within a VO frame, other approaches are to be preferred.

Third, Iversen et al. (2014) synthesised results from the two preceding studies and a study of school leaders (a survey of 262 principals). The principals reported treating VO as an important measure, and to facilitate VO teaching through structural decisions, such as assigning teachers to the same programme several years in a row. Further, Iversen et al.

(2014) found that bigger schools with many vocational students prioritised VO the most. The report found a correlation between VO and decreased attrition for technical programmes, but this trend could not be extended to other programmes. They also reported a correlation between the extent to which principals prioritised VO and student motivation for general subjects. By combining findings from three separate studies, the report, similar to that of Wendelborg et al. (2014), concludes that VO can only have positive effects if it enhances perceptions of relevance and of the subject's contribution to the overall education. If it does not promote relevance, it may instead have negative effects on students. Iversen et al. (2014) also concludes that VO has substantial significance for students' motivation and self-efficacy, moderate significance for their attitudes towards school and some significance for school completion.

Finally, a report from Sweden (Swedish school inspectorate, 2017) builds on qualitative data from student, teacher and principal interviews in 34 schools. The study investigated interconnections between various subjects in three vocational study programmes, and by doing so, it effectively described the role of VO in the Swedish school system. In the report, VO is generally not related to a fight against attrition (as seen in Norway), rather it is instead described as a main strategy for achieving integrated vocational education across subjects. Its main purpose is not to make individual subjects seem relevant, but to facilitate a comprehensive and holistic end competence for all students in line with their programme objectives (*examensmål* in Swedish).

Further, the report refers to previous research suggesting that general subject teachers have a tendency to simplify content when adapting to their vocational students. Because simplification is undesirable in today's knowledge society, VO is presented as an alternative that promotes learning while retaining high expectations for students' competence development. However, the report concludes that only 5 out of 34 schools provided the necessary conditions to fulfil this aim. VO is rarely well structured across subjects and mostly depends on individual teachers' initiatives. The report further stated that few teachers utilise the programme objectives to support their VO practices and describes how few students consider that their general subjects contribute to the vocational aspect of their education. A number of students reported that their teachers still use simplification as their primary adaptive strategy. In sum, the report calls for improved VO practices in the Swedish school system, and the suggested initiatives point towards two main functions of VO: First, the suggestion to utilise the programme objectives more systematically points towards VO as a tool to improve the students' end competence and work-life preparedness. This is similar to newer developments in Norwegian VO policy. In addition to several suggestions for improving the practical aspect of VO, the report also concludes that any development work must be student centred, prioritising individual needs when planning VO lessons. In explaining why this is important, the report links VO to motivation and completion, signalling that even though it was not explicitly addressed, the approach has a dual function, both as a facilitator of comprehensive, integrated competence and as a tool to adapt to individual needs.

Together, these reports attest to varied approaches towards VO across schools. Some teachers use it to support those who struggle, while others use it to boost motivation or to support their students in obtaining a well-rounded end competence. For students, VO may play a motivational role, but it can also have the opposite effect. Whether VO can support teachers in providing adaptive teaching seems to depend on the teachers' general didactic competence.

2.2.4 Master's Theses

Across subjects, master students in Norway have taken an interest in VO teaching. To identify master theses concerning VO teaching, I used the keywords *yrkesrettet* [vocationally oriented] and *yrkesretting* [VO] for searches in the library databases of all applicable universities and university colleges in Norway. In addition, I utilised the search engine Oria.no (database for Norwegian academic libraries) to complement the initial search. I specifically searched for studies conducted after the 2010 amendment of the Education Act. The search yielded 40 relevant results concerning the subjects Norwegian (14), mathematics (10), English (9) and social studies (2). In addition, there were five VO studies that were not anchored in specific subjects. As these were MA studies, not rigorous scientific work, I will only give a brief overview of trends in the material.

Across subjects, the studies were concerned with teachers' and students' views of and experiences with VO (for examples from English see Befring, 2015; Sagli, 2017; Storevik, 2015). Cross-curricular collaboration was also examined from several different perspectives (e.g. Elden, 2014; Myhre, 2015; Sørensen, 2019). In addition, studies of exam questions (e.g. Ervik, 2020; Mürer, 2015; Nilsen, 2015) and textbooks have also been found (Lockertsen, 2020; Sleveland, 2014).

Most studies found that teachers and students held positive attitudes towards VO. Frequently, both groups were found to describe VO as motivating, relevant and/or meaningful (e.g. Befring, 2015; Marnburg, 2021; Martinsen, 2014). For students, relevance seemed to take the highest priority, and its significance extended beyond VO teaching (Nødtvedt, 2017; Storevik, 2015; Særsland, 2018). Some studies have suggested that students with low subject motivation and/or lower grades benefit more from VO (e.g. Borojevic, 2016; Ervik, 2020). Several studies have found that collaboration between teachers of general and vocational subjects is imperative for high-quality VO (e.g. Arakia; Bakken, 2014; Kolaas, 2013; Myhre, 2015). They also found that this type of collaboration is rare due to organisational issues at the school level (e.g. Berg, 2015; Gaupseth & Nålsund, 2015; Sagli, 2017). Some studies concluded that teachers expect less from vocational students, both in terms of ability and effort (Bakken, 2014; Skuland, 2021), and one study found that because the teacher expects little, students respond with apathy (Korsnes, 2016). Especially in the Norwegian subject, there is tension between VO teaching and teachers' perceptions of the subject's core elements (Arnesen, 2019; Bakken, 2014; Johnsen, 2019; Prestmarken, 2019).

Collectively, these MA theses attest to a great interest among pre-service teachers and practicing teachers in VO teaching. In addition, they signalled that VO teaching is a well-incorporated practice in the Norwegian school system.

2.2.5 Doctoral Theses from Norway and Sweden

In the following section, I present relevant findings from five doctoral studies in which VO teaching has a central position. To identify sources, I utilised the search portals Oria.no (for Norwegian studies) and Diva-portal.org (for Swedish studies), the Norwegian search words yrkesfag [vocational programme] and *yrkesretting* [VO], the Swedish search words *yrkestubildning* [vocational education] and *ämnesintegrering* [subject integration] and the English search words *vocational students + general subject.* I further limited the search to doctoral theses. Next, I carefully reviewed the abstracts, looking for indication that the combination vocational programmes and instructional methods in general subjects were in

fact central. Upon closer inspection, most of the individual results were excluded on the grounds of not being sufficiently relevant for the focus of the present study.

Details concerning studies that were deemed relevant are included in Appendix E, but I will summarise some of them here. Three relevant studies were conducted in Norway: Fiskerstrand (2017, University of Bergen) conducted a single-site ethnographic study of how teachers in vocational programmes can help students develop as autonomous argumentative writers. She focused on the subjects of Norwegian and social science. Nordby (2019, Norwegian University of Life Sciences) studied how to facilitate meaningful learning processes in school science for vocational students by collaborating with two teachers and 37 students in one school. Rondestvedt (2019, University of Tromsø), investigated subject collaboration between technical vocational programmes, mathematics, Norwegian and English, to learn about subject integration. His study consisted of fieldwork in two schools with document analysis, participant observation and interviews with 41 teachers (group) and 33 students (individual). I found two doctoral studies from Sweden. Ledman (2015, Umeå University) conducted document analysis and teacher and student interviews when investigating discourses of history education in vocational tracks, while Muhrman (2016, Linköping University) examined factors that may affect the convergence of vocational students' mathematical knowledge with the skills they need in their future professional lives. In her study, she interviewed vocational teachers, mathematics teachers, vocational students and representatives from the relevant industry.

In all five studies, interviewed teachers reported that their vocational students typically held negative attitudes towards traditional, classroom-based teaching of general subjects. The interviewed students also confirmed this assumption and, in some cases, pointed to VO as an approach that could improve their investment in general subjects (Fiskerstrand, 2017; Muhrman, 2016; Rondestvedt, 2019). Rondestvedt (2019) and Muhrman (2016) found that vocational teachers also believed in VO as a beneficial approach to teaching general subjects in vocational programmes. In the study of Muhrman (2016), the students who had the most experience with VO also held the most positive attitudes towards the approach. These students said that VO was not only important from a motivational perspective, but also as a facilitator of learning.

Although all five studies propose that vocational students relate differently to general subjects compared to vocational subjects, there is variation in how relevant they find VO teaching. Across studies, VO was found to improve relevance in mathematics (Muhrman, 2016; Rondestvedt, 2019), Norwegian (Fiskerstrand, 2017; Rondestvedt, 2019) and English (Rondestvedt, 2019). However, the studies of Fiskerstrand (2017) and Ledman (2015) suggests that VO is much less important in social science and history. These subjects are typically seen as relevant by default because they relate to the students as citizens. Similarly, Nordby (2019) found that vocational students neither wanted nor expected VO teaching in their natural science instruction. Furthermore, I interpret the results of Nordby's (2019) study as suggesting that students rarely consider natural science personally relevant, no matter how it is taught. Instead, they accept (and expect) that science is concerned with learning decontextualised factual knowledge, and this is also what the teachers prioritise (Nordby, 2019).

With basis in these theses, there is some indication that the benefits of VO is unequally distributed in the student population. Rondestvedt (2019) and Muhrman (2016) found that teachers and students alike saw VO as most beneficial for low achieving students or students with truancy issues. Further, Rondestvedt (2019) described how vocational students with a strong grade average from primary school found the general subjects in vocational programmes boring and easy. Muhrman (2016) found that students who aimed for post-secondary education were more positively inclined towards a general orientation of mathematics, including working with tasks in the textbook.

Rondestvedt (2019) studied cross-curricular projects combining mathematics, Norwegian and English with practical vocational work. Thus, his thesis is the only one with direct relevance to English instruction. He discussed how the general subjects functioned in the projects, concluding that students consider subjects more relevant if they are needed to complete the practical part of an overarching project. While mathematics is clearly seen as the most relevant, English comes last, as it becomes a secondary add-on to the work the students do in Norwegian (The students translate some of their Norwegian work into English). Interestingly, students in both of Rondestvedt's cases mentioned spoken interaction as an aspect of English with much relevance for their work and suggested that this would be a way to bring English closer to the practical work they do in their workshops. Therefore, to strengthen the role of English in cross-curricular projects, Rondestvedt's findings seem to suggest that teachers can prioritise oral communication over translation tasks.

The five doctoral studies that I have reviewed attest to an interest in the way general subjects are taught in vocational programmes from the perspective of researchers, teachers and students. The studies support the contention that general subjects do not look the same in vocational and general study programmes; however, differences exist between subjects concerning how to create all-important relevance. VO is not always the answer.

2.3 Research Gap

This chapter indicates at least three points. First, the extent of previous research, especially concerning L2 English, is quite limited. In other words, to support the development of sound VO practices, more rigorous research is needed. Second, VO functions differently across subjects, which indicates that there is a need for research not only on VO, but VO teaching in specific subjects. Third, and final, this chapter documents how policy makers, teachers and students alike believe in VO as an approach that may contribute towards relevance and student engagement. However, it has also been demonstrated that the relationship between VO and relevance is not straightforward. For example, there can be large differences in the VO practices of individual teachers.

To fill the gap that emerges, there is a need for research that (a) is situated in one subject, (b) compares VO practices across context to learn more about varieties within the approach and (c) explores the role and function of VO teaching to further our understanding of its significance. As far as I know, my PhD thesis is the first in Norway (and Sweden) to conduct a thorough investigation of VO teaching in L2 English instruction. Thus, it is an important contribution to a field in which stakeholders have hitherto had little empirical research to draw on when making decisions that potentially affect teaching and learning. I acknowledge that my work alone cannot fill the existing research gap. For this reason, a secondary objective of this thesis is to increase the interest of scholars in VO in the field of L2 English.

3 Theoretical Perspectives

The theoretical perspectives presented in this chapter are pertinent to both the VO phenomenon and the discussions presented in the articles. I start by presenting an ecological approach to language teaching and learning (Section 3.1). This has been an overarching perspective throughout the project, although it is less visible in the articles. Next, I focus on a theoretical construct present within ecological theory, namely affordance theory (Section 3.2). Two very central aspects of VO, both as presented by others and in my own research, are engagement and relevance. Therefore, the latter half of this chapter presents engagement theory (Section 3.3) and selected perspectives on relevance in the context of teaching (Section 3.4). Both engagement and relevance are pertinent in an ecological approach to language teaching, and for this reason I view ecology as the overarching lens for the project.

3.1 An Ecological Approach to Language Teaching and Learning

Ecology, and particularly as it has been articulated by Van Lier (2000, 2004, 2010, 2011), informs my view of language teaching and learning. Within this view, the study of language is a study of relations rather than objects (Van Lier, 2000), and these relations emerge from the social environment and the opportunities for (or inhibitions of) action that exist there (van Lier, 2004). Thus, we can say that ecology is a situated or contextualised approach that, in terms of research, studies organisms as they relate to the environment. In this view, the social activities of learners do not just facilitate learning; they *are* learning (Van Lier, 2000).

The approach of van Lier is grounded in the ecological traditions of Bateson in anthropology (1979), Bronfenbrenner in human development (1979), Gibson in visual perception (1979), Peirce in logics and semiotics (1955), and Haugen in linguistics (1972). It is also closely related to the thoughts of Vygotsky and Dewey (Van Lier, 1997). Haugen (1972) is typically cited as the first to link language and ecology when he defined language ecology as the study of interactions between a language and its environment. His perspective is prominent in ecological studies of translanguaging (see for example Creese & Blackledge, 2010; Fill & Mühlhäusler, 2001; Hornberger, 2002), where multilingualism is tied to questions of identity, power and human rights (Blackledge, 2008). Although perspectives from the field of language ecology are certainly relevant for my study, it is the ecology presented by van Lier that I draw on explicitly, because by emphasising the importance of affordance and action for learning, his perspective provides a better fit for analysing and discussing the questions central to my study.

3.1.1 van Lier's Ecology

According to van Lier (2004), learners are immersed in environments full of potential meanings. These meanings become available to learners as they act and interact in the environment. The key to learning lies in matching learners to the environment in ways that make meaning easily recognisable and interesting and that stimulates action. Van Lier (2000, p. 247) says that to look for learning 'is to look at the active learner in her environment', highlighting the importance of active behaviour in learning—and concurrently echoing aspects of engagement theory as presented in Section 3.3. The environment, whether structured by a teacher or not, offers what Van Lier (2000, 2004) terms a semiotic budget for meaning-making activities with other learners. This budget provides opportunities for meaningful action and can vary in richness and perceived meaning potential. VO teaching

provides a different semiotic budget than other approaches to classroom teaching, which may—or may not—be a fruitful approach to the matching of vocational students and the language learning environment.

As previously mentioned, ecology is a study of relations. For this reason, language can only make sense by considering its relation to the world (e.g. interlocutors, past, present and future events, and various social, cultural and physical phenomena) (van Lier, 2011). These relations must further be understood from a multi-layered perspective, where the immediate context is situated within other, larger contexts as nested ecosystems (Bronfenbrenner, 1979). No contexts can be contained or controlled but rather spills over to other parts of the ecosystem through the individual's interactions, meaning making and activities (van Lier, 2011). Therefore, when we apply an ecological understanding to the teaching of English in vocational classrooms, it makes perfect sense to draw on other parts of the learners' ecosystems, for example, their vocational school subjects and their work-related aspirations, to create meaning and opportunities for learning. Similarly, it attests to the importance of relating subject content to other aspects of the students' worlds, such as their interests (Brevik, 2019), social identities (Norton, 2013) and views of who they are (or want to be) when using English (Rindal, 2013). With his descriptions of relations and multi-layered contexts, van Lier (2004, 2010, 2011) evokes what elsewhere has been described as the importance of relevance for learning (see Section 3.4) as a precursor for activity or engagement. He quotes Vygotsky (1978), who wrote that 'learning must be relevant to life' (p. 118) and claims that this is a hallmark of schools that prioritise quality over quantity (van Lier, 2011). Van Lier (2011) urges schools to become less atomistic and instead apply 'an organic vision of learning' (van Lier, 2011, p. 389), where relations are nurtured and fed rather than stifled. VO teaching can be operationalised as one possible initiative towards overcoming the type of subject fragmentation that van Lier seems to describe.

An ecological view of language learning is concerned with the relevance and meaningfulness of what is learned and views relevance as a necessary ingredient for deep learning (van Lier, 2004). In van Lier's writings the relationship between relevance and engagement is one where relevance drives engagement (or activity), and engagement fuels learning. Engagement and relevance unite through agency (van Lier, 2010, 2011), which van Lier defines as movement or 'a change of state or direction, or even a lack of movement where movement is expected' (van Lier, 2010, p.4). He says that learning is inseparably tied to agency and that a major task of pedagogy is to create agency-rich environments (van Lier, 2010). These environments are distinguished by the existence of 'something' relevant for the learner to act upon or engage with, which, at a minimal level, could be the opportunity to make a choice concerning how to work on, or structure, one's schoolwork. At a more powerful level, agency-rich environments give learners the opportunity to move in self-directed ways by taking initiative, participating in discussion, engaging, reflecting and pursuing goals. Agency is closely related to personal identity, and it is also social in that it depends on one's relations with other people in the environment (van Lier, 2010). In classroom instruction, van Lier (2010) claims that agency can be awaken through the provision of choices, meaningful and interesting challenges and by working as a member of a learning community. This is reminiscent of, and therefore foreshadows, the self-determination theory (SDT) explained in Section 3.3.

Van Lier's ecological metaphor offers an approach to language teaching and learning that centres on the relations between students and the opportunities for action that exist in the

social environment. It is a good match for studies of any teaching approach that builds on the importance of matching learner and environment for the purpose of promoting engagement with learning. As this project concerns VO teaching, which aims for this type of match, the ecological perspective offers a lens through which the significance of VO, how it relates to students and teachers and, in extension, its role in teaching can be understood. However, to discuss this role, it is necessary to first account for a specific aspect of van Lier's ecology, namely, his theory of affordance.

3.2 Affordance Theory

In Section 3.1, I describe how van Lier sees the environment as full of meaning potential and how, for learning to occur, agents must act and interact in the environment by utilising the opportunities in the semiotic budget. To understand how this happens, van Lier presents a theory of affordance (Van Lier, 2000, 2004), in which affordance can be seen as a constructivist alternative to input in cognitively oriented second language acquisition (SLA). 'Affordance refers to what is available to the person to do something with' (van Lier, 2004, p. 91), and it is relational and exists in the relationship between an artefact (in this case VO) and the environment. Affordances represent action potential or *a relation of possibility* (Neisser, 1987, p. 21) between the environment and the agents who operate in it. As van Lier (2004) describes it, the environment is full of action potential, and the agents who operate in it have certain abilities, interests, motivations and so forth, which may or may not connect with this potential. In the case of teaching, the environment and its action potential are shaped (though not fully) by the teachers through their lessons.

Historically, the term 'affordance' was coined by Gibson (1979) to address the reality of meaning, which he considered external to the perceiver. He defined affordance as 'what [the environment] *offers* the animal, what it *provides or furnishes*, either for good or ill' (1979, p. 127, emphasis in the original). Gibson attempted to challenge a then-predominant view of meaning as residing in the mind of the beholder (Costall, 1995) by claiming that meaning exists within the animal–environment relation (Gibson, 1979), arising from a combination of some features of the environment and some features of the agent, without being primarily related to either the environment or the agent (Cosentino, 2021).

Investigating the affordances of VO means viewing it as an artefact. Although artefacts are often presented as synonymous with things in affordance theory, van Lier (2004) clearly believes they can also be immaterial, for example, in the form of an utterance. Therefore, I lean on Bereiter (2002) who argues for the existence of conceptual artefacts that are human constructions like other artefacts, but immaterial, serving mental or social purposes. They have many of the same characteristics as material artefacts in that they have origins and histories, can be described, have varied uses, can be modified and improved and may be the subject of discussion. VO can be considered an artefact in this sense and functions in all relevant aspects as an artefact available to teachers and students in the context of schools.

Gibson's view of affordances has been further developed by scholars in several disciplines. Primarily, I was interested in those who reinterpreted his original notion in a sociocultural frame, where the social–cultural–historical aspect of an artefact is taken into consideration (Cosentino, 2021). Costall (1995) draws on Leont'ev to explain that our world is the result of generations upon generations of human activity where artefacts are imbued with cultural meaning that invite us to use them in certain ways. However, artefacts are not dead objects,

and sometimes they are used in ways that are quite different from the use that has developed under enduring and cumulative social influence. Both Gibson (1979) and Costall (1995) would agree that affordances never cause behaviour and that any object can be used in limitless ways. Therefore, a study of affordances may investigate both what an artefact is meant to afford and what it affords in specific settings. Norman (1999) has distinguished between real and perceived affordances, where real affordances concern the full potential of an object, while perceived affordances are those that operate in relation to a specific agent. Cooper et al. (2014) have argued that the only real affordances are those that are perceived by agents. Regardless of view, the relational aspect of affordance means that different agents will perceive different affordance when considering the same artefact. Concerning VO, this means that there can be variation in the affordances hypothesised by policymakers and the affordances that materialise in the context of actual classrooms. However, as I will return to shortly, the affordances of artefacts are relatively fixed within specific environments.

To further establish the relevance of affordances for this extended abstract, I will refer to Davis and Chouinard (2016), who claim that to identify an affordance is to describe the *functions* it enables and constrains. Cosentino (2021) agrees by arguing that, in most cases, affordances and functions are ontologically the same thing. In this study, I am concerned with the role that VO teaching plays, and I understand role and function as separate but closely related terms. By virtue of its role, VO performs certain functions, and to look for these functions is to learn about the role it plays. Therefore, by building on the understanding that affordance and function are one and the same (Cosentino, 2021; Davis & Chouinard, 2016), affordance theory offers a way to study VO teaching that informs us of the role it plays in teaching.

The affordance of an artefact is culturally derived and relatively fixed in a certain sociocultural environment and applies across several different situations. This means that it is possible to study VO across classrooms to comment on its social function. However, the exception from this view concerns what Cosentino (2021) calls ad hoc affordances, which are affordances that a particular artefact has in a specific situation. This denotes a non-typical affordance that is not culturally derived but arises in a situation, as captured in the expression ‘necessity is the mother of invention’. As I have mainly looked for patterns across schools, such ad hoc affordances have not been the primary focus of my research.

3.3 A Theoretical Understanding of Engagement

In the earlier discussion of ecology, engagement emerged as a theoretical construct that plays a vital role in learning. This view is in accordance with how engagement is treated in the larger field of education, where it is typically associated with a wide range of desirable outcomes: Empirical research has found that engagement frequently increases students’ levels of academic persistence (Gettinger & Walter, 2012; Rumberger & Lim, 2008; Rumberger & Rotermund, 2012), effort and achievement (Chase et al., 2014; Finn & Zimmer, 2012; Fredricks et al., 2004; Klem & Connell, 2004), and that it reduces school dropout rates (Archambault et al., 2009; Janosz et al., 2008; Rumberger & Rotermund, 2012). Further, it acts as an antidote for student boredom and their disconnection from school (Appleton et al., 2008; Pawlak et al., 2020; Tze et al., 2014).

Engagement is considered notoriously hard to define (Christenson et al., 2012, p. 11), but Mercer (2019) states that attempts typically focus on ‘action’ as a key characteristic, for

example, ‘energised, directed and sustained actions’ (Skinner et al., 2009, p. 225). Action is also key to distinguishing engagement from the related construct of motivation: Motivation typically describes intent, while engagement concerns deeds or actions (Oga-Baldwin, 2019). Regardless of the definition, engagement is considered dynamic and malleable, and it is shaped by social interaction, meaning that student engagement can be affected, for example, by changes in teaching practices (Appleton et al., 2008; Harbour et al., 2015; Shernoff, 2013).

Across the research literature, there is much agreement that engagement is a multifaceted construct that usually comprises a core of behavioural (action), affective (feeling) and cognitive (thinking) dimensions (see for example Fredricks et al., 2004; Mercer, 2019; Oga-Baldwin & Nakata, 2017). Although not everyone would agree, Mercer (2019, p. 646) argues convincingly that ‘true’ engagement necessitates all three components. If only one or two are in place, there can still be positive outcomes, but they will typically be in the company of less desirable ones, such as stress, agitation and lack of enjoyment (Conner & Pope, 2013).

Behavioural engagement describes students’ levels of active involvement and participation in learning activities and tasks (Finn & Zimmer, 2012; Mahatmya et al., 2012; Philp & Duchesne, 2016). It is related to effort and initiative (Sang & Hiver, 2021) and includes persistence, help-seeking (Linnenbrink & Pintrich, 2003), attention and social interaction (Oga-Baldwin & Nakata, 2017).

Affective engagement concerns students’ emotional connections and responses to both the learning task and the social situation (Fredricks et al., 2004). It covers interest, value and emotion (Linnenbrink & Pintrich, 2003), such as enjoyment and enthusiasm at one end of the spectrum and boredom, frustration and anxiety at the opposite end (Reeve, 2012; Sang & Hiver, 2021). Feelings related to the social structures of the classroom are also included within the affective dimension (Mercer, 2015).

Cognitive engagement refers to the level of mental activity in the learning process (Fredricks et al., 2004). Students are cognitively engaged when they ‘exhibit deliberate, sustained attention and expend mental effort to achieve learning goals’ (Sang & Hiver, 2021, p. 30). It includes issues such as strategy use, meta-cognitive knowledge and self-regulation (Linnenbrink & Pintrich, 2003). Since we cannot observe cognitive engagement, it must be examined from the perspective of proxies, such as reasoning and idea development, in collaboration with other students or the teacher (Helme & Clarke, 2001; Reschly & Christenson, 2012).

Although theories of engagement started out from a cognitive perspective, in later years, interpretations of engagement have taken a social turn, and both the emotional and the cognitive dimensions must be understood in relation to the social environment (Järvelä & Renninger, 2014; Reschly & Christenson, 2012; Svalberg, 2009). All humans have the capability to become engaged, but this engagement is inherently situated in spatiotemporal dimensions and depends on the relationship between the person and the environment (Reschly & Christenson, 2012).

Studies of student engagement draw on a vast body of motivational research to understand the factors that promote engagement (Mercer, 2019; Oga-Baldwin, 2019; Shernoff, 2013). Motivation is often considered a precursor to engagement (Dornyei, 2019; Eccles & Wang, 2012; Mercer, 2019), in the sense that it generates a willingness and readiness to engage in

sustained learning actions. Therefore, in this extended abstract, and in line with Mercer (2019), I will focus specifically on motivational constructs that clearly act as precursors to behaviour and action. A key framework in this respect, which is frequently used in relation to engagement, is SDT (Deci & Ryan, 1985; Ryan & Deci, 2000). SDT is 'a macro-theory of motivation that seeks to explain how sociocultural conditions facilitate or undermine human engagement and flourishing' (Reeve et al., 2018b, p. 16). Particularly pertinent is the perspective that to be capable of engaging in learning, students must feel that three basic psychological needs are met: the needs for competence, autonomy and relatedness (Jang et al., 2012; Reeve, 2012; Ryan & Deci, 2017; Vansteenkiste et al., 2018). Students who repeatedly experience low support for these three needs are likely to lose engagement and withdraw their attention in the classroom (Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013); therefore, teachers must know not only how not to undermine them but also how to shape social environments where they can flourish. In this respect, SDT can be utilised to explore the social circumstances that promote needs' support in given contexts.

According to SDT, learners' need for competence (i.e. the ability to master challenges) is supported when they feel capable of meeting external expectations (Vansteenkiste et al., 2018) and believe that their efforts can make a difference (Mercer, 2019). In other words, engagement, in part, depends on how students are supported by teachers, peers and various artefacts in the learning process and, on them encountering lessons where they can progress and use their strengths. Much of this responsibility rests with the teacher and their teaching choices. While the need for competence typically leads students to assess their chances of success before committing to a task, SDT asserts that an equally pressing need for autonomy means that people prefer to engage with learning on their own terms (Mercer, 2019). Studies show that autonomy-supportive teacher practices include giving choices, involving learners in decision-making processes and helping learners find their own reasons to engage (Assor et al., 2002; Mercer, 2019; Reeve, 2006). Thus, a crucial dimension of teachers' autonomy-supportive behaviour is the extent to which they make schoolwork (seem) meaningful. VO is typically framed as a tool to facilitate meaning, building on students' educational ambitions and interests. However, regardless of individual aspirations, students also have a strong need for relatedness and community in school. Relatedness is strengthened through positive relationships with classmates and teachers (Mercer, 2019), and it is further promoted when students feel like they belong in school. Teachers can support this need by behaving in manners that make their students feel liked, respected and valued (Niemiec & Ryan, 2009) and by organising collaborative classwork that makes everyone feel included. VO might also have a role to play in the promotion of relatedness through its contribution to a more holistic educational experience and a sense of vocational community.

Nurturing the basic psychological needs of autonomy, competence and relatedness is a necessary, but not sufficient, means of creating engagement (Reeve et al., 2018a; Vansteenkiste et al., 2018). In addition, the learner must experience that the learning activity has value or importance, that is, perceive its relevance for something they care about. Therefore, the following section addresses relevance in a theoretical perspective, both because relevance is important in light of SDT and because of its central role in the ecological approach to language learning that informs my PhD project.

3.4 Relevance in a Theoretical Perspective

As pointed out by Newton (1988), the notion of relevance is far from simple. In school contexts, it may be influenced by both teachers and learners, and it may grow or shrink in irregular bouts (Jeeves, 2018). It is a term that is easy to throw around, but quite unhelpful if it is not clarified beyond everyday usage. Several scholars have pointed out that relevance is a relation, not a property (see for example Hitchcock, 1992; Scheffler, 1973), meaning that the same issue can be both relevant and irrelevant, depending on the context and who you ask. For example, ascertaining whether it may rain is highly relevant to decisions of apparel *if* one plans to spend the day outdoors; however, it may be quite irrelevant to someone who will stay indoors. The relational features of relevance may explain why it is seen as resistant to analysis (Johnson, 2000) and why, according to Woods (1994), we have no real theories of relevance.

3.4.1 What is Relevant Education?

Concerns for relevance in education stretch back to the reform movements in education in the early twentieth century. One example is the philosophical work of John Dewey (1956), who claimed that a lack of coherence and connection between various aspects of education leads to a 'waste of human life, of the life of children while they are at school, and afterwards' (p. 64). According to Dewey, waste occurs when students cannot utilise in school the experiences acquired outside of school and when they do not see how they can utilise school learning in everyday life. In other words, when learning is perceived to be irrelevant. He argued that the only way to avoid waste would be to break down isolation between subjects and various aspects of social life and instead create connection so that students could come to school 'with all the experiences [they have acquired] outside the school, and [leave] it with something to be immediately used in [their] everyday life' (p. 80).

In the wake of the pragmatic tradition that Dewey represents, Israel Scheffler (1973), reflects on educational relevance by questioning it relevance. He points out, appropriately, that no one will argue in favour of irrelevance, and therefore, the main theoretical problem with relevance 'is to say in what it consists' (p. 126). He then examines the claim that education must be relevant, from an epistemological, a psychological and a moral perspective, and finds that it is not sufficient to frame relevant instruction as that which concerns the students' immediate environment, their prior interests and existing questions. If relevance is understood as referring only to what is already close to students, education will become static and ultimately an instrument for delivering techniques without perspective or critical scrutiny. In his view, to be truly relevant, education must 'strive to create wider perceptions as well as to improve problem-solving capacity' (p. 131) and to educate students who can criticise, create and shape a society where free inquiry and criticism are seen as 'touchstones of relevance' (p. 135). Overall, Scheffler's view is consistent with a claim that the relevance of instruction must be assessed against the overall aims of education, which, of course, vary depending on the applied epistemological, ethical and theoretical stance.

It is quite common to stress that in the twenty-first century, one of the most valuable goals of education is to help students become effective real-life learners with a well-developed capacity to learn on their own (see for example Claxton, 2007; Council of Europe, 2001; Norwegian Directorate for Education and Training, 2017b). Vogt and Kantelinen (2012) express a similar view in the specific context of language learning in pre-work settings, as they delineate VOLL as an approach in which language learning becomes a tool for lifelong learning across situations. Applying Scheffler's philosophical stance to the goal of developing

a lifelong capacity to learn, relevant instruction is that which helps students become more disposed to learn. Claxton (2007) argues that in addition to the teaching of useful skills and abilities, this includes fostering an understanding of when it is appropriate to use specific skills and to strengthen students' inclinations to make use of their abilities even in the absence of support. Here, he ties in with more everyday interpretation of the term relevance, as a main goal becomes to cultivate students' ability to notice when it makes sense to transfer knowledge from one area to another—in other words, when it is relevant to make use of what they have learned. Claxton (2007) said that teachers must never assume that knowledge transfer will take place, and so an important goal of instruction is to focus on transfer thinking and facilitate situations in which students can practice their abilities to notice relevance and make use of their existing knowledge repertoire. From the perspective of Claxton (2007), VO instruction can be described as relevant insofar as the main function of subject integration is to create opportunities for transfer and practice the skill of transference.

A final approach to relevance that I will present here has emerged from studies of relevance in science instruction. Based on a comprehensive review of such studies, Stuckey et al. (2013) have developed a model of relevance that combines attention to dimensions of relevance, with the questions of to whom it is relevant, at what time and decided by whom? They present a complex model targeting science education specifically, but the underlying principles are general enough to extend to other subjects, such as VO English. For this reason, I have simplified their model, removing references to the science subject, to present relevance as a matrix split into dimensions of time and goals. In addition, the model organises goals along an intrinsic–extrinsic scale.

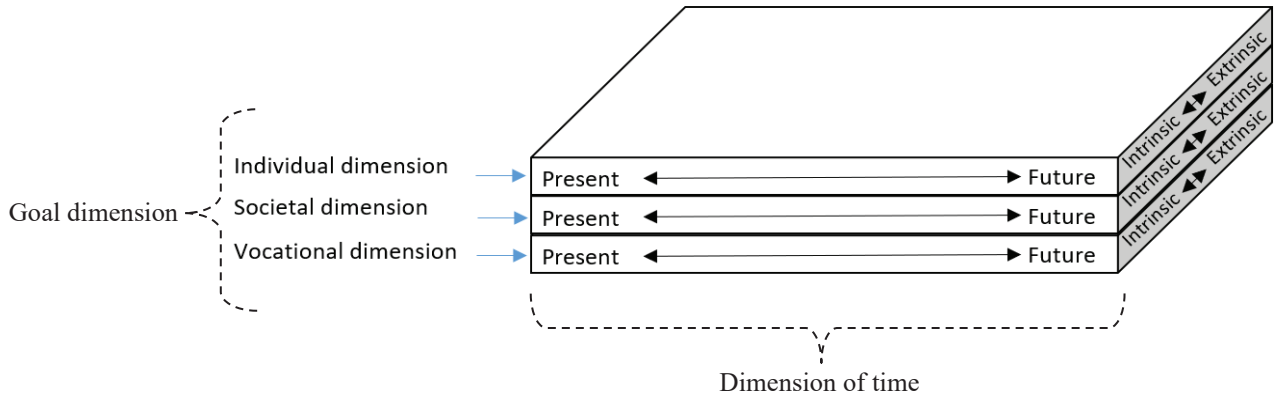

Figure 2 Dimensions of educational relevance (adapted from Stuckey et al. [2013])

As shown in Figure 2, the dimension of goal has been split into three to encompass individual goals, societal goals and vocational goals. Individual goals concern personal interests and personally related educational demands such as grades as well as anticipated future needs. The societal dimension, which rings close to Scheffler's view, suggests that education can become relevant by building on societal, rather than student, interests. In this dimension, relevance relates to the expectancies, needs and interests of the wider society. The vocational dimension concerns relevance relating to vocational awareness, professional preparedness and career opportunities. Goals can relate to differing dimensions of time, so that schoolwork can be perceived as relevant immediately or in a long-term perspective. A final dimension in this model concerns the extent to which goals are personal (intrinsic end) or externally imposed (extrinsic end).

3.4.2 Students and Relevance

The previous section presented some macro perspectives of relevance in education. It is likely that such overarching perspectives diverge from the immediate experiences of individuals in terms of what they perceive to be relevant instruction. Schmidt et al. (2019) frames the student experience of relevance as an answer to the following question: 'Why are we learning this?'. This question is helpful in viewing relevance from the students' perspective, but the authors place responsibility for answering the question upon the teachers by describing relevance as 'instructional strategies that teachers use to highlight the meaning, applicability or usefulness of course content beyond the immediate instructional context' (p. 10). In doing so, they distinguish relevance from interest, as relevance, in their definition, is not contingent upon the students' existing interests.

The notion of relevance also figures in several motivational theories, including the expectancy-value model that makes the observation that '[e]ven if people are certain they can do a task, they may have no compelling reasons to do it' (Eccles & Wigfield, 2002, p.112). This suggests that for students, relevance enters into an equation of cost versus gain, where effort and outcome are assessed against each other. Shernoff (2013) argues that because the thinking and concentration demanded in school often require arduous effort, attention to relevance is crucial to improve the attractiveness of schoolwork. In examining the role of VO in 10 vocational classrooms and in the experience of teachers and students, this study also examines students' and teachers' views of the relationship between VO and relevant English teaching. In Article 1, I present the teachers' views of how VO relates to subject relevance. In Article 2, I discuss how perceptions of relevance are extremely important for students' engagement with learning. Finally, in Article 3, I present classroom observations and exemplify what teachers consider relevant VO instruction.

4 Methodology

In this chapter, I begin by presenting an ecological approach to language teaching as the project's overarching perspective (Section 4.1), followed by the qualitative research design of this study (Section 4.2). Then, I present my sampling strategy (Section 4.3), pilot study (Section 4.4), data collection procedures (Section 4.5) and analytical strategy (Section 4.6). Next, I discuss research credibility (Section 4.7) and transferability (Section 4.8). Finally, I draw attention to some central ethical considerations (Section 4.9). The chapter's goal is to clarify and discuss my overarching methodological decisions. For further details, the readers are referred to the individual articles (Part II).

4.1 Ecological Approach to Language Teaching

As explained in Chapter 3, this study takes an ecological approach to language teaching, drawing on the work of van Lier (2004, 2010, 2011). Therefore, I will present some central tenets of ecological research (based on van Lier, 2004) and discuss their implications for the overall project.

First, ecological research takes a situative approach, meaning that it seeks to understand the relationship between the phenomenon under study and the related situation or context. This was, without being the only deciding factor, central to my choice of a qualitative approach to the study of VO teaching. Furthermore, it also directed my attention towards combining interviews and observations as complementary approaches that illuminate the context from different perspectives (see Section 4.2 for more).

Second, ecological research has spatial and temporal dimensions that have been incorporated into my research by following 'a complete natural or life cycle of the focal unit' (van Lier, 2004, p. 193) or one complete VO trajectory in each classroom. These trajectories were delineated by the teachers in the sample, to retain ecological validity (see below). In this way, the study adheres to ecological principles of being guided by the temporal perceptions and constructions of participants.

Third, van Lier (2004) states that ecological research should, at least potentially, be change oriented and critical. Although this is not foregrounded in my research, it has certain critical underpinnings in that I wish to contribute towards the demarginalization of vocational students in the educational debate in Norway, Norwegian teacher education and educational research. My agenda includes showing structural challenges that English teachers face when practicing VO teaching (Articles 1 and 3) and exploring factors that engage vocational students in learning (Article 2).

A final aspect of ecological research concerns ecological validity (van Lier, 2004). This is similar to the emic, as opposed to etic, perspective in ethnography (see for example Gall et al., 2007, p. 450-451) and requires that analytical notions and constructs used in the project are compatible with those of the participants. To support the ecological validity of my study, I have drawn on my own background as a teacher of English in vocational study programmes in Norway. In particular, I drew on this background when entering new data collection sites to chart similarities and differences between my own and the participants' understandings of central constructs, such as VO.

4.2 Research Design

This doctoral project can be described as a multi-site and multi-method (Teddlie & Tashakkori, 2003) qualitative study with exploratory features (Patton, 2015; Stebbins, 2001). The study utilises individual teacher interviews (mainly Article 1), student group interviews (mainly Article 2) and participatory classroom observations (mainly Article 3) as its three data sources. Its exploratory features were decisive for my choice to analyse the teacher interviews first, followed by the student interviews and the observational data. I considered it useful to know the aims of the teachers before analysing the student responses and the observed instruction. The interview procedures were informed by Kvale and Brinkmann (2015) and Seidman (2006), while the observations drew on Lofland et al. (2006), Creswell and Poth (2017) and Gall et al. (2007). I chose this multi-method approach because interviews and observations can have a complementary function within qualitative research, where they work together to produce data that is more dimensional compared to using only one approach (Lofland et al., 2006). Furthermore, combining different data collection strategies contributes towards a broadening of perspective and a fuller picture of the phenomenon under study (Morse, 2002). I consider a multi-method approach particularly suitable for a PhD, where the extended abstract can be utilised to bring various perspectives together.

To elaborate further on the choice of research design, interviews were selected as a main means of inquiry because I have been interested in understanding VO from the perspective of the people who experience it (Schutz, 1967). According to Seidman (2019), interviewing provides a necessary, if not always sufficient, avenue of inquiry in this respect. Furthermore, I took an interactionist stance, where the central concern is to generate data which give an authentic insight into people's experiences (Silverman, 2001) without being considered mirror reflections of the social world. Interviews can provide access to the meaning people attribute to their experiences, if only through 'traces' and not full access to their lived experience (Denzin, 1991).

There were two additional reasons for selecting interviews as a primary method of data collection in this project. First, because little research already existed (see Chapter 2), interviews were used to probe what aspects participants would highlight through their descriptions and discussions. Second, had the study not included interviews, it would have restricted my access to the thoughts, feelings and intentions (Patton, 2015) of teachers and students and provided less opportunity to investigate their previous experiences with the phenomenon under study. That is not to say that interviews reveal the exact nature of the participants' lived experiences of VO, but compared to observations, interviews have a better chance of capturing some affective aspects of their social worlds (Miller & Glassner, 2016). In this study, I conducted two different types of interviews, resulting in two separate data sets. They will be described in Sections 4.5.1 (individual teacher interviews) and 4.5.2 (group interviews with students).

I selected observation as the second data collection approach to complement the self-reported information that emerged in the interviews (Johnson & Turner, 2003). An advantage of the type of naturalistic observation that I have conducted is that it takes place in an environment where VO naturally occurs, producing rich descriptions of behaviour (McKechnie, 2008). In addition, direct contact with the setting provides valuable contextual information that might illuminate reported practices (Patton, 2015). It is a flexible approach where the researcher can start out broadly to see what emerges as interesting (Blommaert & Dong, 2020; Wästerfors,

2018) and where it is possible to capture unanticipated behaviour (McKechnie, 2008). Therefore, it is a helpful complement to semi-structured interviews, in which the researcher may struggle to ask questions about aspects outside of their preconceptions. Patton (2015) argues that another way in which observation can complement interviews is through its ability to illuminate routines that participants take for granted and thus may leave out as self-evident during interviews. In sum, and for the aforementioned reasons, I consider the combination of interviews and observations to be a strength in this project. The observations are further described in Section 4.5.3.

Table 1 presents an overview of the methodological choices related to the three articles I have written in this PhD project. The table includes information on the title of articles, the research aims of each article, a summary of design, data collection tools, participants and data sources.

Table 1 *Methodological choices related to the three articles conducted for this PhD project*

Overall research question	What role does the vocational orientation approach play in the teaching and learning of L2 English in secondary vocational education in Norway?		
	Article 1	**Article 2**	**Article 3**
Title of the article	Vocational orientation—A supportive approach to teaching L2 English in upper secondary school vocational programmes	'It's Really Cool to See That English and Our Vocational Subjects Are Connected': A Study of Factors in the Learning Environment that Influence Upper Secondary Vocational Students' Engagement in L2 English	Vocabulary Teaching Practices of L2 English in Upper Secondary Vocational Classrooms
Research aim of the article	To examine English teachers' views of and experiences with VO teaching, more specifically their goals, their perceptions of VO's utility and the challenges they encounter.	To explore vocational students' views on what factors in the learning environment that influence engagement in L2 English lessons.	To describe the characteristics of vocabulary work within a vocational orientation approach to the teaching of L2 English in secondary school vocational classrooms.
Research design	Qualitative interview study. Thematic analysis of data	Qualitative interview study. Thematic analysis of data.	Qualitative observational study. Participatory classroom observations. Thematic analysis of data.
Data collection tools	Semi-structured interview guide (see Appendix A)	Semi-structured interview guide (see Appendix A)	Observational protocol (see Appendix B)
Participants	10 English teachers	50 vocational students	10 vocational English classrooms
Data source	Ten individual teacher interviews	13 group interviews with students from 10 classrooms	Ten VO trajectories in 10 classrooms. A total of 29 lessons and 46 hours 20 min. of observation

4.3 Strategic Sampling

This study was constructed around 10 vocational English classrooms, where I observed one VO trajectory per school and conducted individual teacher interviews and student group interviews to explore the overarching research question. In line with Richards (2011), I refer to my 10 classrooms as cases, without claiming that I have conducted a case study. To

identify cases, I utilised a purposive sampling strategy described in some detail in the following section.

4.3.1 Selecting Schools

To identify potential participants, I started at the school level. I utilised a purposive sampling strategy with three selection criteria to identify schools eligible for participation:

1. A geographical location in eastern or western Norway. Travel time in eastern Norway could not exceed two hours from my place of residence, and schools in western Norway had to be accessible by aeroplane and public transportation
2. A vocational identity (defined as offering two or more vocational programmes)
3. An expressed commitment to VO teaching (defined as mentioning VO teaching on the school website)

To identify schools that fulfilled the criteria, I followed a two-step procedure. First, I utilised county administration websites to compile a list of all upper secondary schools in the target locations that offered two or more vocational study programmes. Next, I compared each school against the final criteria by examining the schools' own websites. I searched for the term VO [in Norwegian *yrkesretting* or *yrkesrettet*] using the inbuilt search function and opened external files containing plans, strategies and pedagogical visions to search for the same terms there. In this manner, I identified 22 schools suitable for this study. To ensure some geographical spread, I organised the schools by area and prioritised which I would contact first.

4.3.2 Selecting Teachers

In this project, I set out to explore what could be described as commonplace VO teaching in settings where it is a normalised practice. This aim shaped the overall strategy for my purposive sampling of teachers (Palys, 2008). I wanted to recruit teachers who considered VO a routine part of teaching English in vocational programmes but was open to teachers of varying levels of experience, different backgrounds and with all combinations of subjects in addition to English. To identify teachers who fit this profile, I worked with the following selection criteria:

1. Has more than two years' experience with VO
2. Currently teaches English to vocational students
3. Uses VO regularly
4. Wants to participate in a study of VO

When contacting schools, I specified my preferences. Whoever the gatekeeper at a particular school was (typically the principal), they then provided me with the email address of several English teachers in staff that I could contact. In most cases, I had phone conversations or face-to-face meetings with the teachers before they agreed to participate. However, the teachers were not the only ones who would have to give their consent before I could commence data collection. The students, too, would have to consent to participation, which is something I will discuss in more detail in Section 4.9.

Some of the teachers taught multiple vocational programmes, and, in such cases, I left it to the teacher, in agreement with the students, to decide who I would visit. Therefore, I did not have a say in what study programmes were included in the study or in what year the students were. In total, I collected data from five different programmes, and my studies included 10 teachers

and 132 students. All three articles draw on data from all 10 sites, but from different perspectives.

Table 2 provides an overview of the participating teachers, their locations and whether they taught a technical (electricity and electronics and technical and industrial production) or non-technical programme (design, arts and crafts, health, childhood and youth development and restaurant and food). I have been very restrictive in choosing what background variables to be included here and in the articles. There were two primary reasons for this. First, I did not consider these background variables while analysing my data and they were not consequential in the study. Second, I did not want teacher and student informants to become identifiable across articles by comparing and congregating information.

Table 2 *An overview of the participating teachers, their locations and whether they taught a technical or non-technical programme*

School	Location	Programme type	Teacher (pseudonyms)	Year (level)
A	East	Technical	Anja (F)	11
B	West	Technical	Bernt (M)	11
C	East	Technical	Carina (F)	12
D	East	Non-technical	Dagny (F)	12
E	West	Non-technical	Elin (F)	12
F	East	Technical	Fredrik (M)	11
G	East	Non-technical	Glenn (M)	12
H	West	Technical	Herman (M)	11
I	East	Non-technical	Irene (F)	11
J	West	Non-technical	Jana (F)	11

To minimise the chance for readers to identify participants across articles, I have chosen not to present an overview where students are matched to their instructing teacher. I have also chosen to present the schools with different pseudonyms across the three articles. Because it has implications for the ethical aspect of data collection, I should however mention that all students were over the age of 16 and thus considered able to decide for themselves whether they want to participate in research (Norwegian centre for research data, n.d.).

4.4 Pilot

The study was built on experiences from a pilot study conducted in the spring of 2018. In this pilot study, I followed VO English instruction in two classrooms of two different schools and conducted both teacher and student interviews. The observations were important for the development of an observation protocol by providing me with experiences to draw from concerning what I would be able to observe and how I should structure these observations. In line with good practice, I utilised the teacher pilot interviews to test an interview guide that I had developed under the guidance of my supervisors and pre-piloted with some of my teacher friends. The pilot experiences were employed to adjust the guide as needed (see for example Gall et al., 2007). However, the student interviews were less structured in the pilot phase and set out to explore what themes the students seemed interested in talking about and what would potentially prove challenging in getting their perspective on VO teaching. Sampson (2004) explains that using pilot studies can be very helpful in uncovering what could become problematic during data collection. As I had expected, the students expressed that they were not consciously aware of VO as a term, although they recognised the phenomenon when I explained it to them. They could, for example, give examples of how their teachers

approached VO. Thus, the pilot study confirmed that I would have to approach VO teaching from a less technical stance when interviewing students. My solution (as illustrated in Appendix A, interview guide students) was to address English language teaching more generally, focusing on engagement and comparing the students' descriptions of lower and upper secondary schools to access the students' experiences with VO.

4.5 Data Collection Procedures

I collected data for my project in the period May 2018–April 2019. Thus, across the 10 schools, data were collected at different times throughout the school year. Data collection at the 10 different sites followed very similar trajectories, with some differences relating to both the number of observations and that of students who wished to be interviewed. Figure 3 describes this trajectory.

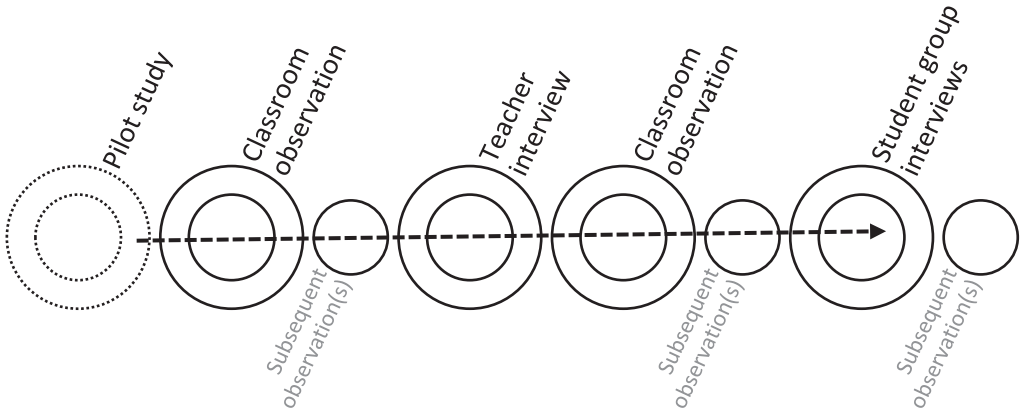

Figure 3 *Data collection trajectory in this project. To illustrate that the observations varied in number across schools, the model included double circles (data collected across all sites) and single circles (data collected at some sites).*

As Figure 3 describes, each trajectory started with the observation of one or more lesson(s). The second step was the teacher interview, which was always followed by a new classroom observation. Finally, I conducted student group interviews, which comprised the third data source. In line with an ecological approach (van Lier, 2004), I wanted to give as few instructions as possible, and the teachers planned the observed trajectory without my interference, including content, point in time and duration. For this reason, the observed trajectories varied in length from two weeks of lesson time to five weeks of lessons.

Now, I will present and discuss my data collection methods in more detail, starting with the teacher interviews, then the student interviews and finally the observations.

4.5.1 Individual Teacher Interviews

In line with Seidman (2006, 2019), I conducted teacher interviews to understand participants' lived experiences of VO. More specifically, the aim was to tap into the teachers' views of and experiences with VO teaching, including their goals, their perceptions of VO's utility and the challenges they encountered. Towards this aim, I used an interview guide with 15 main questions concerning the teachers' VO practices, experiences and opinions, their VO lesson planning, views of facilitating and constraining factors and background information. We also talked about the role of English in a vocational programme. The guide is available in Appendix A.

As illustrated in Figure 3, the individual teacher interviews were part of the individual data collection trajectories at the various schools. For this reason, they were spread out in time, with the first occurring in May 2018 and the last in April 2019. The interviews were conducted after at least one observed lesson so that we would have a shared reference point for exploring the teachers' VO experiences and practices. In addition, it meant that we had spent some time together, usually sharing coffee before or after class, and that we had conversed on both everyday matters and school-related concerns. I utilised this approach to assist in 'the development of trust and rapport' between me and the participating teachers (Earthy & Cronin, 2008, p.431). A further strategy I utilised towards this end concerned telling the teacher participants about my own background as an English teacher. I found this important because stories are told to particular people in different ways (Miller & Glassner, 2016), and I wanted to facilitate a sense of shared experiences to promote symmetry in the interview situation (Kvale & Brinkmann, 2015).

As mentioned, I had piloted and prepared a semi-structured interview guide (Kvale & Brinkmann, 2015), which was in use for all 10 interviews. I also utilised follow-up questions to probe for clarification where needed. This is one of the strengths of semi-structured interviews (Morris, 2015), but it also means that some interviews have segments that diverge from others. Still, I consider that the guide contributed to capturing what the informants were able and wanted to share on comparable issues. Because the language that is used in an interview is important for what participants can and will address (Mann, 2010), the teachers were asked beforehand whether they preferred to be interviewed in English or Norwegian. Nine out of ten preferred to be interviewed in Norwegian. The interviews were recorded using tape recording devices (more on storage in Section 4.9).

4.5.2 Group Interviews with Students

Through student group interviews, I aimed to explore vocational students' experiences with the English subject in general, and with VO English more specifically. As mentioned, the pilot study revealed that the students were not fully aware of the concept of VO and that interviews could not tap into VO teaching directly. Therefore, we instead addressed issues such as likes and dislikes in the English subject, aspects of relevance and subject engagement in upper secondary school and compared this to what they reported to have encountered in lower secondary school. The interviews were supported by a semi-structured guide, which is included in Appendix A for further reference.

The student group interviews were conducted towards the end of the trajectory, in most cases in conjunction with the final observation. The students self-nominated to be interviewed, and I interviewed everyone who had volunteered and who was present on the day of the interview. The interviews were conducted in groups of three to five students, with only me and the students present. The size makes them quite small for focus groups, but a smaller size can be better in terms of generating rich discussions (Braun & Clarke, 2013), and it was a feasible choice to ensure similar group sizes across data sites. The interviews were conducted in Norwegian, which all the interviewed students spoke fluently.

The students had just participated in an L2 English VO trajectory and were willing and able to talk about this and other experiences related to English instruction. My semi-structured interview guide directed the conversation, and the extent to which we deviated varied considerably between interviews. While all the students took part in the conversation, some

students spoke at length, while others required more prompting. Therefore, follow-up questions were adapted for each group and individual students. Strategic follow-up questions were not used mainly as a strategy to reduce the dominance of potential opinion leaders in the groups (Creswell & Poth, 2017) but rather as a strategy to include the perspectives of more apprehensive students.

There were several reasons to interview students in groups, all of which were rational given the aim of this project. Group interviews are beneficial for the identification of major themes rather than micro-themes and subtle differences (Krueger, 1994), which was suitable for this exploratory project. Further, Patton (2015) points out that group interviews may be chosen in certain settings because people are more comfortable in groups than in one-on-one inquiries. My experience with teenagers and students suggests that this applies to them. Group interviews are also 'cost-effective', in the sense that they are less time-consuming and would not steal too much from the students' class time.

Concerning the richness of the data, I also chose focus group interviews to allow students to build on each other's responses (Vaughn et al., 1996) and to achieve interaction among the interviewees (Creswell & Poth, 2017). Furthermore, within-group homogeneity can inspire participants to elaborate stories and themes that help researchers understand the participants' social world (Hughes & DuMont, 1993). I wanted to gain high-quality data from a social context where the students could present their own views in the context of others' views. One possible limitation of group interviews is that the minority perspective is lost because, for various reasons, those who disagree with the majority do not speak up. I acknowledge that this may have happened in my research. However, I also acknowledge that all research approaches have their strengths and weaknesses. Ideally, interactions among participants enhance the quality of data in group interviews by providing checks and balances on each other (Krueger & Casey, 2017) and eliciting a sense of what is important and what is not (Eriksson & Kovalainen, 2008, p. 175).

4.5.3 Classroom Observations

I conducted classroom observations in all 10 classrooms, taking field notes as documentation. I wanted to observe VO trajectories that were representative of the teachers' regular practices and left it to the participants to decide when I would come to observe. This meant that the teachers reached out to me when it was time for VO teaching. Thus, the teachers were in complete control of what the observed trajectories looked like.

The data collection process can be described as focused in the sense that I defined a specific situation (a VO trajectory) of interest from the outset (Knoblauch, 2009) and did not take part in lessons outside of the defined trajectory. As a participant observer (Johnson & Turner, 2003), I set out to develop knowledge of what VO teaching looked like in the participating classrooms, which I not only used as a backdrop for the interviews, but also, more importantly, reported on in Article 3. The observational data represent a shift away from self-reporting and complement the interviews by offering immediate access to what VO teaching can look like in naturalistic settings.

When collecting observational data, it is important to describe the setting and various contextual factors in detail, accounting for the activities that take place and the people who participate in them (Patton, 2015). I recorded my observations using a template to take structured and descriptive field notes on my computer. The template is included in Appendix

B. Following advice from different sources (Creswell & Poth, 2017; Gall et al., 2007; Lofland et al., 2006; Silverman, 2017), I included in the field notes a timeline of events, description of classroom activities and resources, as well as teacher and student utterances. These were noted as direct quotations as much as possible. When I was not able to do so, I summarised the discussions instead and made a note of why I was not able to use verbatim transcription. More details on this can be found in Article 3.

4.6 Analytical Strategy

This project was built on three data sources that were mutually informative and contributed to a larger whole. However, each source, teacher interviews, student group interviews and classroom observations, was analysed separately (and consecutively) using thematic analysis (TA). More specifically, I employed an iterative strategy suggested by Braun and Clarke (2006, 2012) and Braun et al. (2019), consisting of six steps (see Table 3 for details (adapted from Braun & Clarke, 2006; Braun et al., 2019).

Table 3 *An overview of phases in the process of data analysis*

Phase		Description of the process
1	Familiarising myself with the data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code
3	Constructing themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4	Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme
6	Producing the report	The final opportunity for analysis. Selecting vivid, compelling extract examples, conducting final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis

TA provides an approach to qualitative data that builds on clearly delineated steps and many helpful guidelines that together promote a rigorous process of data analysis. Furthermore, it is a flexible method that can be applied to different types of data material, which was useful for this project, as it involved both interview and observational data. However, this flexibility means that the researcher must take care to report accurately on what has been done (Braun & Clarke, 2006), which is what I attempted to do in Section 4.6, as well as in the individual articles.

In the following, I will describe how I approached these six phases. Since I followed much the same approach for all three articles, I only distinguish between the three data sets (and their corresponding articles) whenever necessary. As the articles themselves describe the analytical processes in detail, the aim here is to add transparency in my project, to support research credibility.

Phase 1: Familiarisation. I came to the analyses with prior knowledge of the data, as I had gathered it myself. However, the extent to which I had developed initial analytic interests varied between data sets. I had decided to analyse the teacher interviews first, because I believed it would be necessary to understand the teachers' approaches before exploring the student experience. For this reason, the analysis of the teacher data informed my approach to

the student data. The same is true of the observational data, which I approached with both the teacher and the student interviews as a backdrop.

While Braun et al. (2019) do not regard transcribing data as part of this first phase, I experienced it as an interpretive act (Lapadat & Lindsay, 1999) and an important part of the familiarisation process (in line with Braun & Clarke, 2006). Listening to recordings multiple times—first while transcribing, and then when checking the accuracy of the initial transcriptions—I certainly grew to know the material well (Riessman, 1993) and experienced a sense of immersion in the data (Braun et al., 2019). In addition, separate from the process of transcription, I read all my transcriptions multiple times. The observational notes did not require preparation, as I had written out each round of notes in conjunction with the observation itself. Instead, in the familiarisation phase, these notes received several rounds of curious reading from both me and my co-author of Article 3.

Phase 2: Generating codes. In this phase, I engaged in a more detailed and systematic reading of the data (Braun et al., 2019), aiming to identify telling aspects—organised by codes—that might form the basis of repeated patterns or themes across the data sets (Braun & Clarke, 2006). From a technical point of view, my initial work to generate codes differed among the data sets. I used a word document for Article 1's data set (teacher interviews), the computer program NVivo for Article 2's data set (student interviews) and pen and paper for the observational data belonging to Article 3. Later in the process, I utilised NVivo for all three articles. My co-author was also involved in generating codes for Article 3, although we worked separately at first. This practice is consistent with the view that all researchers look at data through their own lenses (Braun et al., 2019), making consensus a forced exercise in the early stages of a study. The coding was primarily inductive, although it was in part informed by engagement theory and previous research on student engagement in Article 2. On the semantic–latent continuum (Braun et al., 2019), the coding of the teacher interviews tended towards the semantic, or descriptive, end, drawing on the language used by the teachers themselves. For the student interviews, which were group interviews, the coding was more latent, as both the interaction between participants and the sometimes naked language of the students required moving beyond explicit meaning at the sentence level (Braun et al., 2019). The coding of the observational notes was mostly descriptive.

Phase 3: Constructing themes. This phase is highly important for the analysis, as this is where it first starts to take shape (Braun & Clarke, 2006). I use the term constructing themes to emphasise how themes are 'built, moulded, and given meaning at the intersection of data, researcher experience and subjectivity, and research question(s)' (Braun et al., 2019, p.854). Phase 3 must be considered a developmental stage, where candidate themes are tested and evaluated (Braun & Clarke, 2012). Especially when working with the interview material (both teacher and student interviews), I went through several rounds of theme exploration, reflecting the fact that theme construction is an active process (Braun & Clarke, 2012). The process of finding the story about the data (Braun & Clarke, 2012) requires making decisions about which codes should *not* be included in the final themes, and to me, this was the most challenging part.

Phase 4: Reviewing potential themes. In this phase, I engaged in the recursive process of reviewing themes in light of the entire data set. When working with Article 1, the process led

to a reorganisation of codes and themes, while for Articles 2 and 3, I considered the initial work suitable, even after a closer inspection.

Phase 5: Defining and naming themes. As a precursor for conducting and writing detailed analyses for each theme, a goal in this phase was to define the themes and to identify their individual 'essence' (Braun & Clarke, 2006, 2012). Article 3 includes a definition of themes in its appendixes, but this is not described in Articles 1 or 2. Therefore, in this extended abstract, I include theme definitions for Articles 1 and 2 in Appendix F to complement the information in the articles.

For all three studies, Phase 5 involved grappling with theme labels. Leaning on Braun and Clarke (2006), who suggested giving themes more concise names when reporting on research, I decided to use short and highly descriptive labels in my writing. These are presented in Table 4.

Table 4 *The final themes for each article*

	Final themes			
Article 1	VO aim(s)	The utility of VO	Challenges to VO	
Article 2	Content	Classroom activities	The teacher	
Article 3	Explicit/implicit attention to vocabulary	Word choice	Organisation	Vocabulary context

Phase 6: Producing the report. The final stage in the TA approach proposed by Braun and Clarke (2006, 2012) and Braun et al. (2019) involves writing up the research. This stage is not simply a writing exercise, but a part of the analysis, as it is in this stage that the story emerging from the analysis is produced. Furthermore, it provides the researcher with a chance to revisit the material and other aspects of the research to make adjustments so that the final results are coherent and telling. For example, in working with all three of my articles, I took a second look at my research questions and made small tweaks to achieve a better fit between the data and the themes. A challenge in this phase can be to present themes logically and meaningfully. I encountered this problem when writing Article 1, where my co-author and I tried out different options before deciding on a final structure.

4.7 Research Credibility

A longstanding debate in assessing the quality of qualitative research concerns whether it is salient to draw on terminology developed for quantitative research, such as validity, reliability and generalisability (for example Seale, 1999), or whether it is better to develop terms with a qualitative anchorage (for example Lincoln & Guba, 1985), such as rigour, trustworthiness and credibility. Acknowledging the existence of a range of approaches to trustworthiness, I have chosen to discuss research credibility in terms of validity and reliability and to build on sources that address the two in the context of qualitative research.

Threats to validity and reliability can never be completely removed. Rather, what a researcher can do is attenuate the impact of relevant threats (Cohen et al., 2017). For this reason, the following two sections describe the most important strategies I have employed to strengthen the credibility of my doctoral project.

4.7.1 Validity Strategies

Validity can be defined as the extent to which interpretations of data are warranted by the theories and evidence used (Ary et al., 2014). Validity is strengthened if research builds on a

sound research design and sound research conduct and presents sound conclusions and explanations that can withstand rigorous scrutiny and opposition (Cohen et al., 2017). For qualitative researchers, validity means having confidence in the research results (Hammersley, 1992).

I utilised a number of validation strategies. First, I designed my project to draw on multiple data sources for the purpose of extending the obtained knowledge (Flick, 2007) and maintaining the complexity of the phenomena under study (Morse, 2010). This strategy was also a precursor to the analytical strategy of triangulation (see next paragraph). Concerning analytical strategies, I prioritised comprehensive data treatment as a strategy to avoid anecdotal representations of VO (Silverman, 2017). As part of this strategy, I analysed the entire data material and reported on deviations and tendencies. This means that so-called negative cases (see for example Creswell & Poth, 2017) were reported on. One example can be seen in Article 3, where two classrooms did not include explicit attention to vocabulary. Further, there are several mentions throughout the three articles of informant views that diverge from the majority opinion.

Triangulation of data is a central strategy in this study. The study draws on two separate research methods—interview and observation—to facilitate between-method triangulation (Denzin, 1989). Within the method interview, the views of two different groups are explored to access different views of the phenomenon under study. The student and teacher interviews followed different strategies and interview guides to further contribute towards in-method triangulation (Denzin, 1989). In terms of analysis, data from three different perspectives converged to explore the study's main research question.

In terms of reporting, I have aimed to uphold validity by offering thick descriptions (Lincoln & Guba, 1985) that specify everything that a reader may need to know in order to understand the findings (Lincoln & Guba, 1985). It can be quite challenging to portray a school system accurately in research articles, and there is always a chance that those who are familiar with a different system will misunderstand. As an alleviating measure, I have provided lengthy descriptions of the research context and the system of vocational education in Norway that should aid readers' understandings of my findings (see Section 1.4 and Articles 1–3). I have also utilised the review processes of my articles to assess whether my descriptions are sufficient, and for Articles 1 and 3, I had to make changes so that the reviewers could fully understand contextual matters.

I further aimed for theoretical and methodological transparency, showing readers how I worked on my project. Transparency can be achieved by accounting for how data were collected and analysed and by presenting data extracts to allow readers to conduct their own inquiries (Yardley, 2008). I prioritised presenting central decisions concerning topics, settings, participants, use of research instruments and other important aspects of my inquiry and utilised this extended abstract to include information for which there was no space in Articles 1–3. (See Appendix D for examples of analysis from Articles 1 and 2. For examples from Article 3, consult the article's Appendix.) To show the lines of inquiry that have led to particular conclusions (Seale, 1999), I have supported my claims with data extracts. However, due to the length restrictions of the articles, it can be argued that this strategy has certain limitations in the way it has been implemented.

4.7.2 Reliability Strategies

Reliability is an umbrella term for dependability, consistency and replicability across time, instruments and groups of respondents (Cohen et al., 2017). In qualitative research, it particularly concerns the consistency and trustworthiness of one's research results (Kvale & Brinkmann, 2015) and its fidelity to the natural situation and real life (Cohen et al., 2017).

As a first reliability strategy, I aimed for a tighter—rather than looser—qualitative design (Miles & Huberman, 1994) to ensure stability in data collection across settings and time. I utilised semi-structured interview guides and an observation template, and then followed the same research trajectory across all cases to facilitate some standardisation that would aid in a comparative analysis (Flick, 2007). Furthermore, I applied a well-considered sampling approach to guide the inquiry (Lofland et al., 2006). In my project, I utilised two sets of selection criteria to identify relevant schools and then relevant teachers within those relevant schools. Utilising this strategy, I felt reasonably confident that I was studying teachers and classrooms where VO teaching was an established practice, which was what I had set out to do. Later, I used the computer program NVivo on all data sets (with some variations in how and when) to contribute to a sound and well-organised analytical process (O'Kane et al., 2019; Seale, 2017).

Another strategy involved the use of low inference descriptors in the observational notes to reduce some of the bias that operates in acts of observation (Silverman, 2017). Although, as Seale (1999) notes, observation acts will always be influenced by the researcher's underlying assumptions, I have aimed to take notes in concrete language, clearly marking the interpretations in a separate colour to set them apart from (more) neutral descriptions. In addition, I strived to include verbatim accounts of utterances rather than general reconstructions (Silverman, 2017). A threat against reliability in interview studies can be the extent to which different informants understand the same questions in different ways (Kvale & Brinkmann, 2015). As an ameliorating measure, I piloted the interview guides and discussed them with my supervisors to improve the quality and clarity of the questions. Furthermore, certain key questions were asked in the same manner every time.

An important aspect of reliability concerns whether another researcher would make similar interpretations, given the same data material. In this respect, working with others can be considered a strategy, which I utilised in Articles 1 and 3. Especially for Article 3, aspects of inter-rater reliability were in effect, as both myself and my co-author conducted (and compared) data analysis. In a similar vein, I have employed peer checking (Creswell & Poth, 2017; Seale, 1999) and external audit (Lincoln & Guba, 1985) as strategies to notice problematic areas, in particular with regard to arguments and conclusions that were not well supported. Peer checking involved consulting my advisors and research group as well as the review processes of the articles. As a PhD student, I have had my work reviewed at the midway assessment and the final reading, which functioned as an external audit (Lincoln & Guba, 1985).

To conclude my discussion of reliability, I have endeavoured to carry out a coherent piece of research and aimed for a logical and convincing fit between the research question, previous research and theory, methods and data analysis. The external reviews of my articles, as well as my supervision and final reading, have been instrumental in discovering and correcting inconsistencies in the presentation of my study (Yardley, 2008).

4.8 Transferability

To assess the broader application of my qualitative findings, I built on the concepts of theoretical generalisation (see Seale, 1999) and transferability (Lincoln & Guba, 1985). Theoretical generalisation involves being thorough and observant in linking your study and its findings to theory and previous research for the purpose of developing ideas from local observations to a more general level. In this study, I aim to achieve theoretical generalisation by using thick descriptions to portray the contexts and meanings that underpin the empirical data for the purpose of conceptualising VO teaching (see Section 6.1.1).

In comparison, transferability implies that the results of a research study can be transferred to situations beyond the scope of the study context (Jensen, 2008). I consider transferability to be a shared responsibility between the researcher and the reader. The role of the researcher is to explicate central information concerning participants and context by providing full and focused accounts of the context, the participants and the research design, which is otherwise known as giving thick descriptions (Lincoln & Guba, 1985; Seale, 1999). In addition, they can contribute by using purposeful sampling to facilitate meaningful exploration of the phenomenon under study (Jensen, 2008). The role of the reader involves reading the research closely and reflecting on its relevance to one's own setting (Baskerville, 2014; Gall et al., 2007; Lincoln & Guba, 1985). For readers to be in position to conduct such reflections, researchers must produce accounts that are accessible to others (Marshall & Rossman, 2011; Toma, 2011), concerning, for example, language and specificity. In my project, I have aimed to include the central details for readers to consider transferability from a satisfactory vantage point. This includes information on the role of English in Norway (see Article 3), the Norwegian educational system (see Section 1.4 and Articles 1–3), secondary vocational education in Norway (see Section 1.4 and Articles 1 and 2), the English subject in Norwegian school (see Section 1.4.2 and Articles 1 and 2) and methodological considerations (see especially Sections 4.4–4.6 and the Methods section of each article).

4.9 Ethical Considerations

Ethics is an essential part of rigorous research to uphold the principles of respect for persons, beneficence and justice (Marshall & Rossman, 2011; Tangen, 2014). In this study, I drew on Guillemin and Gillam (2004) to exercise ethics as procedural and in practice. Procedural ethics deal with the legal issues, research norms and other principles that can be accounted for and described at the onset of research, while 'ethics in practice' are ethically important moments that are often difficult to foresee but that nevertheless emerge in all research projects (Guillemin & Gillam, 2004). To respect procedural ethics, I have followed legal requirements for research (Forskningsetikkloven, 2017; Personopplysningsloven, 2018) as well as norms for research ethics within the field of social studies and humanities (National Committee for Research Ethics in the Social Sciences and the Humanities, 2016, 2019). Participants gave voluntary, informed consent by signing consent forms (see Appendix C) that had been approved by the Norwegian Centre for Research Data (NSD). As these consent forms were quite elaborate in wording (in accordance with the wishes of the NSD), a simplified version of the information was provided orally before the participants were asked to consider participation. Both the consent form and the oral information stressed that participation was voluntary. The participants could withdraw at any time and were guaranteed anonymity in publications and other research disseminations.

Regarding ethics in practice, my main credo has been to never knowingly compromise my participants' dignity, privacy or anonymity. This became important, for example, when dealing with personal information about the participants that I encountered throughout the project. The project was not designed to capture sensitive data, and I treated such information as if I had never encountered it (i.e. I never brought it up in conversation or wrote it down in my notes). In cases where teachers or students mentioned identifiable and/or sensitive information[8] during the interviews, I omitted the information from the transcribed data. All recordings were stored on a secure university server, following the General Data Protection Regulations (GDPR). These recordings will have been deleted at the end of my PhD project, and only fully anonymised transcriptions and field notes will remain. In my written work, I have exercised great caution to avoid the possibility of someone recognising participants or schools by comparing across articles. As an example, the schools are given different pseudonyms in the three articles, and they are not presented in the same order (i.e., A–J in Article 1 does not correspond to 1–10 in Article 3).

A troublesome issue during the study was my use of teachers as gatekeepers to access students. This approach is problematic because participants may feel pressured to participate (Ryen, 2016; Silverman, 2017). Therefore, to respect the students' right to self-determination, I encouraged teachers to treat participation as a joint agreement between themselves and their students and to withdraw from participation if students expressed apprehension. In addition, I spent time during my first visits to class explaining my research intentions and highlighting the meaning of willing informed consent and the right to withdraw. I stressed that I was interested in the class level, not individual-level behaviour, would only take notes on the type of information that was already available to any student or teacher present in the classroom and would not record personally identifiable information, such as names. In one classroom (School C in Article 1), two students did not consent to the observation. Because I did not make any recordings in class, I respected their wishes by leaving them out of the observational notes. This was in line with the advice given to me by the NSD.

As a final measure towards ethical practice, I had decided that I would withdraw from any situation in which I sensed that the students were uncomfortable with my presence. To the best of my knowledge, it was not necessary for this final measure to be employed.

[8] Issues pertaining to health, religion and political views were mentioned in some of the interviews.

5 Synthesis of Findings

In this chapter, I synthesise the findings of the three articles that comprise the thesis's empirical investigations. I start by describing the relationships among my articles and then provide an overview of the aims and findings in each article. All three articles provided their own pieces of the puzzle and represented separate, relevant perspectives towards illuminating the main research question. Figure 4 illustrates this relationship.

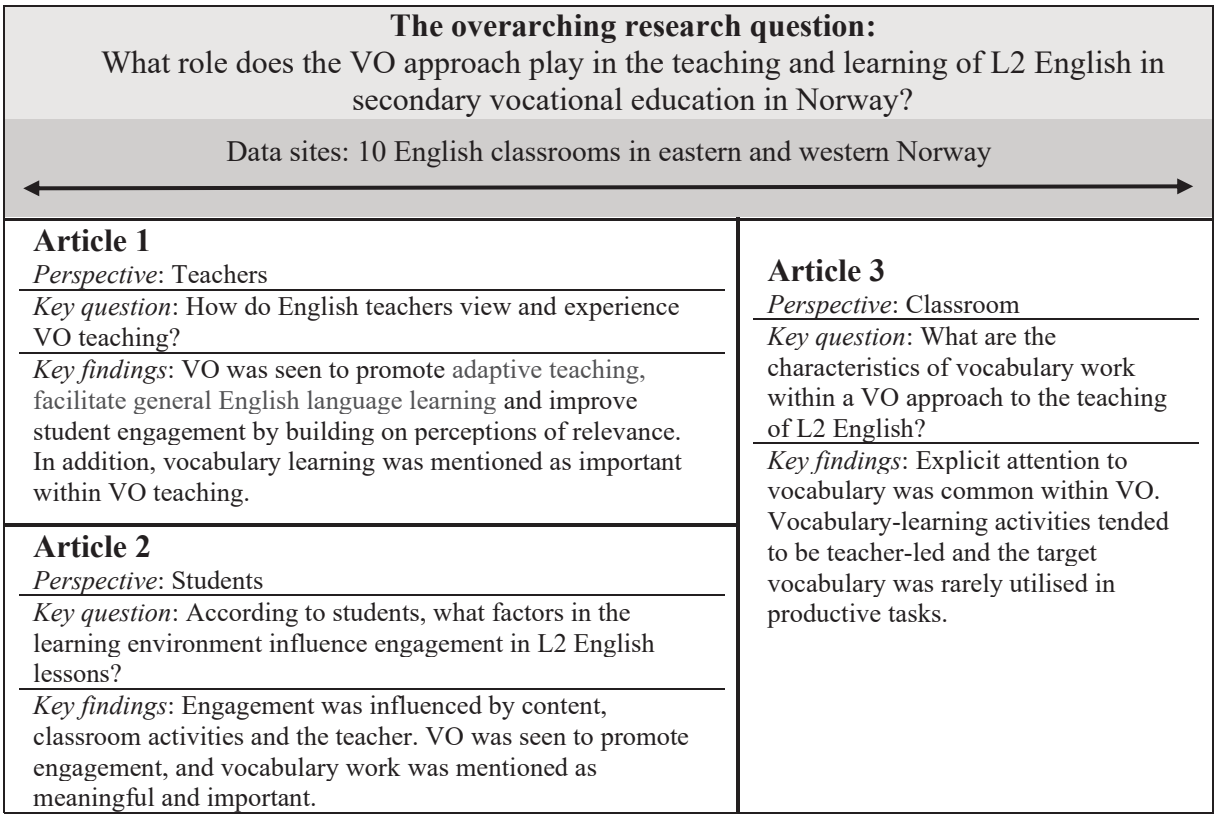

Figure 4 *An overview of perspectives, key questions and key findings for the three articles that illuminate the main research question of my thesis.*

Figure 4 provides information on each of the three articles and illustrates how they form the larger picture presented in this thesis. From three different vantage points, namely teacher interviews, student group interviews and classroom observations, the articles add to the investigation of the overarching research question. All three articles utilised data that was collected in 10 vocational English classrooms in eastern and western Norway. Although all data were collected concurrently, the analysis for Article 1 was conducted first, followed by those of Articles 2 and 3. This explains their numbering. The order in which the analysis was conducted matters because the findings in Article 1 influenced salient aspects of both Articles 2 and 3, while Article 2 influenced Article 3. As illustrated in Figure 4, student engagement emerged as a finding in Article 1, which I wanted to study further. This became the focal point of Article 2. In Articles 1 and 2, vocabulary work was mentioned as a particularly important aspect of VO teaching. Subsequently, while I had already decided to write the third and final article on my classroom observations, Articles 1 and 2 played a key role in deciding which aspects of the observed instruction to prioritise.

Next, I will synthesise the findings presented in the articles. Due to space constraints, I refer the reader to the article abstracts for general summaries, and the articles in their entirety for all details (see Part II, Articles).

5.1 Article 1

Skarpaas, K. G., & Hellekjær, G. O. (2021). Vocational orientation – A supportive approach to teaching L2 English in upper secondary school vocational programmes. *International Journal of Educational Research Open*, *2-2*.

The aim of Article 1 was to examine English teachers' views of and experiences with VO teaching to access their VO teaching goals, perceptions of VO utility and challenges they faced in VO teaching. In this article, my co-author and I drew on prior research concerning the integration of general content in vocational secondary programmes and briefly compared different practical solutions in the UK, the US and Norway (e.g., Bak & O'Maley, 2015; Casey et al., 2006; Grubb, 2006; Grubb et al., 1991; Hoachlander, 1999; Regulations of the Education Act, 2006; Roberts et al., 2005). The interview data were analysed using TA, and the study had an emergent, data-driven design.

A salient pattern in the 10 teachers' accounts was that VO functioned as a tool for adaptive teaching. In short, the teachers believed that their vocational students needed to be taught differently from students in general studies and that VO was helpful towards this end. The teachers also emphasised that VO helped make English a more engaging subject by catering to vocational students' needs and preferences. For this reason, they looked at VO as an expedient way to create engagement that could be channelled into the learning of general English language skills. Vocational topics were considered more engaging because they built on the students' interests and helped them understand the relevance of English as part of their vocational education. Finally, the teachers said that they were able to utilise VO to scaffold learning in a way that was particularly supportive for vocational students who struggled with English.

While VO emerged first and foremost as a pedagogical tool to help students develop their general English competence, nine of the ten teachers agreed that another goal of VO was to support the students' learning of vocational terminology. This finding played an important part in justifying the choice of vocabulary instruction as a focal point for Article 3.

In sum, Article 1 contributes to the overarching research question by illustrating how, according to 10 teachers, VO functions as an essential ingredient towards increasing student engagement in English language learning. The study suggests that VO is part of a virtuous cycle in which vocational content promotes investment in and engagement with learning, which, in turn, facilitates further English language learning. For this reason, the teachers expressed a more favourable view of VO teaching than was typical in the literature reviewed for this study (for details, consult Article 1). There was consistency in the teachers' views of how VO could function as a tool to meet not only the students' needs but also their own teaching goals. The teachers also felt that VO and engagement were closely linked, which is investigated from the student perspective in Article 2.

5.2 Article 2

Skarpaas, K. G. (2022). *'It's Really Cool to See That English and Our Vocational Subjects Are Connected'*: A Study of Factors in the Learning Environment that Influence Upper Secondary Vocational Students' Engagement in L2 English. Under review for *Scandinavian Journal of Educational Research*.

Article 2 presents empirical data from student group interviews (n = 13). Furthermore, it builds on the concept of engagement, which emerged in Article 1 as a key term concerning teachers' views of how VO functions. Engagement was also a salient aspect of Article 2's interview guide, although I adopted it as an analytical framing only after having worked with the teacher interviews. In this respect, Article 2 builds on Article 1 by latching onto the teachers' view of VO as engagement-promoting, exploring it further from the student's perspective. My aim was to understand whether and—if pertinent—how students perceived a link between VO and engagement, and, towards this end, Article 2 draws on engagement theory (e.g., Christenson et al., 2012; Fredricks et al., 2004; Mercer, 2019; Mercer et al., 2021) to explore vocational students' views on factors in the learning environment that influence engagement in L2 English. While engagement is the unit of analysis, the article nevertheless contributes to the thesis' overall research question because VO teaching emerges as vital to engagement in English lessons. I anchored my investigations in TA (Braun & Clarke, 2012; Braun et al., 2019), which derived three main themes: content, classroom activities and the teacher. VO teaching played a role in all three.

Concerning content, the students described vocational topics as more relevant and interesting than other options. They said that in their experience, lower secondary English would frequently build on topics without apparent relevance, but that largely because of VO, this problem was less prominent in upper secondary school. The interviews showed that vocational content was also favoured because of how it tied in with practical tasks and skills. It is worth mentioning that the students expressed being more easily engaged by content that they perceived to challenge their current language skills. Work-related vocabulary emerged as the most typical example of a knowledge gap they wanted to fill.

Regarding classroom activities, which was the second analytical theme, the students clearly perceived opportunities for active involvement and interaction as vital for their engagement. Further, they drew a sharp line between theory and practice and expressed disregard for subjects that were too theoretical. In their explanations, theory encompassed all types of schoolwork organised as independent seatwork. They favoured 'practice', or schoolwork that allowed them to be active while learning. They pointed to group work, conversations and classroom discussions as examples of active approaches to learning. The students said that although English was often taught as a theoretical subject, it could become more practical by prioritising interaction and communication as well as through the choice of engaging content. Very often this entailed VO teaching.

In Article 2, teacher behaviour emerged as the third and final important factor for student engagement. What seemed to matter the most was a teacher's ability to make students feel noticed. Such noticing would materialise in various ways, but ultimately caused the students to feel that their teacher cared about them and their interests. Furthermore, the students expressed how engaging teachers were able to adapt their teaching to student needs and

preferences. Finally, a small segment of the students were adamant that to be engaging, teachers had to allow for student autonomy in class.

Based on the findings in Article 2, I suggest that VO has four main functions. First, the students described VO topics as interesting and relevant and as conducive to engagement, clearly pointing towards an engagement-promoting function. This is in line with the view presented in Article 1 and shows that teachers and students both perceive a close relationship between engagement and VO. The second function of VO is to legitimise the English subject as part of a secondary vocational education, showing how it is relevant and important. Third, VO contributed towards adapted instruction in the sense that it made allowances for the students' interests and ambitions. For the same reason, VO seems to facilitate a better relationship between students and their English teachers, which is the fourth and final function of the note emerging from Article 2.

5.3 Article 3

Skarpaas, K. G., & Rødnes, K. A (2022). Vocabulary Teaching Practices of L2 English in Upper Secondary Vocational Classrooms. *Languages, 7*(1), 1–21.

Article 3 builds on observation data from the 10 classrooms included in this study. Here, my co-author and I looked at vocabulary instruction as part of VO. The choice to focus on vocabulary teaching practices was built on the analysis in Articles 1 and 2, where both teachers and students highlighted what they perceived as a strong, positive relationship between VO and vocabulary learning. Additionally, when reviewing my observation notes, I noticed the predominance of vocabulary work (seen in 8 of 10 schools) and thus decided to analyse it as a typical example of VO teaching.

Therefore, in Article 3, my co-author and I investigate how English vocabulary is taught under a VO heading to better understand the role of vocabulary within this instructional approach. We specified the following research aim: To describe the characteristics of vocabulary work within a vocational orientation approach to the teaching of L2 English in secondary school vocational classrooms. We focused on explicit opportunities for vocabulary learning because these were episodes that could be observed.

In our analysis, my co-author and I characterised the material by presenting three central aspects: word choice, organisation and context. Concerning word choice, we found that most of the target vocabulary, perhaps as expected, could be classified as work-related and belonging to the technical domain (Nation, 2001). In two classrooms, VO teaching also included vocabulary related to the educational system, such as *apprentice* and *vocational education*. This vocabulary belongs to the academic domain (Nation, 2001). In terms of organisation, vocabulary work was most typically organised as teacher-led whole-class instruction. While instances of group, pair and individual work were also observed, these were highly structured and offered few opportunities for autonomous language production. Independent of organisational format, we also observed many instances of L1-L2 translations. Regarding context, we described the observed instruction as having either explicit or implicit links to the students' vocational subjects. Further, it was characterised as either being conducted in isolation, where the act of learning words was presented as a goal in its own right, or as an embedded activity, where attention to words was framed as necessary for completing a larger task (e.g. reading or writing).

The findings in Article 3 contribute to the overarching research question by illustrating how vocabulary activities, as examples of specific VO teaching, function in the teaching of English to vocational students. First, Article 3 demonstrated how VO vocabulary instruction was often highly structured and rigid; however, it had learning goals that seemed achievable for most students. For this reason, it can be argued that VO vocabulary instruction promotes engagement by providing students with instructional support and a sense of progression. Concerning engagement, another advantage of VO vocabulary teaching (argued in Article 3) is that it comes with a highly noticeable and easily accepted link between English and the students' vocational subjects. This provides a legitimising function because of how it contributes to framing English as a relevant part of vocational education. This is typically what educational stakeholders have called for when requesting integration between general and vocational subjects (European Centre for the Development of Vocational Training, 2019; Hoachlander, 1999; NOU 2008:18, 2008; Quinn, 2013; Vogt & Kantelinen, 2012). In sum, the findings show that VO has engagement-promoting and legitimising functions, which is also consistent with Articles 1 and 2. The consistency of findings across articles suggests that the findings are quite rigorous.

6 Discussion of Contributions

In this chapter, I will highlight my research contributions by aligning the results from the separate articles in view of the overarching research question and the extended abstract. I will present the theoretical contributions in Section 6.1 and the empirical contributions in Section 6.2. Section 6.3 describes the methodological contribution of the study, while Section 6.4 concerns limitations. Finally, I describe some didactic implications in Section 6.5.

6.1 Theoretical Contributions

This thesis makes two theoretical contributions. The first, which builds on van Lier's ecological theory (see Sections 3.1 and 3.2), is a theoretical conceptualisation of VO teaching that has hitherto been missing from the educational debate. The second is an elaboration on the theoretical discussions of relevance presented in Chapter 3.

6.1.1 Conceptualising VO

While VO teaching has been described in policy documents and practical material for teachers, it has not—to my knowledge—been fully conceptualised as an educational phenomenon, distinct from related terms such as ESP, VOLL and CLIL (see Section 2.1.1). Therefore, a contribution of the thesis, is to conceptualise VO teaching as a theoretical construct. To do so, I have drawn on van Lier's ecology of language learning. The perspective that I build on was presented and discussed in Chapter 3, more specifically in Sections 3.1 and 3.2.

In the thesis as a whole, VO emerges as a conceptual artefact (Bereiter, 2002) that offers a semiotic budget for meaning-making activities, which differs from other approaches to language learning (Van Lier, 2000, see p.19-20 of this thesis). Article 3 shows how this budget comprises work-related language regarding occupational practices in addition to language concerning the students' educational situation. The findings in Article 1 also show how the teachers aim to utilise a vocational 'budget' to achieve conventional English language learning and how they have experienced that the approach affords learning opportunities that are otherwise hard to come by. The semiotic budget is anchored in the vocational education of the students and allows for a relational view of language learning, where one utilises the opportunities that arise at the intersection between students, overarching education and language learning aims, to support the students' language development.

Further, in Articles 1 and 2, the informants expressed that a major strength of VO teaching is its ability to unite different areas of the students' education. VO nurtures and integrates the various aspects of vocational students' education by applying a multi-layered perspective in which the immediate context of language learning is understood as situated within the larger educational context. Thus, it is a tool to shape a more organic learning experience and an approach that serves agency by drawing on personal relations between students and their social environments. Using van Lier's writings, we can say that VO affords other approaches to learning than a general English language course does. This conceptualisation suggests that, from the interactions between vocational students and VO English, learning opportunities arise that are particularly potent due to the way VO facilitates action and engagement in the subject.

As a conceptual artefact, VO teaching is culturally derived and relatively fixed within a certain sociocultural environment (Cosentino, 2021), which means that the phenomenon can be studied across classrooms. By conceptualising VO in the aforementioned manner, I offer a description and a starting point for others to build on, in which VO is first and foremost understood as a didactic approach that capitalises on favourable affordances arising at the intersection of students, education and language.

6.1.2 Expanding on Theories of Relevance

The second theoretical contribution expands on the theories of relevance presented in Chapter 3. Overarchingly, it consists of an elaboration on relevance in instruction. However, as a more specific contribution, I will draw on my empirical data to conceptualise educational relevance as a two-level phenomenon where Level 1 concerns perceptions of relevance and Level 2 relates to outcome.

The theoretical views on instructional relevance presented in Chapter 3 illustrate how relevance can be approached in more than one way. Some theoretical discussions are concerned with the students' perceptions of relevance in the here and now (Dewey, 1956; Schmidt et al., 2019) while others focus on the relevance of the learning outcome in a more future-oriented perspective (Claxton, 2007; Scheffler, 1973). Based on the present study and its empirical findings, I would suggest that these differences are not primarily a question of viewpoint, but rather an indication of how instructional relevance operates on two levels. In line with Dewey (1956) and Schmidt et al. (2019), Level 1 can be described as *perceptions of relevance* and has to do with the extent to which students believe in the relevance of what they are learning. Level 2, exemplified by Scheffler (1973) and Claxton (2007), concerns *the learning outcome that ensues from engaging with learning activities* and whether it may have relevance in the students' lives. The empirical findings of the thesis offer further support for this conceptualisation. In the teacher interviews (Article 1), the two-level view of relevance becomes visible in the way the teachers express how they utilise VO to create perceptions of relevance (Level 1) that they rely on to get students to engage with learning activities they believe will result in relevant learning outcomes (Level 2). In Article 2, the students confirmed the importance of relevance at Level 1 by describing the importance of perceiving content and activities as relevant.

The two levels are certainly visible in previous conceptualisations of educational relevance, but to my knowledge, the distinction has not been described explicitly with basis in empirical research. Other attempts have been more elaborate, as in the case of Stuckey et al. (2013), who presented a complex model of relevance in science instruction (See Figure 2 for a simplified version of their original model). Originally, their model was also subject dependent. Thus, as a contribution towards furthering the discussion of educational relevance, I suggest that my empirical data provide grounds for the abovementioned two-level view of relevance, which can be seen as a simplified and subject-independent version of Stuckey et al.'s (2013) model. The conceptualisation that I present is also a better fit to my empirical data than what a more complex version would be.

Next, the observations of VO teaching presented in Article 3 suggest that the two levels operate independently of each other, meaning that relevance at Level 1 does not automatically translate into relevance at Level 2. As an example, students may perceive the content of their lessons as relevant, while, more objectively, the relevance of the learning outcome may come

across as quite low. An example of this can be found in the descriptions of School 2 (Section 3.2.1 in Article 3). There, the students engaged in discussions of all-terrain vehicle (ATV) assembly, which was relevant to what they were concurrently learning in their vocational subjects. For this reason, the instruction had explicit Level 1 relevance. However, because the lesson, barring a selection of vocabulary terms, was conducted in Norwegian rather than English, the instruction had low relevance from the perspective of English language learning (i.e., Level 2 relevance). In the article, my co-author and I argue that teachers may struggle to balance vocational content with language learning, and in view of the theoretical contribution delineated here, this could be because they struggle to unite the relevance at Levels 1 and 2.

To summarise, the thesis adds to theoretical perspectives on relevance by illustrating how relevance operates at two levels. However, based on the student interviews (Article 2), I will argue that Level 1 relevance has the highest significance for engagement. This is not to say that what I have operationalised as Level 2 relevance is insignificant; rather, it shows the importance of helping students perceive materials or activities *as relevant* before expecting them to become engaged. Drawing on the experiences of my teacher and student informants (Articles 1 and 2), VO teaching has a favourable impact on Level 1 relevance, while its impact on level 2 relevance is not automatic. Still, Articles 1 and 3 exemplify how there is no incompatibility between VO and Level 2 relevance, since VO teaching lets teachers focus on content that they know to be relevant while framing it in a favourable manner to enhance the students' willingness to engage.

6.2 Empirical Contributions

The aggregated results of this thesis provide at least three empirical contributions concerning the role that VO teaching performs according to teachers, students and classroom observations. The first contribution is to provide empirical data that can be used to discuss the relationship between VO and engagement (Section 6.2.1). The second concerns VO and aspects of relevance (Section 6.2.2) while the third concerns how VO may serve to align teacher and student views of vocational students' L2 learning needs (Section 6.2.3).

With regard to VO teaching, the contributions highlight already established practices and suggest areas for further development. However, the thesis also has relevance beyond VO, as it can be read in the broader sense of illuminating L2 English language teaching from three different vantage points. Consequently, as mentioned in Sections 6.2.1–6.2.3, each of the main findings may also be interpreted in light of general L2 English teaching.

6.2.1 VO and Engagement

Previous research on VO teaching describes it as a didactic approach that promotes vocational students' engagement and motivation for general subjects (Berg, 2001; Fiskerstrand, 2017; Haugset et al., 2014; Iversen et al., 2014; Muhrman, 2016; Rondestvedt, 2019). To exemplify, Muhrman (2016) found that VO teaching promotes motivation for mathematics by illustrating how arithmetic is useful for work. In addition, Rondestvedt (2019) described how tasks with a practical orientation could increase engagement with learning in several general subjects. While previous research certainly identifies a link between VO and engagement, the present study contributes by providing empirical data to enrich the discussion of how VO teaching promotes engagement. However, as discussed in Section 2.2.5, VO seems to perform differing roles across the various subjects. For this reason, an additional contribution of the study is to show how VO and engagement interact in the English subject in particular.

Based on teacher and student experiences, the study supports the contention that VO promotes student engagement in the English subject. However, a more distinct contribution lies in the provision of details concerning how it does so. In Article 1, VO emerges as a method for adapting instruction to vocational students' needs, preferences and interests and to create Level 1 relevance, which can be channelled into the development of general English language skills. Elsewhere, El Kandoussi (2017) argued that an optimal VO practice serves the twofold ambition of building on vocational interests while retaining focus on basic language skills, and this practice is in accordance with what my teacher informants described. From the student perspective (Article 2), the appeal of the instructional content, the nature of the classroom activities and supportive teacher behaviour emerged as decisive for engagement. In just over half of the interviews, the students mentioned that their teachers could foster engagement by building on their interests. In comparison, the role of relevance was mentioned in all interviews. A cautious interpretation of these findings is that VO teaching boosts engagement by building on interest, but this is not the only mechanism at work. Perceptions of relevance are likely to play an equal or even more important role in student engagement. In sum, the aggregated results of this study are in line with SDT (see Section 3.3), suggesting that it is a combination of factors that contribute to increased engagement in learning.

An aspect of engagement that the students highlighted (Article 2), but that was not much addressed by the teachers (Article 1), concerns classroom activities. The students described a strong relationship between *how* they worked with the learning material and their engagement. This finding is in accordance with engagement theory, which emphasises active involvement and participation as a requirement for behavioural engagement (see for example Finn & Zimmer, 2012; Oga-Baldwin & Nakata, 2017; Philp & Duchesne, 2016). It is also a salient aspect of Widodo's (2017) research in which he investigated the impact of voice and agency as part of a VO project. The students I interviewed said that they preferred 'to be active' in their schoolwork, which often meant discussion tasks, group work and various projects. In light of SDT, this can be interpreted as a reflection of the students' need for autonomy (Ryan & Deci, 2000, 2017; Vansteenkiste & Ryan, 2013). However, the teachers did not explicitly link VO teaching to particular classroom activities, let alone autonomy. Drawing on engagement theory (such as Fredricks et al., 2004; Mercer, 2019; Oga-Baldwin & Nakata, 2017), a possible interpretation of the teachers' emphasis on content, rather than process, would be that they prioritise affective engagement, placing less emphasis on behavioural engagement. This interpretation is supported by observations presented in Article 3, which show that student-centred classroom activities were uncommon in VO, at least in vocabulary teaching. Article 3 documents instruction that was primarily teacher-led and often conducted as whole-class instruction. The students were rarely involved as active agents, and there was little focus on output and communication. Comparing the instances of VO teaching documented in Article 3 to the students' emphasis on activity as a requirement for engagement, there seems to be a gap between the actual and desired outcomes.

The study illuminates one final aspect of VO as an engagement-promoting didactic approach: VO contributes to the renewal of the English language subject, which the students highly appreciate. Previous research has found that when Norwegian teens apply for a vocational programme, they often do so because they want a new approach to learning, preferably one that is less 'theoretical'(Olsen et al., 2012; Olsen & Reegård, 2013). The students I interviewed said that this had impacted their choices as well. In addition, they described lower secondary English as unengaging, 'theoretical' and somewhat confusing. Compared to some

of Rondestvedt's (2019) informants, who saw little difference between the general subjects in lower and upper secondary school, the teachers and students I interviewed claimed that VO changed English substantially and for the better. Whether the role of VO is particularly evident in the English subject or the discrepancy between Rondestvedt's and my own findings can be explained in a different way is beyond the scope of this study. Regardless, the conclusion remains the same: after having studied English for 10 years in lower secondary school, the students' engagement in the subject is likely to increase if it is taught in an innovative manner. The empirical findings in my study suggest that VO teaching has the potential to achieve this, mainly because it emphasises a different type of content, but also because the approach contextualises the need for English language skills in a novel manner.

In summary, students and teachers clearly agree that VO has an important role to play for engagement. Therefore, a primary contribution of this thesis is to provide new empirical evidence in support of the proposed engagement-promoting abilities of VO teaching. A further contribution is that it nuances this claim by showing that the road from vocational content to engagement is affected by overall didactic choices, including explicit attention to relevance and their choice of activities. Importantly, the thesis shows how vocational students prefer work methods that require interaction and active participation and how they also wish for more opportunities to practice autonomy.

Finally, the study can be viewed from a more general vantage point as an example of L2 teaching practices aimed at increasing engagement and learning. In this view, a contribution of this thesis is to illustrate the importance of connective instruction (Cooper, 2014, see Article 2), building on the strategy of acknowledging all language learners as people with interests, goals, characteristics and experiences that can be utilised to foster in-class engagement. The intention is to make students feel noticed and to support positive relations while retaining academic rigour and progression in learning.

6.2.2 VO and Relevance

Both teachers (Article 1) and students (Article 2) agreed that vocational students would need English in their future employment. This, in itself, testifies that the subject is considered relevant, which is in line with stakeholder claims made within the Norwegian educational debate (Norwegian Directorate for Education and Training, 2014; NOU 2008:18) and previous empirical research (Iversen et al., 2014; Rondestvedt, 2019; Wendelborg et al., 2014). While there is broad agreement that English language competence is relevant for vocational students, possible differences concern how the subject should be taught to support and strengthen this inherent relevance. A second empirical contribution that the thesis makes is thus to utilise the theoretical distinction between relevance on Levels 1 and 2, delineated above (Section 6.1.2), to sort in the matter.

The present study suggests that teachers (Article 1) and students (Article 2) have different views of what is relevant competence development, or Level 2 relevance, in the English subject. While not necessarily consistent with the observations in Article 3, the teachers at least said that their main concern was to help students develop their general English language skills. Furthermore, they said that they utilised VO as enticement to get vocational students to engage in this type of learning. The students, however, were mostly content with their general skills and described their main knowledge gap as related to the development of a work-specific repertoire. Curiously, while these results suggest that teachers and students take

almost opposite views of Level 2 relevance, both parties considered VO teaching to be an instrument for promoting it. Thus, an empirical contribution of this study is to show how VO teaching may function as a means of aligning their diverging views. It allows teachers to focus on the development of general English language skills, such as fluency in reading, writing and speaking, while concurrently supporting students in discovering how their already acquired (and developing) language skills can be utilised in work-related contexts. The key lies in using VO to create Level 1 relevance and to support the students' interest in learning. While VO teaching might not be the answer in all types of L2 teaching, the importance of aligning Levels 1 and 2 is likely a universal finding that extends to generalised English language teaching as well.

In Article 3, my co-author and I argued that instruction centred on VO vocabulary promotes relevance (at Level 1) because it links English to the students' vocational subjects in a manner the students notice easily. This may have a positive impact on students' engagement. However, for VO to become truly useful as a didactic approach, the engagement must be channelled into the type of learning outcome the teachers, as language experts, deem valuable, relevant and useful. The teacher interviews (Article 1) described how the teachers were aware of this bilateral function of VO teaching, but as hinted at previously, the teacher practices described in Article 3 were not always consistent with their expressed ambitions with regard to prioritising general English language skills. The observations showed a strong presence of highly structured tasks, which often left little room for creativity, language exploration and independent reasoning. Furthermore, there were few opportunities for autonomous language output and very little work that could be categorised as challenging. My study is not the only one to observe this type of English VO instruction. Rondestvedt (2019) described two cross-curricular VO projects in which English was included by way of translation tasks, while Wendelborg et al. (2014) observed a teacher whose VO teaching focused on simple glossary tasks. In a completely different setting, Widodo (2017) describes how Indonesian vocational students and their English teachers believed that VO entailed 'spending much time learning new terms' (p. 233). As I interpret this empirical data, as well as my own, the described instruction has questionable Level 2 relevance, at least in the context of communicative language teaching and the holistic demands of the Norwegian English curriculum. Therefore, based on the empirical findings in the present project, and with support from the abovementioned sources, I would contend that an important challenge for anyone utilising VO teaching is not to let the need for engagement overshadow the learning focus. By investing too heavily in Level 1 relevance, it seems a genuine worry that the learning outcome might be lost from sight.

Elsewhere, Vogt and Kantelinen (2012) have argued in favour of a work-related language learning approach that aims to develop a lifelong capacity to learn. Leaning on their arguments, I reason that to use English successfully for work, vocational students mainly need to develop independence and a broad repertoire of communicative skills. Isolated vocabulary knowledge is much less important. However, as mentioned previously, Article 3 observed very few examples of VO instruction that was designed to encourage the students as autonomous language users. As such, it seems that one way to increase the Level 2 relevance of instruction would be to use VO to teach strategies and skills that make students more independent as language users—both at work and elsewhere.

6.2.3 VO to Break a Potentially Vicious Cycle

A third and final empirical contribution concerns how VO may align teacher and student views of vocational students' L2 learning needs. Aggregated research has found that teacher's expectations of their students' capabilities impact on what the students learn, for good and ill (e.g. Brophy, 1983; Cooper & Tom, 1984; Harris, 1991; Miller & Satchwell, 2006). Delpit (2006), for example, has noted how low teacher expectations can lead to undemanding lessons that are outside the scope of the subject curriculum. Miller and Satchwell (2006) describe how teachers with low expectations limit the teaching to manageable tasks instead of pushing the students to perform at a higher level. This is significant here because the teachers in Article 1 believed that vocational students often struggled with English and that they needed adapted instruction to match their inadequate language level. The tendency to downplay vocational students' capabilities in general subjects is not limited to my informants, it was also typical for teachers in several studies from Sweden (Korp, 2011; Niemi & Rosvall, 2013; Nylund et al., 2017). There, the teachers expressed low expectations of their vocational students' willingness to study and their abilities to deal with tasks that required higher-order thinking. In clear contrast to the teachers I have interviewed, Article 2 describes how most of the student informants felt confident in their general English language skills and how they believed that they had developed a solid base in lower secondary school. Furthermore, they said that for English instruction to be engaging, it had to offer new knowledge and competence (see Section 5.1.2 in Article 2). Clearly, there is a disconnection between the views of teachers and students, which may, in turn, have serious consequences for student engagement and learning. While I cannot make claims about the *actual* English language skill level of vocational students, I would still, and in line with the research on teacher expectations referred above, contend that it can harm learning if the students perceive their abilities to be higher than what the teachers aim for in their teaching. Indeed, the students I interviewed mentioned how they would typically respond with apathy when encountering tasks that were considered too simple, rather than—as perhaps their teacher would expect—dutifully completing the work and signalling that they are ready to move on. In such a situation, teachers and students can get caught in a vicious cycle in which teachers become increasingly frustrated with how little their students seem to manage, while students disengage more and more from the work. Elsewhere, the situation has been described as a self-fulfilling prophecy (Brophy, 1983; Miller & Satchwell, 2006), where low expectations lead to non-challenging lessons from which the students learn less, rather than more.

The data gathered in this project, more specifically for Articles 1 and 2, seem to suggest that VO has the potential to short-circuit this type of vicious cycle. The approach can achieve this by offering tasks and learning outcomes which the students perceive as worthwhile, and therefore are willing to engage in. Ideally, teachers notice their efforts, are positively surprised by what their students achieve and provide further interesting challenges for the students to grapple with. Thus, a contribution of this thesis, which extends beyond the immediate context of VO teaching, is to illustrate how the above-mentioned vicious cycle can be broken if teachers employ teaching strategies that aligns the students' and the teacher's views about what an appropriate and interesting learning challenge involves. In the case of VO, such strategies encompass the introduction of work-related topics that offer novel vocabulary and text types, and to utilise these to practice basic language skills (especially reading, writing and spoken interaction).

6.3 Methodological Contribution

In the research literature concerning VO, the trend is for studies either to draw on one data source, typically questionnaires (e.g. El Kandoussi, 2017; Haugset et al., 2014; Hua & Beverton, 2013) or interviews (e.g. Ledman, 2015; Olsen & Reegård, 2013; Skålholt et al., 2013), or to be designed as ethnographic studies (e.g. Fiskerstrand, 2017; Korp, 2011; Widodo, 2017). Studies in the latter group often combine interviews and observations from both teacher and student perspectives, but they usually do so in one school only. Thus, concerning VO teaching, studies that combine teacher and student perceptions with classroom practices *across contexts* have been a methodological gap. For this reason, I will argue that the main methodological contribution that this thesis makes arises from my combination of two types of interviews (teacher and students) with classroom observations in 10 different settings to examine VO teaching in a comprehensive manner. Including fewer dimensions in the research design would not have yielded the same richness in the material, nor the ability to compare, contrast and nuance interpretations concerning any one part of the material.

6.4 Limitations

Before providing some concluding remarks about the didactic implications of my research, I would like to mention some limitations of the project. These relate to representativeness, the specific data sources that I draw on and transferability to other contexts.

While the sample I have worked with is larger than the samples used in other multi-method studies of VO, there are limitations to the representativeness of the data. First, I worked with a strategic sample, where the teachers were selected because they were familiar with the VO approach. The study neither explored how common it is for teachers to be familiar with VO nor described how less experienced teachers approach this type of teaching. However, I will argue that this limitation is acceptable because I have been explicit concerning the selection process and have made it clear that I aimed to address established, rather than emerging, practices. A related issue concerns the question of how representative the observed trajectories were of the teachers' VO practices. It is possible that some of the teachers put more effort into their planning because of my presence, which is always a risk when teachers know that they are going to be observed (Patton, 2015). Although I cannot know for certain that the observations were indeed representative of the teachers' practices, I have no reason to believe that they were not. Neither any of the trajectories seemed too meticulously designed nor did the students provide an indication that the lessons felt out of the ordinary.

The second type of limitation involves two issues concerning the data sources utilised in this project. The first issue concerns the use of self-reported data to write Articles 1 and 2. Interview data provide access only to what the informants are willing and able to express in the interviews. Further, self-reported data may reflect ideas, beliefs and attitudes, but these do not necessarily translate into real-life practices (Johnson & Christensen, 2017). However, in the full project, I have been able to utilise observations to amend the issue of self-reported data. Furthermore, because I was present during instruction, I had the opportunity to assess self-reported data against my observations and even to ask questions to clarify discrepancies, if needed.

Another limitation related to data sources concerns the manner of recording observational data. I utilised written observational notes that cannot capture all the details of a recording (audio/video). Therefore, the accuracy of the observational notes can be called into question.

However, I would argue that the type of data I wanted to gather could be recorded sufficiently in writing because it mainly concerned descriptions of lessons and activities and required less detail of, for example, interactional patterns or talk time per student. Furthermore, the research aim of the observational study (Article 3) was in line with the type of data I had collected. Because the use of observational notes rather than video or audio was much more practical in a one-person research project that spanned several contexts and could be utilised to answer the relevant research questions, I consider the choice appropriate despite its limitations.

Finally, I wish to comment on the study's transferability to other contexts. While I ultimately consider it the role of the reader to establish whether my research can inform a new context—and do not wish to delimit ways in which my research can be of aid to others—I will briefly discuss limits to transferability. First, my own experience tells me that it can be very challenging to grasp the educational organisation of a different system or country, even if reports include substantial, relevant information. Therefore, I consider it quite likely that readers from other parts of the world may struggle to understand the Norwegian system. This may result in conclusions concerning transferability that are either too liberal or too strict. A second issue concerns the status of English in Norway. Norwegian students might be more proficient in the English language than students in several other countries (EF Education First, 2021), and thus exposed to more advanced English instruction. This could reduce the transferability of my findings to other contexts. The vocational relevance of learning English might also be higher in Scandinavian countries (including Norway) than in several other countries because English is a frequently used language across occupations and sectors (Cabau, 2009; Rindal, 2014). In sum, how other contexts compare to Norway in terms of vocational education, English language competence and English language prevalence has implications for the extent to which my discussions of VO, engagement and relevance will be transferable to another context.

6.5 Concluding Remarks and Implications

Since I first toyed with the idea of applying for a PhD project to study VO English, I was told by scholars and teachers alike that the research would fill a gap in the field of English didactics. Today, some six years later, the present thesis is my contribution towards that end. I believe the results may prove interesting to stakeholders in a range of different positions, including researchers, teacher educators, policy makers and teachers, and would like to close my work by pointing out some didactic implications.

At an overriding level, a primary implication of the research I have conducted is that VO teaching has an important role to play in the English language teaching of vocational programmes. There is nothing in the material to suggest that the approach is redundant or inappropriate or that it is 'a red herring' in the quest for quality teaching and learning. Instead, the study shows that, as a teaching approach, it has the potential to increase the engagement of students and otherwise facilitate factors that are conducive to learning.

Perhaps the most important implication of the present thesis concerns the observations that VO teaching can be at risk of prioritising students' perceptions of relevance (Level 1) at the expense of outcome-related relevance (Level 2). The study serves as a reminder that the role of the teacher is to help students develop the type of competence they will need in the future, as described in the subject curriculum. The primary goal of VO is perhaps to create sufficient

engagement for students to invest in learning, but it is the teacher's responsibility to make sure that the engagement is channelled into worthwhile learning.

The study suggests that perceptions of relevance are key to understanding the relationship between VO and engagement. Therefore, English teachers who wish to develop their VO practices can explore ways of framing their lessons as vocationally relevant. There is reason to believe that students may respond best to a type of relevance that is anchored in their vocational subjects and that has an explicit reference point when claiming relevance. A final implication of the study is to support teachers in the contention that even if VO is a distinct didactic approach, good teaching is still good teaching within a VO frame. Didactic choices, such as work methods and the teachers' ability to relate to their students, will be tremendously important, regardless of approach.

The findings from this project point to areas of further research. First, it could prove interesting to elaborate on both the teachers' and students' accounts by conducting large-scale survey studies as a follow-up. In particular, the prevalence of vocabulary instruction in VO would be relevant to probe further. Next, building on the distinction between relevance on Levels 1 and 2, future research could investigate ways to align the two, for example, in cross-curricular projects. This would probably entail a selection of qualitative methods. In addition, the field could benefit from knowing more about the experience of soon-to-be vocational students while they attend lower secondary school to follow up on the students' lukewarm reports on their previous experiences. Utilising action research, it would be interesting to explore whether aspects of VO teaching could be introduced in the pre-vocational years to cater to the interests and future education of roughly half of the Norwegian student body. Finally, it is worth mentioning that there are many other aspects of VO teaching in English or other subjects that remain to be explored. My contribution has merely scratched the surface.

My aim throughout the process has been to utilise the experiences of the people close to VO teaching (students and teachers) to explore its role in teaching and to identify the strengths and weaknesses of this approach. Therefore, as a final comment, I would like to express that I truly hope my research will be seen by English teachers in Norway as representative of—and relevant to—their world. I further hope that I have contributed towards knowledge that can support them in developing the good work they are already doing. I also hope that my research can contribute to increased attention to vocational students among those of us with research interests in general subjects. If my work inspires didactic exploration, reflection and/or further research at the intersection of VO teaching and L2 English, I will feel greatly rewarded.

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Appendixes

Appendix A: Interview Guides

Interview Guide: Teachers

1. As you see it, what is VO teaching?
   Target the English subject more specifically if definition is very general
2. Why do you utilise VO as an approach in your teaching?
3. What do you do when you use a vocational orientation approach?
   Probe whether it pertains to content or teaching methods.
4. Can you describe a VO lesson or trajectory you have taught previously (different from what I have observed now)?
   Aim for several examples to probe range
5. Where does VO take place? Classroom, kitchen, workshop other spaces?
6. How often do you utilise VO teaching?
   Probe whether they operationalise VO as complete lessons or segments within lessons
   Probe what determines the frequency
7. What would you say guides your planning of VO teaching?
8. How do you plan VO lessons?
   Probe facilitating and constraining factors
   Probe where they find inspiration and their use of resources
9. Do you collaborate with other teachers on planning or conducting VO lessons?
   Probe both vocational teachers and collaboration with other common core teachers
10. Can you elaborate on what you perceive as strengths and weaknesses of VO teaching?
    Probe whether they consider it important that VO teaching is part of their practice in vocational English classrooms.
11. What is your opinion of English as a subject in vocational programmes?
    11a Is it a necessary subject?
    11b What are your thought on the curriculum?
    11c What are your thoughts on the exam?
12. What is your impression of how the students view the subject English?
13. How well do you know the students' vocational programme and future vocations?
    Probe how confident the teachers feel when linking English to a vocational field
14. Is there anything you want to add? Something I haven't asked you?
15. Background questions:
    15a: Age
    15b: Education
    15c: Teaching experience: how many years?
    15d: Teaching experience: what vocational programmes?

Interview Guide: Students

Start by saying that I want us to have something like a casual conversation. They do not have to wait their turn, rather they can discuss the questions as a group.

Questions:

1. Can you tell me a bit about why you chose his study program?
    a. *Probe investment in vocational education*
2. How do you feel about English as a school subject?
    a. *Probe whether they consider it an important subject, and what they like/dislike about English as a school subject (in general)*
3. Can you give examples of English lessons or tasks that you have enjoyed?
4. How challenging do you find the English subject?
5. Although you probably did not attend the same schools before, I want you to compare English in lower secondary school to English here in [school name] (upper secondary)?
    a. 3a. What is the same?
    b. 3b. What is different?
    c. 3c. Can you compare how well you liked English in lower secondary to how well you like it now?
    d. 3d. Can you compare how challenging you found English in lower secondary to how challenging you find it now?
6. Can you describe what you have been working on in the English lessons that I have observed?
7. How did you like the lessons I have observed?
    a. *Probe whether they found it useful/worthless/relevant/irrelevant*
8. Would you say you learned something?
9. Can you tell me about other times when you have worked with vocational topics in your English lessons?
10. What type of things do you usually do in your English lessons?
11. How relevant would you say your English lessons are for you personally?
12. Have you heard about VO [no.: *yrkesretting*]?
    a. *Explain what VO is*
13. Would you say it is important that your English teacher adapts his/her teaching to your study program?
14. How does English fit with your vocational education?
15. If you were to decide what you would do in English class, what would you spend time on?
16. What would you rather not spend time on in your English lessons?
17. Is there anything else you would like to talk about?

Appendix B: Observation Protocol

Contextual information	
School: [number]	
Teacher: [Name]	
Date:	
Time:	
Students: [How many students present]	
Classroom description: [physical environment]	
Topic: [As presented by teacher]	
Goal of lesson: [As/if presented by the teacher]	
How is the lesson framed as vocationally oriented? ▪ Programme ▪ Vocation ▪ Relevance ▪ Links to previous/future schoolwork ▪ Other things	
Are students invited to comment on this link?	
Timeline	
Time: [duration of each activity as it unfolds]	**Description:** [each activity as it unfolds]
…	…
…	…
…	…
…	…
…	…
…	…

Appendix C: Information Letters and Consent Forms[9]

Students

Forespørsel om deltakelse i forskningsprosjekt om yrkesrettet engelskundervisning

Bakgrunn og formål

I mitt forskningsprosjekt skal jeg studere hvordan lærere yrkesretter engelskundervisningen i yrkesfaglige utdanningsprogram, og hvordan yrkesfagelever opplever slik engelskundervisning. Formålet med studien er å bidra med kunnskap som kan komme både lærere og elever til nytte. Prosjektet er et doktorgradstudium i regi av Institutt for lærerutdanning og skoleforsking ved Universitet i Oslo. Du som leser dette skrivet, blir bedt om å være med i prosjektet.

Hva innebærer deltakelse i studien?

Din engelskklasse har blitt bedt om å være med i studien. Deltakelse innebærer at jeg (forskeren) får være til stede i klasserommet i en eller flere engelsktimer for å observere undervisningen og ta notater. Jeg er i hovedsak interessert i hva dere arbeider med, hvordan dere arbeider, samt andre forhold som knytter seg til undervisningen. Jeg skal ikke filme eller ta opp lyd i timene deres.

Du som er elev kan bli bedt om å delta i et gruppeintervju der du og flere av dine medelever skal snakke om engelskfaget, yrkesretting og relevans. Intervjuene vil foregå i skoletiden, på et tidspunkt som passer for elever og lærere. Intervjuet blir tatt opp på bånd.

Du som er elev kan bli bedt om å svare på en spørreundersøkelse angående engelskfaget, yrkesretting og relevans. Undersøkelsen vil være digital.

Hva skjer med informasjonen om deg?

Alle personopplysninger vil bli behandlet konfidensielt. Alt av datamateriale som samles inn vil kun være tilgjengelig for forskeren og hennes forskergruppe, samt forskerens veiledere. Navnelister med kodingsnøkkel vil lagres adskilt fra øvrig data i et låsbart skap på forskerens arbeidssted (UiO). Du som er med i prosjektet vil ikke kunne gjenkjennes i publikasjoner av studien. Prosjektet skal etter planen avsluttes i løpet av 2021. Datamaterialet skal utelukkende benyttes til forskning, men fordi det kan bli benyttet i oppfølgingsprosjekter vil det (senest) anonymiseres i 2025.

[9] Note that the information letters and consent forms were written before I knew I would have maternity leave. This accounts for 2021 as the suggested end date for my project.

Frivillig deltakelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om det bli anonymisert. Dersom du har spørsmål til studien, ta kontakt med k.g.skarpaas@ils.uio.no

Studien er meldt til personvernombudet for forskning, NSD, og er godkjent der.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

Signatur: Dato:

Jeg samtykker til følgende: (Sett gjerne flere kryss)

- ☐ Å bli observert i avtalte engelsktimer
- ☐ Å bli intervjuet
- ☐ At forsker samler inn/tar bilde av elevarbeid (etter avtale)

Teachers

Forespørsel om deltakelse i forskningsprosjekt om yrkesrettet engelskundervisning

Bakgrunn og formål

I mitt forskningsprosjekt skal jeg studere hvordan lærere yrkesretter engelskundervisningen i yrkesfaglige utdanningsprogram, og hvordan yrkesfagelever opplever slik engelskundervisning. Formålet med studien er å bidra med kunnskap som kan komme både lærere og elever til nytte. Prosjektet er et doktorgradstudium i regi av Institutt for lærerutdanning og skoleforsking ved Universitet i Oslo. Du som leser dette skrivet, blir bedt om å være med i prosjektet.

Hva innebærer deltakelse i studien?

Din engelskklasse har blitt bedt om å være med i studien. Deltakelse innebærer at jeg (forskeren) får være til stede i klasserommet i en eller flere engelsktimer for å observere undervisningen og ta notater. Jeg er i hovedsak interessert i hva dere arbeider med, hvordan dere arbeider, samt andre forhold som knytter seg til undervisningen. Jeg skal ikke filme eller ta opp lyd i timene deres.

Du som er lærer i klassen vil bli bedt om å delta i et intervju der du blir spurt om yrkesretting og engelskfaget i yrkesfaglige utdanningsprogram. Intervjuet vil foregå på et tidspunkt som passer for deg, og det vil bli tatt opp på bånd.

Hva skjer med informasjonen om deg?

Alle personopplysninger vil bli behandlet konfidensielt. Alt av datamateriale som samles inn vil kun være tilgjengelig for forskeren og hennes forskergruppe, samt forskerens veiledere. Navnelister med kodingsnøkkel vil lagres adskilt fra øvrig data i et låsbart skap på forskerens arbeidssted (UiO). Du som er med i prosjektet vil ikke kunne gjenkjennes i publikasjoner av studien. Prosjektet skal etter planen avsluttes i løpet av 2021. Datamaterialet skal utelukkende benyttes til forskning, men fordi det kan bli benyttet i oppfølgingsprosjekter vil det (senest) anonymiseres i 2025.

Frivillig deltakelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert. Dersom du har spørsmål til studien, ta kontakt med k.g.skarpaas@ils.uio.no

Studien er meldt til personvernombudet for forskning, NSD, og er godkjent der.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

(Signert av prosjektdeltaker, dato)

Jeg samtykker til følgende:

☐ Å bli observert i avtalte engelsktimer

☐ Å bli intervjuet

Appendix D: Examples of Analysis (Articles 1 and 2)

Article 1

Examples from the analysis of the teacher interviews (Article 1). For each of the three research questions, I give one example of a teacher utterance that was coded as related. The excerpts are translated from Norwegian.

	Teacher interview transcripts (excerpts)	**Analysis**
RQ1	**Kaja**: So, you said that VO is teaching that incorporates topics from the students' vocational education? **Anja**: Well, yes. The curriculum says they should be able to express themselves, use words and expressions related to their educational programme. So that's what I must do. But really, I try to use VO to teach the students more English. To express themselves more specifically, for example, to explain well. And if they get to write about their future work, for example, it can be easier for them to practice writing. Instead of writing about an issue they do not care about.	Here, the teacher Anja talks about her **goals** for VO teaching, and what she **aims to achieve**. Her focus is on teaching general English language skills through VO.
RQ2	**Kaja**: So, in your opinion, English teachers should utilize VO? **Fredrik**: Yeah, that's my opinion. I've always done it, really. To provide the students with something useful, something they see as useful. Because then it's much easier to get them to engage and be interests. We're not dealing with academically oriented students, so to get them to engage it has to be relevant. If not, it will be lower secondary school all over, the same stuff they were used to—and hated—there.	Here, the teacher Fredrik talks about the **function** of VO and how it is p**erceived by students**. By doing so, he expresses his views on **the usefulness of VO** in English teaching (engagement, interest, relevance-promoting).
RQ3	**Kaja**: You teach [non-technical programme] this year. For the first time? **Irene**: Yes, that's the way it is. I was luckier at this other school I worked. There, I was able to teach electronics year after year, and then I sort of specialized in it. Here, I've taught [four different programmes], or maybe even more. Yes, carpentry as well. It would been a major advantage if I could have specialized in one are, because then you learn the terminology, you know what they do in the vocational	Here, the teacher Irene talks about **challenges to VO** teaching. More specifically, she presents the issue of **continuity in programme** to develop **familiarity** with the vocational content.

	subjects and when you have that baseline knowledge, you are in a much better position to adapt. It has to do with the teacher's repertoire, as I see it. It takes time to develop, especially when you have different programmes to teach. It's problematic when you need to develop a new repertoire every year.	

Article 2

Examples from the process of analysis of the student group interviews (Article 2). The excerpts show examples of student responses that were ultimately coded as related to the major themes content, classroom activities and the teacher. The excerpts are translated from Norwegian.

	Transcript (excerpt)	**Coding**
School: Preston	Kaja: Can you compare your experience of English at [their school] to your experiences in lower secondary school? Pontus: What we do now makes much more sense than what we did in lower secondary school. Philip: It has to do with relevance. In lower secondary we had more texts, you know, maybe literature, history, like Rabbit-proof fence, I think I saw it 500 times. Pontus: We learn new words that we didn't know before Kaja: Now? Or in lower secondary? Pontus: No, now!	Content making sense Relevance Classroom activities – not favoured - content Vocabulary
School: North Shore	Kaja: Okay, so you've said that you like English more in upper secondary school because there are fewer students in class which makes you feel safe, and because the topics and content is more interesting than before. Is that right? Anything else? Noor: [Teacher name] is very, I would say, she radiates positivity. Towards us. Natalie: Yes! And she seems so free and relaxed. Noor: And she truly wants us to… to include everyone and get us to participate. I don't know about you guys, but I certainly feel that she is able to engage all of us in a much better way than most other teachers. In other classes it's much easier to lose focus.	Liking the teacher Engagement: the teacher
School: Bayside	Kaja: So, what type of activities do you prefer to work with in English class? Bernhard: I like speaking activities the best. Working in groups, talking to each other, perhaps translate	Classroom activities: Favoured - group work / social

	something together, try to understand texts together. Stuff like that. Kaja: Sounds like you prefer anything social? Bernhard: Yes [E3 nods] Kaja: You are nodding, E3? Baard: I agree. I find it boring to sit alone and do tasks. Kaja: What about you, Bendik. You said you do not like to speak English? Bendik: Yeah, but it is okay when it's in class with the others. Kaja: Does that mean you like to work in groups too? Bendik: At least I prefer it to independent seatwork.	Classroom activities – not favoured – independent seatwork Classroom activities: Favoured - group work / social / Classroom activities – not favoured – independent seatwork

Appendix E: Overview of Doctoral Theses Reviewed in Chapter 3

Author / year	Institution	Research aim	Methodology	Subjects involved
Rondestvedt (2019)	University of Tromsø	The study examines 'the learning process methods and the integration of subject content when making the core subjects more vocational, based on the vocations' practical work tasks' (p.XV)	Empirical study of three vocational classes (three different programmes) in two schools. Field work consisting of document analysis, participant observation, interviews (seven group interviews with altogether 41 teachers + 33 individual student interviews) and fieldnotes	Vocational programme subjects, mathematics, Norwegian and English.
Nordby (2019)	Norwegian University of Life Sciences	The study examines 'how to facilitate meaningful learning processes in school science for vocational students?' (p.7)	The empirical foundation is video and audio recordings of students during learning processes, student products, student interviews, student surveys, student- and teacher interviews and recordings of conversations between teachers and researcher. Altogether two teacher participants and 37 students from the same school.	Natural science
Fiskerstrand (2017)	University of Bergen	This thesis examines how teachers in vocational training programmes can help the students develop further as autonomous argumentative writers (p.6)	Ethnographic research in one school. Multiple observations and interviews with teachers (two) and students (five). Text analysis of student work	Norwegian and social science
Muhrman (2016)	Linköping university	The aim is to highlight factors that may affect the convergence of vocational students' knowledge with the skills they need in professional life (p.232).	Interview study with 16 farmers, 14 vocational teachers within agricultural subjects, 11 mathematics teachers and 40 students.	Mathematics and vocational programme subjects within agriculture
Ledman (2015)	Umeå university	The aim was to critically investigate discourses of history education in VET tracks as voiced in different fields of the construction and reproduction of the curriculum.	Document analysis and interviews with teachers (five) and students (46).	History

Appendix F: Definition of Themes in Article 1 and 2

Article 1

Themes	**Definitions**	**Examples**
VO aim(s)	The teachers address what they want to achieve when utilizing VO teaching. They describe their own experiences of the role of VO in English teaching.	**Anja**: Well, yes. The curriculum says they should be able to express themselves, use words and expressions related to their educational programme. So that's what I must do. But really, I try to use VO to teach the students more English. To express themselves more specifically, for example, to explain well. And if they get to write about their future work, for example, it can be easier for them to practice writing. Instead of writing about an issue they do not care about.
The utility of VO	The teachers address *how* VO teaching can perform the role it performs (in their experience). Why can it be used in this manner? How does it function?	**Fredrik**: I've always done it, really. To provide the students with something useful, something they see as useful. Because then it's much easier to get them to engage and be interests. We're not dealing with academically oriented students, so to get them to engage it has to be relevant. If not, it will be lower secondary school all over, the same stuff they were used to—and hated—there.
Challenges to VO	The teachers address their view of issues that pose a threat to successful VO teaching.	Irene: Here, I've taught [four different programmes], or maybe even more. Yes, carpentry as well. It would been a major advantage if I could have specialized in one are, because then you learn the terminology, you know what they do in the vocational subjects and when you have that baseline knowledge, you are in a much better position to adapt. It has to do with the teacher's repertoire, as I see it. It takes time to develop, especially when you have different programmes to teach. It's problematic when you need to develop a new repertoire every year.

Article 2

Themes	Sub-category	Definitions	Examples
Content	Vocational topics	Any mention of vocational content as included in the teaching of English in upper secondary vocational school.	Sophus: It [English instruction] is much more interesting when it's linked to something we are interested in. When it is more practical, not just English and history and that. It's better to learn about machines and that in our English lessons.
	Learning outcome	▪ Talk about *what* they feel they should learn as part of the English subject and/or ▪ Talk about *what* they have already learned in the English subject and/or ▪ Talk about *what* they feel they do not need to learn as part of the English subject.	Milly: We sometimes learn things we already know. But then we learn new things when it's from our vocational subjects. So, it's repetition form earlier years, but also new words and expressions from our vocational education.
Classroom activities		Talk about what type of activities they like to work with in the English subject, and/or the type of activities they do not like to work with. Sometimes comparing experiences (present or past) with their view of the ideal situation. Can be linked to *how* they feel they learn best.	Haavard: You learn a lot from working in groups. Hans: Yes, that's what you learn form Haavard: I feel like I don't learn anything from silent reading Hans: …the same thing over and over Harris: Then you need another way of reading at least, to learn it. Not just sitting there reading, reading, reading. You don't learn from *just* reading.
The teacher	Favoured behaviour	Talk about teacher in a favourable way as someone who is supportive and 'notices' students	Ronja: 'He laughs *with* you. He will have a conversation *with* you. Not all teachers do that'.
	Promoting autonomy	Talks about teacher in a favourable way related to how the teacher allows for student autonomy	Lester: 'He trusts you. And then it is more motivating to show up and do the work.'

Part II: Articles

I

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Vocational orientation – A supportive approach to teaching L2 English in upper secondary school vocational programmes

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ABSTRACT

This study investigates how upper secondary school English teachers experience using the vocational orientation (VO) approach when teaching English as a second/foreign language (L2) in vocational study programmes. It combines interviews with 10 L2 English teachers in Norway and supplementary classroom observations. The analysis shows that the teachers use VO to facilitate adaptive L2 English teaching by drawing on student interests, promoting subject relevance and scaffolding learning. Impediments to successful VO use include teacher collaboration issues, students' vocational commitment and the availability of learning material. The informants find that VO supports student learning and increases their engagement with L2 English, which is evidence for the importance of understanding and reducing the challenges to the VO approach.

1. Introduction

A key challenge for any teacher is how best to enhance and support student learning (Du Plessis, 2019). Naturally, this extends to teachers in vocational programmes, not least to teachers of general subjects such as English as a second/foreign language (L2 English). Students in secondary Vocational Education and Training (VET), also known as career and technical education, attend programmes that are "multi-site and poly-contextual" (Fjørtoft, 2017, p.157), and discussions of quality in such programmes often focus on how to integrate learning from different areas (Baartman & de Bruijn, 2011; Billett, 2009; Hiim, 2017). Internationally, however, research is mostly concerned with the integration of vocational subject matter and workplaces (Schaap et al., 2012), with less attention being paid to general subjects in upper secondary vocational education. Therefore, this study explores the experiences of L2 English teachers who adapt their teaching to their students' future vocation(s).

As Fjørtoft (2017) notes, a complicating factor for teachers in vocational programmes is that they are often responsible for "students who are economically or educationally disadvantaged [and not always] able to satisfy literacy demands in education" (p.157). However, stakeholders agree that these students need solid general knowledge and skills in addition to their vocational competence to handle personal and societal demands in their adult lives (Brewer & Comyn, 2015; Hiim, 2014; Mouzakitis, 2010). They also need a solid knowledge base to be able to deal with rapid change and possible retraining (Hampf & Woessmann, 2017; Karoly & Panis, 2004) to avoid dropping out of the labour market.

In most countries, vocational programmes include a significant proportion of general subjects or content (Sweet, 2010). While the inclusion of this content is largely undisputed, practical and structural solutions vary greatly and can be controversial (for examples, see Cedefop, 2019; Grubb et al., 1991; Stene et al., 2014; Sweet, 2010; World Bank Group, 2015). Indeed, some believe there is good reason to question the extent and quality of general-vocational integration, and an OECD review of VET notes that: in almost all countries […] general education is incorporated into VET programs simply by requiring students to take courses or modules from academic instructors […]. Such practices make no effort to make sure that the academic content covers the particular competencies required in specific occupations. (Grubb, 2006, p.21)

In summary, lack of empirical research addressing the role of general subjects in vocational programs is problematic, not to mention unsatisfactory. The present study addresses this gap by examining 10 teacher informants' experiences with a didactic approach that systematically integrates general and vocational aspects to teach L2 English. In this article, we employ the term vocational orientation (VO) to describe this type of teaching. In the case of L2 English, examples of VO practices (found in our material) include reading technical literature, discussing work-related procedures and composing work-related texts in English. This article's research aim is to examine English teachers' views of and experiences with VO teaching, more specifically

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their goals, their perceptions of VO's utility and the challenges they encounter.

2. Theoretical perspective, background and prior research

Drawing on a sociocultural perspective, this study relates L2 learning to the development of a broader communication repertoire that functions as a means of mediating "distinct types of intellectual and practical activity" (Leontiev, 1981, p. 99). In other words, people learn a second language so that they can use it to mediate their actions. For vocational students, some of these actions are related to (future) employment.

A central tenet in sociocultural theory is that of the active learner (Daniels, 2001; Edwards, 2017) who eagerly participates in the social construction of knowledge (Lantolf & Thorne, 2006), while the learning outcomes of students who resist active participation will be limited. To promote engagement, teachers can become "directors of the social environment" (Vygotsky, 1997, p.339) who employ tools to help learners "engage with what matters now and will matter in their future" (Edwards, 2017, p. 156). In the context of Norwegian vocational programs, VO teaching can be considered one such tool.

A function of school is to enable learners to connect everyday understanding to "powerful publicly recognized meanings" (Edwards, 2017)—as expressed, for example, in the curriculum—and later to apply these meanings in concrete activities in the everyday world (Vygotsky, 1986). This can be achieved when teachers introduce real-life problem-solving that requires the direct application of school knowledge (Grubb et al., 1991), so that students develop their capacity to view abstract learning as tools to be used for real tasks (Derry, 2008). Fjørtoft (2017), though without using the term VO, discusses how vocational students, who frequently traverse various—and disparate—learning sites, may benefit from teaching that aims to unite diverse contexts. He suggests that teachers create a third space—understood as a hybrid, in-between space suitable for renegotiating identities, relations and practice (see Bhabha, 2004; Moje et al., 2004)—where practices from the students' homes, work domains and school subjects are brought together to break epistemic boundaries and expand students' learning resources. VO may thus help bridge the gap between the different domains and promote integrated learning, thereby increasing the cultural resources supporting student learning processes.

2.1 Why integration?

During the last three decades, many efforts have been made to explain and argue the need for general content in vocational programs. Explanations typically emphasise the need for advanced general skills in all contemporary trades and occupations (Green, 1998; Hiim, 2014; Wheelahan, 2015) and for a solid knowledge base to build upon for students who wish—or need to—retrain (Field et al., 2010). Furthermore, the possibility of continuing on to higher education is a topic of discussion in some countries (Nylund & Rosvall, 2016; Stene et al., 2014).

With regard to teaching, stakeholders typically propose that in vocational programs, general knowledge should be contextualized within relevant occupational practices (Cedefop, 2019; Conroy & Walker, 2000; NOU 2008:18, 2008; Taylor & Parsons, 2011; Vogt & Kantelinen, 2012). One reason is that integration is thought to improve vocational students' willingness to engage in general learning by prioritizing subject relevance and students' interests (Casey et al., 2006; Claxton, 2007; Dunleavy & Milton, 2009; Hoachlander, 1999; Quinn, 2013; Roberts et al., 2005; Taylor & Parsons, 2011). Second, integration is thought to support student learning by contextualizing how general skills function in specific occupations (Hiim, 2014), contributing to the development of higher-order thinking skills and demonstrating how knowledge transfers across domains (Grubb et al., 1991). A third reason is that integrating general and vocational content is considered a means of improving graduation rates from vocational programs (Grubb et al., 1991; Norwegian Directorate for Education and Training [UDIR], 2014; Roberts et al., 2005). The argument is that students increase their chances of academic success when they are a) more motivated for learning and b) have a better understanding of how to apply their learning in different contexts.

2.2 Organizing integration

The two key approaches to the integration of general and vocational skills are to embed general content in the teaching of vocational subjects and let vocational students follow general subjects alongside their vocational ones while requiring these general subjects to have a VO.

Embedding has been the favored approach in England and in countries such as Australia, Aotearoa/New Zealand and Ireland (Black & Yasukawa, 2011). It has been defined as teaching and learning that "combines the development of literacy, language and numeracy [LLN] with vocational or other skills" (Roberts et al., 2005). Embedded LLN typically involves paying attention to literacy, language and/or numeracy issues while students work on tasks from their vocational curriculum. It is frequently organized as team teaching where an LLN teacher is present in the vocational classroom and works alongside the vocational teacher. Sometimes, vocational teachers provide LLN instruction themselves (Bak & O'Maley, 2015; Casey et al., 2006).

The United States (US) offers a good example of the second strategy, where general and vocational content are taught separately but with integration being achieved by viewing separately taught subjects as part of a larger whole (Grubb et al., 1991; Quinn, 2013). In short, both general and vocational teachers incorporate concepts from other disciplines into their curricula (Conroy & Walker, 2000), either as standalone initiatives or as part of subject alignment in which related themes are taught concurrently across subjects (Hoachlander, 1999).

At first glance, the Norwegian educational system for general–vocational integration seems comparable to that of the US. Upon closer inspection, however, Norway is a particularly interesting case because, in contrast to both the US and England, it has a national system of secondary vocational education and mandatory integration of general and vocational subjects (Regulations of the Education Act, 2006). In effect, this means that vocational teachers are obliged to attend to core literacy skills in their instruction (similar to LLN instruction), while general subject teachers need to apply VO to their subjects. The latter is the focus of this study.

2.3 Prior research

International research that addresses general subjects in upper secondary school vocational programs is relatively scarce, and even more so for English in particular. Furthermore, much of this research is five years old or older. Overall, the findings are largely negative, pointing out weaknesses or deficiencies in current implementation. In Morocco, for instance, a small-scale study of one school found that, even though most English teachers believed in the integration of vocational and language content, half found it difficult to operationalize (El Kandoussi, 2017). Hua and Beverton (2013) concluded that Taiwanese vocational programs prioritize general English competence and claimed that this is generally the case in Asia. Widodo (2017) supported their claim, arguing that Indonesian English teachers opt for general English instruction because they lack the know-how to marry vocational and everyday English. In Europe, Garschall (2008) described a gap in Austrian teacher and student perceptions of vocational English lessons, finding that while teachers were convinced that they included VO perspectives, not all the students agreed. Research from Sweden suggests that language teachers have low expectations of vocational students' abilities and that they simplify content and language when teaching in vocational programmes (Korp, 2011; Niemi & Rosvall, 2013; Norlund, 2011; Nylund & Rosvall, 2011, 2016; Nylund et al., 2018; Rosvall, 2015). In

England, a commission found a lack of serious commitment to the development of language skills in vocational programs, and it called for more professional staff development (Institute for Learning [IfL], 2013). In the US, Platt (1996) described how L2 English teachers in vocational environments are too unfamiliar with their students' future vocations to be able to integrate content and language. Amongst the few positive studies, Quinn (2013) found that teachers perceived themselves to be successful when they were able to connect general content with their students' vocational interests. In Norway, echoing many of the studies mentioned, common core subject teachers stated that they like the idea of VO teaching (Olsen & Reegård, 2013) but described it as pedagogically demanding (Stene et al., 2014), with one-third reporting that they did not know how to teach in this manner (Haugset et al., 2014; Myren & Nilsen, 2001). A qualitative study of three English teachers (Wendelborg et al., 2014) even concluded that VO could be less successful than 'regular' teaching, possibly because the approach forces teachers out of their comfort zones. Other studies have documented teachers' discontent with their own VO efforts (Olsen & Reegård, 2013; Skålholt et al., 2013) or questioned whether students prefer VO lessons at all (Utvær, 2013). Others question whether general education teachers understand vocational programmes well enough to adapt their teaching appropriately (Haugset et al., 2014; Myren & Nilsen, 2001). Furthermore, many general teachers have seen VO conflicting with 'regular' teaching, worrying that increased attention to vocational practices will neglect central subject learning (UDIR, 2017).

Although this review attests to a worldwide interest in VO, it suggests that teachers' commitment and teaching are hampered by inadequate knowledge and structural issues. It also confirms the need to further investigate teachers' experiences of using VO as a systematic, integrated part of teaching L2 English.

2.4 Research questions

Emerging from the review is a need for more comprehensive knowledge of teachers' perceptions of—and experiences with—VO teaching of English. The overall research aim of this study is to examine the informants' views and experiences with VO English teaching to access their goals, perceptions of VO's utility and the challenges they encounter. To this end, the study uses self-reported data from 10 English teachers in 10 different schools in Norway in combination with classroom observations. The study addresses the following three research questions (RQs):

RQ1: How do these English teacher informants describe their goals for VO teaching?
RQ2: What are the informants' views on the usefulness of VO in English teaching?
RQ3: What do the informants see as central challenges to successful VO in English teaching?

3. Methods

This qualitative study relies mainly on data from interviews with 10 English teachers at 10 different schools with vocational branches. As a supplementary data source, we also observed one teaching trajectory (between 2 and 5 lessons) for each teacher, totalling 29 lessons. The observations where made ahead of the interviews. While the interviews elicit the informants' views on VO, with particular attention to its aims, utility and challenges, the observations primarily provide contextualization for the interviews and to expand on the key findings.

3.1 Context

English is a compulsory subject in Norway from the first grade onwards. Combined with considerable English exposure in and out of school (Brevik & Hellekjær, 2018; Rindal, 2014), this results in high English language proficiency among children, adolescents and adults alike (Bonnet, 2004; EF Education First, 2020). In Norway, secondary school is split into lower and upper secondary. While lower secondary school (years 8–10) is comprehensive and general in orientation, students in upper secondary school (years 11–13) choose between general studies preparing for higher education and vocational studies that are awarded with vocational certificates. In the school year 2020–2021, 49 percent of year 11 students attended a vocational study program (UDIR, 2020). Vocational studies include subjects in trade-specific theory and practice alongside six core subjects—L1 Norwegian, L2 English, mathematics, natural science, physical education and social science.

Data for this article were collected under the LK06 curriculum, which was revised in 2020 to become LK20 (UDIR, 2006, 2013, 2019). Despite this revision, VO remains as central to LK20 as to LK06. Under LK06, all upper secondary students followed a compulsory general English course comprising 140 teaching hours. In vocational programs, these hours were divided between years 11 and 12. The subject curriculum prioritized (and still does) communicative and intercultural competence along with the development of literacy skills and historical, cultural and social content knowledge (UDIR, 2006, 2013). Students worked towards 27 competence aims, grouped under language learning, oral communication, written communication and culture, society and literature. It can also be mentioned that the English subject in Norway is quite demanding in terms of its focus on language development as well as on knowledge about culture, society and literature (Chvala, 2020).

The Norwegian curriculum describes instructional outcomes without specifying content or teaching methods. Thus, when the law requires teachers to adapt to their students' study program (Regulations of the Education Act, 2006, §1-3), individual teachers (or teams of teachers) decide what, how, when and to what extent they do so. This means that, in most cases, depending on the English teacher's considerations, some periods and topics will have a vocational orientation, while others will not.

3.2 Procedure

We utilised a purposive sampling strategy with three selection criteria to identify schools eligible for participation:

1. an expressed commitment to VO teaching,
2. a clear vocational identity and
3. a geographical location in eastern or western Norway.

The third criterion was based on the expectation that regional differences in the labour market might affect teachers' experiences. The results do not support this expectation and are therefore not discussed further. Initially, we identified 22 prospective schools (with a fair geographical distribution) that mentioned VO as a priority on their websites and invited them to participate. In the end, 10 teachers from 10 of these schools volunteered to participate.

The first author interviewed the 10 teachers using an interview guide we had developed and piloted. The guide included questions about VO teaching practices and experiences, VO lesson planning, facilitating and constraining factors of VO and the teachers' backgrounds. The interviews varied in length from 40 to 67 min, averaging 55 min. The first author audio recorded and transcribed all the interviews in full. Nine teachers chose to be interviewed in Norwegian, while one opted for English. We translated the Norwegian quotes into English with the aim of conveying meaning, removing speech elements such as pauses, fillers and false starts to clearly present the content.

At each school, the first author observed one cohesive trajectory in each interviewee's classrooms. These lasted from two to five lessons (180–450 min) and were described by the instructing teacher as typical of their practice. During observations, the researcher took structured field notes on an observation form, including contextual information, the lesson's vocational framing, descriptions of activities (with time spent) and teacher and student utterances as direct quotations. The observations functioned as a shared frame of reference for the interviews

Table 1
Descriptions of Lessons that Build on Students' Prior Vocational Knowledge

Type of study programme	Technical			Non-technical	
Teacher	Anja	Bernt	Fredrik	Georg	Jana
Vocational link	Practical knowledge of tools and machines	Practical knowledge of a relevant work method	Theoretical knowledge of workplace health and safety (H&S)	Practical and theoretical knowledge of relevant work strategy	Theoretical knowledge relating to a professional code of conduct
Brief description of observations	Individually, the students wrote instruction manuals describing a work procedure of their own choosing	In groups, the students prepared to present a practical task they had completed in the workshop	In plenary, the students applied H&S knowledge when discussing workplace safety in English	In groups, the students prepared and presented a strategy to be used at work with a relevant target group	The students worked with terminology, texts and discussions concerning how to be a role model

and were used to both support and challenge some of the self-reported data.

The interview guide and observation scheme are available upon request to the authors.

3.3 Sample

Of the 10 participating teachers, 4 taught in western Norway and 6 taught in the east. Their teaching experience ranged from 3 to 25 years, with 9 having taught for 5 years or more and 7 for more than 10 years. All taught more than one study programme but were observed while teaching one of the following programmes: Design, Arts and Crafts, Electricity and Electronics, Health, Childhood and Youth Development, Restaurant and Food or Technical and Industrial Production. The teachers, four males and six females, were given the following aliases: Anja (female), Bernt (male), Carina (female), Dagny (female), Elin (female), Fredrik (male), Georg (male), Herman (male), Irene (female) and Jana (female). As the informants' participation was known to staff at several of the schools, we will not, to ensure anonymity, link aliases with additional information such as location, teaching experience or numbers of lessons observed (General Data Protection Regulation [GDPR], 2018).

3.4 Data analysis

As this study has an emergent design, we started the data analysis by listening to the recorded interviews and reading the transcripts and observational notes several times. Next, we carried out a thematic analysis of the interviews (Braun & Clarke, 2012), performing data-driven initial coding. The initial systematising and merging of the codes resulted in four preliminary themes (*Definitions of VO, Justification, Reported practices* and *Explaining own practices*) that related closely to the interview guide's structure. These could, therefore, be understood as domain summaries (Braun et al., 2019). Next, by engaging in a reflexive approach, it was possible to move from these domain summaries to themes that addressed meaning across the interview guide, resulting in three final codes. Data from all four initial codes contributed to the first and second code, *VO aim(s) and The utility of VO*, while data from the latter three informed the code *Challenges to VO*. Finally, we applied the new codes to the interview (and observational) data and identified examples that could represent tendencies and outliers in the material.

3.5 Trustworthiness and ethics

We took two main steps to increase the data's trustworthiness. First, we used a piloted interview guide and observation to collect the same data type across schools. Second, since self-reported data might reflect intentions rather than practices (Johnson & Christensen, 2017), we supplemented these with observational field note data. As Lincoln and Guba (1985) suggest, we invite the reader to use the contextual information and details concerning the methodology and results to assess the transferability of our findings to other contexts.

All informants signed consent forms and were informed of their right to withdraw consent at any point. Throughout the project, caution was exercised to maintain the right to privacy. Furthermore, the study was approved by the Norwegian Centre for Research Data, an followed their ethical guidelines (National Committee for Research Ethics in the Social Sciences and the Humanities [NESH], 2019).

4. Findings

While English teachers in Norway are required to use VO in their teaching, they maintain significant control over how, when and to what extent they do so. The aim of this study was thus to access the informants' goals (RQ1), their perceptions of usefulness (RQ2) and the challenges they encounter (RQ3) in relation to the approach. In other words, while RQ1 addresses what the teachers set out to achieve when using VO approaches, RQ2 explores why it can be used in this manner. RQ3 presents the teachers' views of challenges that pose a threat to—in the eyes of the teachers—successful VO teaching.

For readers less familiar with VO teaching, Table 1 (below) presents examples of observed instruction that may clarify the type of teaching the informants describe in sections 4.1–4.3.

4.1 How do these English teacher informants describe their goals for VO teaching (RQ1)?

The teachers described three main goals for their VO teaching: to promote adaptive teaching, to facilitate general English language learning and to teach vocational terminology. Arguably, the first goal should be viewed as primary, as it has implications for how the others can be pursued.

With regard to their rationale for promoting adaptive teaching, the teachers described VO as a tool to tailor the English subject to their vocational students' needs and expectations. Nine teachers claimed that many of their students struggled with English in primary school and believed they would benefit from new learning approaches in upper secondary school. Moreover, the teachers believed that their students also wanted schools to be different now that they had enrolled in a vocational programme. To illustrate, Fredrik said, "[Vocational students] don't want lower secondary all over again, so you have to aim for something new, to make them feel that this is different from before". Herman held a similar view: "I can often tell that students who struggled [with motivation and learning] in lower secondary get a boost when they come here and experience that, well, the different subjects work together". Carina also mentioned the importance of change: "VO is different from what they are used to, and that is precisely its attraction. It's new. Even if the subject is familiar, it comes with new and intriguing content". In other words, VO emerges as a tool that teachers may use to adapt their teaching.

Their second goal for VO is to facilitate the learning of general English language skills. It is a clear trend in the material that VO teaching extends beyond work-related English usage. In fact—in the interviews as well as the observations—it was clear that the teachers used vocational themes and materials to achieve conventional language learning. As noted by some informants, VO teaching can act as a line of demarcation between English in lower and upper secondary schools by replacing

general content that students have previously struggled with, such as literary texts (Elin and Bernt), films (Georg) and work with political and social issues (Fredrik), with vocational texts and themes. Furthermore, Elin explained that she uses VO to teach her students "how to communicate in English", while Carina and Herman reported that general language development was always at the centre of their VO teaching. While Anja simply said that she used VO "to teach her students English", Bernt saw VO "as a way to get through to the students" and "support those who struggle", for example when they practised writing skills. Even Georg, the one teacher who questioned VO's motivating effects, believed in its capacity to aid learning: "If I do not use a vocational orientation, [the subject] becomes too difficult […]. Working with vocational themes can be a bit slow, but […] many students pass the course because of it".

As a third goal, the teachers aimed to use VO as a means of teaching vocational terminology. While VO most often emerged as a pedagogical tool to help students develop their general English competence, the teachers (minus Georg) all agreed that vocational terminology represented a valuable supplement to the students' general knowledge. Elin put this as follows:

> I prioritise vocabulary instruction. I want my students to know the names of different [relevant tools] in English. It is simply not good enough to ask [a colleague] to hand you a thingy. […] I gladly sacrifice textbook texts or short stories and poems because I believe that vocabulary knowledge is the toolbox my students really need.

Overall, the teachers (all but Georg) described domain-specific vocabulary knowledge as essential for effective workplace communication in English and even as important for workplace safety (Carina and Elin). Furthermore, all mentioned that their students are likely to speak, write and/or read English at work, which would require specialised vocabulary in addition to general language skills. Domain-specific vocabulary is thus understood as a genuine contribution to students' vocational education. Nevertheless, even vocabulary teaching was framed as a factor contributing to VO's transformation of the English subject, as Carina contended that this, too, represented "something completely different from what the students were used to [in lower secondary school]".

To summarise RQ1, the informants reported that their goals with VO were to use it for adapting English language teaching to the needs of vocational students and as a means of teaching general language skills and vocational terminology. The teachers considered VO to be quite effective in this regard.

4.2 What are the informants' views on the usefulness of VO in English teaching (RQ2)?

The teachers described three factors that help explain the usefulness of VO in English teaching: it builds on interests, promotes relevance and provides extra scaffolding for learning English.

First, the teachers described VO's usefulness as emanating from its link to students' interests. As Fredrik noted, "Everyone prefers to speak about things they are interested in […]. It is a simple and effective way of getting [students] engaged and interested". Herman expressed a similar view by describing VO as a motivational tool: "I believe that as an English teacher in a vocational programme I have to draw on my students' interests. When you find that you have a tool [VO] that can increase student motivation, then surely, you use it". To capitalise on student interests, all the informants except Carina emphasised the importance of getting to know their students' VO preferences, not only in terms of themes but also relating to work methods. Similarly, Bernt and Carina argued that non-vocational interests (also) have the capacity to spark engagement, implying that teachers should also get to know these.

Next, the teachers suggested that an important aspect of VO's usefulness comes from its ability to help students understand the relevance of English. The claim is that relevance is crucial for engagement, but, as Elin puts it, "vocational students do not see the relevance of 'regular' school English". Therefore, to increase their students' sense of subject relevance, the teachers said they constructed situations where English and vocational themes converge and used them in their teaching. According to Fredrik, though, genuine relevance can only be achieved when English lessons build on content already covered in the students' vocational subjects. In the lessons we observed, half followed this recommendation. Table 1 presents brief descriptions of instruction in these five classrooms to show how the English teachers incorporated content from their students' vocational subjects into their language lessons. To safeguard anonymity, the observed instructions are described non-specifically.

As Table 1 shows, Anja, Bernt, Fredrik, Georg and Jana were observed to anchor their English lessons in their students' vocational subjects, in this way inviting their students to use vocational experiences as a springboard for English writing (Anja and Jana) and communication activities (Bernt, Fredrik, Georg and Jana).

Last, some teachers (not including Carina, Irene and Jana) described VO's usefulness for providing an extra scaffold for learning by allowing students to draw on vocational background knowledge while developing English language skills. According to the teachers, this support is especially important for students who are unsure of their English language abilities but know their vocational subjects well. Bernt, for example, mentioned how a struggling student gave a good English presentation about something she had produced in the workshop. He concluded that "it [VO] really makes all the difference. She would never have been able to achieve something like this talking about something abstract, like a text". This quote illustrates how Bernt attributed his student's achievement to VO teaching. Similarly, 8 out of 10 teachers perceived a close, positive relationship between VO teaching hand and grading and exams. Anja, for example, said that students' grades increase when they work with vocational topics, so she tends to do these in the spring, close to the final assessment. Irene also addressed the link between VO and assessment but focused on its significance for examinations:

> My starting point is that I must prepare students to pass the written examination. I know that [one of the elective tasks] is always a VO task […]. So, from my perspective, if they manage to describe a job using a suitable vocabulary […], they are equipped to pass.

To summarise RQ2, the informants reported that the usefulness of VO rests on/comes from its ability to draw on students' vocational interests and to utilise these to promote English as a useful subject in vocational programmes. Furthermore, the teachers said they were able to utilise VO to scaffold learning in a way that is particularly supportive for vocational students who have struggled with English in the past.

4.3 What do the informants see as central challenges to successful VO in English teaching? (RQ3)

While the teachers described VO as a useful teaching approach, all were aware of the challenges to successful implementation. Four challenges emerged from the teachers' self-reported experiences: the need to become familiar with vocational programmes and issues with collaboration, student challenges and learning materials.

The first challenge to VO concerns the teachers' need to become familiar with the vocational programmes where they teach. This takes time and effort. The interviewees mentioned that they did not learn vocational content during teacher training and that even after years in service, they still experienced knowledge gaps. Even so, their first years were particularly troublesome. Anja said, "In my first year, I taught all [five] of our programmes and had to learn everything from scratch. I don't think my VO teaching was very good that year". Furthermore, Irene called for more peer support from colleagues as she described her first years of teaching vocational students: "You are basically thrown in there. No one advises you on what to do so you grope in the dark for a while". Ideally, novice teachers have time and energy to become self-reliant, but VO topics can easily steal time from this process. As Jana

pointed out, "[VO] requires a lot more preparation than general English […] and you will not feel as confident in the classrooms as when you teach general topics".

Another common experience, described by Anja, Dagny, Fredrik, Georg, Herman and Irene, is that English teachers are not necessarily assigned to teach the same vocational programme(s) several years in a row. Continuity was, however, described as imperative for getting to know a programme and to form bonds with key vocational teachers. Georg, for example, said, "I would have liked to work with one programme year after year because it would make it easier to design good lesson plans. It would have been a great relief". Herman saw programme continuity as necessary for teacher collaboration to occur: "It's great when you get to work with the same programme over time. They you get to know the programme and the other teachers". In sum, the teachers want greater continuity in which programmes they teach to allow for VO specialisation.

The second challenge concerns collaboration. The teachers (minus Herman) described challenges in their collaboration with other teachers. The most common issue was lack of contact with the relevant vocational teachers. Anja, Bernt, Fredrik and Georg stated that in their schools, vocational teachers were known for their lack of initiative, burdening general subject teachers with full responsibility for any collaborative efforts. Moreover, Anja and Georg sensed that some vocational teachers preferred not being contacted, which was demotivating. Collaboration was also hampered by structural issues at the school level that prevented English and vocational teachers from developing effective collaboration schemes. A key issue was time for meetings. Anja, Carina, Dagny, Elin and Georg all mentioned that there were no time slots for teachers to meet across subjects. Anja put it this way: "It is very difficult to meet throughout the school year. I teach when [the vocational teachers] don't and the other way around. There is never time to sit down". Two schools had formalised interdisciplinary meetings (Fredrik's and Irene's), but these meetings were not used for lesson planning. In Irene's case, for example, they were instead spent discussing students' behaviour and grades.

The third challenge to VO concerns students who are not committed to their vocational programme. All except Dagny and Elin noted that most classrooms include students with low motivation for the programme to which they were admitted. According to most of the teachers, VO has little motivational power for these students. Both Anja and Carina questioned the importance of VO for unmotivated students or students who are looking to change programme. Anja said, "You always have some students who want to change programme […] VO does not help at all for these students". Similarly, Carina argued, "Not all students are devoted to the programme they are in. For some it was an arbitrary decision […], and then I question how relevant they perceive [VO] to be".

The fourth and final challenge to VO, mentioned by Anja, Elin, Fredrik, Georg, Irene and Jana, concerns learning material. Although the teachers had access to textbooks that included some vocational content, the books were often described as mediocre. Elin knew one vocational programme so well that she was able to spot inaccuracies in her students' English textbooks. She said, "I can tell that the authors are English teachers and not vocational specialists. So, I frequently have to use material from other sources". This quote is also pertinent to the experiences of Anja, Fredrik, Georg, Irene and Jana, who all said they supplemented their textbooks with other material. Irene, for example, recalled, "Much of what I have used I have found by googling aimlessly. I've spent an awful lot of time on the computer but found very little of use". When good resources are scarce, teachers may have to settle for material with which they are not entirely happy. Anja's experience is illustrative:

> It is hard to admit, but very often my instruction […] is planned around whatever I find and can do in the time I have available rather than what is actually relevant for the students' vocational learning.

To summarise RQ3, the teachers described as critical certain challenges at an organisational level, specifically programme continuity and collaboration issues. Furthermore, they recognised that VO is not equally effective for all students and described problems in locating quality learning material.

5. Discussion

Across the interviews, the teachers expressed positive sentiments towards VO in vocational L2 English teaching, and they described practices indicative of commitment to the approach. However, their experiences also highlight the challenges that teachers are likely to face when they seek to integrate English and vocational subjects.

5.1 VO as a favoured approach in vocational programmes

In response to RQ1 (How do these English teacher informants describe their goals for VO teaching?), the study describes how the main goal for these teachers is to use VO as a tool to adapt general English language teaching to vocational students' interests and needs. Further, the teachers described two subordinate but still important goals: using VO to teach general English language skills, and, second, to teach work-related terminology. In response to RQ2 (What are the informants' views on the usefulness of VO in English teaching?), the study found that the teachers ascribe VO's usefulness to its ability to build on students' interests, promote English as a relevant subject and support those who struggle. In response to RQ3 (What do the informants see as central challenges to successful VO in English teaching?), the teachers presented four main challenges. First, becoming familiar with a vocational programme takes time and frequently more time than the teachers have. Second, the teachers describe an absence of collaboration with vocational colleagues, which also hampers their ability to learn about the programmes. Third, the teachers doubt that VO has much to offer students who are not interested in their vocational education, and, fourth, six teachers described the quality and availability of teaching resources as problematic.

Compared to previous research from Norway, not to mention international research, our informants express more favourable sentiments towards VO teaching (see Haugset et al., 2014; Myren & Nilsen, 2001; Olsen & Reegård, 2013; Skålholt et al., 2013). Furthermore, they describe teaching practices indicative of well-developed VO repertoires and seem less apprehensive about teaching in this manner (when compared to international research such as El Kandoussi, 2017; Haugset et al., 2014; Hua & Beverton, 2013; IfL, 2013; Myren & Nilsen, 2001; Platt, 1996). These practices have not, however, developed overnight but emerged gradually from their teaching of vocational students.

5.2 Bridging the knowledge gap

The interviews suggest that our informants found two measures particularly helpful in bridging an initial knowledge gap in their vocational understanding. First, the teachers said that they are more likely to develop a solid VO repertoire if they have the opportunity to teach the same programme(s) several years in a row. Because few English teachers have initial knowledge of vocational programmes and workplaces, they need time to discover relevant links between English and their students' vocational education. Furthermore, if teachers are to benefit from the main strengths of VO—that it increases relevance and student interest—they will depend upon being allowed to specialise in one or a few programmes.

Second, to facilitate relevant teaching, the teachers recommended basing English lessons on content from the students' vocational subjects. For them, this is a simple way to ensure that they draw on appropriate content, especially when they are less familiar with a certain

programme. Interestingly, only half the teachers followed the latter advice in the observed lessons (Table 1). This could, of course, have several explanations, but as the teachers stress the significance of building on a vocational curriculum for students' learning, there is reason to question why half did not do so.

5.3 Added value of VO in L2 English teaching

By investigating English teachers' views of and experiences with VO, this study sheds light on the added value that VO contributes in teaching. First, the teachers believe that VO can be a game changer for students who are insecure about their English language skills, because the approach centres on material the students know well (i.e. vocational content knowledge). The important mechanism here is that VO enables lessons where students have prior knowledge and thus can feel more confident in their abilities to participate in class. Consistent with research that has shown how increased confidence can strengthen participation and endurance in school (Schunk & Pajares, 2009), the teachers seem to suggest that VO has the potential to facilitate a virtuous circle where confidence and investment in learning prove mutually reinforcing.

Another important finding concerning VO's added value is that the teachers believe that VO can improve student engagement. In empirical research, student engagement has been described as an antidote for student boredom and disconnection in school (Appleton et al., 2008; Tze et al., 2014) and conducive to promoting persistence, effort and achievement (Chase et al., 2014; Fredricks et al., 2004). While it is beyond this paper's scope to account for this research in detail, we simply state that a factor that is frequently found to promote engagement is (perceived) subject relevance (Taylor & Parsons, 2011). Research has found that instruction utilising real-life scenarios is more conducive to engagement than other types of instruction (Claxton, 2007; Dunleavy & Milton, 2009; Willms et al., 2009), so teachers will benefit from planning lessons that speak to students' interests, experiences, goals and concerns. According to our informants, VO tends to function well in this respect, but they admit that there are considerable differences in how students respond. This is a reminder that VO neither eliminates the need for accommodation to individual needs nor the need for careful consideration of how to achieve the desired learning outcome.

5.4 Dealing with challenges

From a practical and organisational viewpoint, perhaps the most important contribution of this study is its description of challenges to VO. If these are understood, teachers and school leaders can work towards reducing them and boost VO's positive impacts at the same time. Notably, the study shows how 9 out of 10 informants—who were after all recruited from schools that prioritise VO—experienced low levels of collaboration with vocational teachers, which they frequently attributed to how their schools are organised. For example, English teachers rarely interact with vocational colleagues and seldom share offices or attend the same meetings. In addition, some teachers reported an absence of quality teaching resources. In sum, it seems that our informants typically utilise VO teaching without peer support—or indeed support from textbooks and similar—placing the full responsibility for integrating vocational and English language matters on them. Consequently, VO teaching is vulnerable to individual teachers' abilities to understand vocational questions and their capacities to create a third space for general and vocational content to come together (i.e. Fjørtoft, 2017).

On the basis of this study, we contend that improved collaboration may reduce the impact of all the challenges to VO that the teachers mentioned. It could facilitate increased familiarity with vocational programmes, increase access to suitable learning material and provide a better starting point for motivating all students. Interestingly, this contention is supported by the fact that Herman—the only teacher describing a close relationship with his vocational colleagues—reported fewer challenges to VO than did the other teachers. However, as the majority lacked collaborative experience, it needs further investigation.

Dealing with challenges should be a priority, considering our informants' belief that many vocational students are more engaged when lessons integrate general and vocational topics. Indeed, in light of sociocultural theory and the image of the active learner (Edwards, 2017; Vygotsky, 1997), teachers have good reason to employ VO if, in fact, it encourages increased engagement in learning activities. Central to sociocultural theory is the notion of participation in social interaction as essential for learning (Derry, 2008; Edwards, 2017), and, according to the interviewed teachers, VO has the potential to increase students' active participation. If their descriptions hold true, they suggest that VO may contribute to learning by increasing engagement and involvement. Certainly, this underlines the importance of understanding the challenges to VO and how schools can work to minimise the negative impact of these challenges.

5.5 Limitations

This study has two possible limitations. First, the informants may not reflect the larger population of English L2 teachers, as all volunteered for participation and were recruited from schools that prioritise VO. However, this is not necessarily a problem, as the teachers represent a strategic sample recruited because of their experiences with the phenomenon under study. Furthermore, regardless of contextual factors such as age, teaching experience and geographical location, there was great consistency in the teachers' experiences and viewpoints, which adds to the findings' trustworthiness. Discrepancies between this and earlier, more negative studies are consistent with the informants having had more time to develop their VO repertoire.

A second limitation concerns self-reported data. It is well known that teachers' espoused theories and theories-in-use often do not match (Borg, 2015). To compensate, we conducted classroom observations ahead of the interviews and allowed these to inform the collection and interpretation of the interview data. Furthermore, some observation data are included in the results section and are used to explain or modify the self-reported data. Moreover, the consistency in the different teachers' experiences is an argument in favour of theoretical transferability to comparable contexts. Thus, within the limitations of a qualitative study with a small sample, we contend that this study offers useful insight into how L2 English teachers perceive various aspects of VO teaching and the challenges to supportive VO teaching in L2 classrooms.

6. Conclusion

The study documents 10 L2 English teachers' experiences with VO approaches in vocational English classrooms. They found the main advantage of VO to be its usefulness in adapting English teaching to fit vocational students' preferences. One reason is novelty, as it allows for the teaching of topics that appear novel and engaging to the students. Indeed, VO is presented as a frontrunner in this respect. Relatedly, the teachers claimed that VO supports students who have struggled with English in the past by casting the subject in a different mould and drawing on themes and material believed to support learning. Finally, the teachers considered it a major advantage that VO lessons are anchored in students' vocational experiences, as this is believed to create a scaffold for learning. However, the study also suggests room for improvement in this area.

The study identifies certain challenges to VO. Most concerning is the lack of collaboration between general and vocational teachers. Without collaboration, it becomes much more difficult for English VO lessons to build on content knowledge developed in vocational subjects and for teachers to create a third space for general and vocational content to meet. While it is beyond this paper's scope to elaborate on the role of teacher collaborations, we need more research in this area, for example, to investigate how collaboration can become a central tenet in VO

teaching. Furthermore, it should be kept in mind that the present study presents teachers' perceptions of and experiences with VO. In other words, there is little attention paid to student voices. To complement the picture, we need to know more about students' experiences with and opinions of VO teaching.

Despite the obvious potential of VO instruction, one should not allow enthusiasm for the approach to obscure other equally promising approaches to learning. Regardless of the approach, good teachers recognise tools that help boost their students' subject engagement and utilise these in planning and teaching. Nevertheless, there seem to be compelling reasons to use VO instruction to make L2 English a more attractive subject for vocational students.

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Declaration of Competing Interest

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Sincerely,
Kaja Granum Skarpaas
Glenn Ole Hellekjær

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Article

Vocabulary Teaching Practices of L2 English in Upper Secondary Vocational Classrooms

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Abstract: This qualitative study investigates language teaching practices relating to L2 English vocabulary instruction in upper secondary school vocational classrooms in Norway. It builds on previous research describing technical vocabulary as an area of particular importance for vocational students' English language development and relies on observation data from eight vocational classrooms. The study found that vocabulary work has a strong presence within vocational orientation (VO) instruction, across whole-class instruction, group or pair work, and individual work. Most target vocabulary could be classified as words relating to work practices and vocational content knowledge. Many instances of L1–L2 translation tasks were observed. Target words were not practiced across the four language skills and were rarely utilized in productive tasks. The study concludes that observed practices can be improved by prioritizing ways of combining target vocabulary with students' language production and by including more opportunities to practice independent language strategies.

Keywords: vocabulary; L2 English; vocational students; vocational orientation approach

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1. Introduction

In this study, we examine language practices relating to English vocabulary instruction in a context rarely encountered in the research literature: the upper secondary vocational classroom. The study was conducted in Norway, where English is a de facto, but not a de jure, second language (L2) taught from the very first school year (see Rindal and Brevik 2019 for a discussion on the status of English in Norway). In year eleven, approximately half the students enter a vocational upper secondary program, where they study both vocation-specific subjects and general subjects. In addition to English (L2), the general subjects comprise Norwegian (L1), mathematics, natural science, physical education, and social science) (Norwegian Directorate for Education and Training [UDIR] 2020).

Language competence, including L2 English, is important in all sectors in today's global society (Hellne-Halvorsen et al. 2021), and English is, therefore, an essential part of the general knowledge that vocational students need to complement their domain-specific learning (Brewer and Comyn 2015; Hiim 2014; Mouzakitis 2010; Sweet 2010). Still, some have argued that general subjects have little relevance for vocational students' educational needs and interests (Abbott 1997; European Centre for the Development of Vocational Training (CEDEFOP) (2019); Grubb 2006; Hiim 2017) and, for this reason, that they become a main source of demotivation. To make general subjects more appealing to vocational students, stakeholders within educational research and policy call for more relevant instruction that is contextualized within a vocational frame (Conroy and Walker 2000; European Centre for the Development of Vocational Training (CEDEFOP) (2019); Hoachlander 1999; NOU 2008:18 2008; Quinn 2013; Roberts et al. 2005; Vogt and Kantelinen 2012). In Norway, this is achieved through what is known as a vocational orientation (VO) to teaching. It denotes a teaching practice within upper secondary school where general subjects are adapted to vocational programs in terms of content and methods while building on a generalized

curriculum that is common to all programs (Norwegian Directorate for Education and Training [UDIR] 2019; Regulations of the Education Act 2006). As the upper secondary vocational programs in Norway are quite broad (even in year 12) and may qualify for higher education, VO teaching must extend the needs of specific occupations. Therefore, VO is not as targeted as English for specific purposes (ESP), where the focus on a particular group is much more distinct (Hyland 2007). It is also distinct from content- and language-integrated teaching (CLIL), where the English language is the medium of instruction and not, as such, the object of study (see, for example, Coyle 2010).

A previous interview study from Norway (N = 10) found that English teachers viewed VO teaching as a tool to increase vocational students' engagement with L2 English (Skarpaas and Hellekjær 2021). The teachers explained the success of VO by saying that the method draws on student interest, promotes subject relevance, and scaffolds learning. According to the teachers, vocabulary has an important role to play in the success of VO because the technical words become testimonies of relevant instruction. That study did not, however, explore instruction. Therefore, in the current study, we investigate how English vocabulary is taught under a VO heading to better understand the role it plays in this teaching approach. To that end, the study uses observations from eight classrooms in a Norwegian upper secondary school.

1.1. Background

Words are the building blocks of language, and vocabulary knowledge is thus a crucial part of language learning. Vocabulary size is positively associated with learners' reading, writing, and listening proficiency (Chung and Nation 2003; Cobb 2007; Laufer and Ravenhorst-Kalovski 2010; Shi and Qian 2012; Stæhr 2008), while vocabulary errors can bring about misunderstandings that interrupt the flow of communication (Johansson 1978; Llach 2011; Qian and Lin 2020). Vocabulary knowledge includes both receptive and productive abilities, and to know a word learners must become familiar with its form, meaning, and use (Nation 2001, p. 27). A common suggestion is to learn words according to their frequency in the initial phase of language learning, prioritizing the more common, and thus more useful, words first. Later, when every new addition is a word that is infrequently spoken or written, it makes more sense to learn according to need (Schmitt and Schmitt 2020).

For vocational students in upper secondary education, it is important to develop a repertoire of words related to work, referred to as *technical vocabulary*. Technical vocabulary, or words and phrases that are mainly used in a specific profession, trade, or subject area (Chung and Nation 2003, 2004; Liu and Lei 2020; Nation 2001), is an essential part of the language of work and an important tool for workers' professional communication (Knoch 2014). Technical vocabulary accounts for up to thirty percent of word tokens in technical texts (Chung and Nation 2003) and is thus indispensable for comprehension (Woodward-Kron 2008). However, it denotes more than "just words," as it represents the concepts and ideas specific to a particular domain (Chung and Nation 2004; Schmitt and Schmitt 2020) and provides the language needed to express key practices within a particular field (Chung and Nation 2003).

Teaching vocational topics and vocabulary may pose a challenge for language teachers, who generally lack vocational insight (Widodo 2016). However, since technical vocabulary has a limited range of use (Liu and Lei 2020), students are unlikely to acquire this L2 repertoire incidentally (Coxhead 2018), and language teachers have an important role to play.

1.1.1. Principles for Teaching Vocabulary

Two major learning conditions for vocabulary teaching are *number of encounters* and *quality of attention* (Webb and Nation 2017): words have a greater likelihood of being learned after multiple encounters (Webb and Chang 2015)—preferably in a variety of contexts (Nation 2017)—and when students actively engage in accompanying learning activities (Hulstijn and Laufer 2001; Laufer and Hulstijn 2001). It is also important for

retention that words are re-encountered quickly (Webb and Chang 2015), preferably during the same lesson (Schmitt 2017). Furthermore, to facilitate optimal learning conditions, Nation (2001, 2007, 2020a) suggests that teachers make sure their students encounter target vocabulary across the four language skills (listening, speaking, reading, writing) as well as the four strands of language learning (meaning-focused input, meaning-focused output, language-focused learning and fluency development) that typically make up a well-balanced language course.

Much of the research on L2 vocabulary comes from the English as a foreign language (EFL) context, where students have limited target language contact outside of school. However, in Norway, English is everywhere (Cabau 2009; Rindal 2014) and central to people's life worlds (Brevik and Holm, forthcoming; Sundqvist and Sylvén 2016). This matters because Norwegian children, as children in several other European countries (De Wilde and Eyckmans 2017; Jensen 2017; Kuppens 2010; Lindgren and Muñoz 2013), start school already knowing substantial amounts of English. Their vocabulary size quickly exceeds that of students in EFL contexts with years of schooling behind them (Laufer 2010). Webb and Nation (2017) argue that in contexts where English is ubiquitous, and learners have many opportunities to learn independently, it is imperative that they become capable of using this favorable circumstance to their advantage. Thus, an important goal of classroom instruction must be to teach vocabulary learning strategies and to support students as autonomous language learners both inside and outside the classroom (Nation 2001; Schmitt 2017).

English teachers in vocational programs must take into consideration the vocational aspect of their students' educational choices. However, historically, it has been argued that language teachers are unprepared for the teaching of technical vocabulary (e.g., Cowan 1974). One reason is that language teachers' lack of domain knowledge impedes their ability to comprehend technical terms (Webb and Nation 2017). This complication extends to students, for whom technical terms will not make much sense before they know the accompanying theory or practice (Nagy and Townsend 2012; Widodo 2016). In other words, language teachers need access to the content of their students' vocational subjects in order to coordinate instruction. Skarpaas and Hellekjær (2021) found that for English teachers in Norway, gaining access is not always easy as they rarely have the opportunity to collaborate or confer with their vocational colleagues.

For language teachers who are uncomfortable teaching technical terms, it has been suggested that they can engage learners in identifying what words are central to a specific topic or area (Alcina 2011; Fernádez et al. 2009). Instead of trying to become vocational authorities, language teachers can concentrate on their role as language experts and help learners become aware and develop their repertoire of vocabulary strategies (Chung and Nation 2003) and support their students' language awareness and ability to recognize technical terms (Nation 2001).

1.1.2. Research Aim

The present study aims to describe the characteristics of vocabulary work within a vocational orientation approach to the teaching of L2 English in secondary school vocational classrooms. It focuses on explicit opportunities for vocabulary learning because these are episodes that may be observed. We will compare some current teaching practices to theory and previous research to further illuminate the appeal and importance of vocabulary work within VO teaching.

2. Design and Methods

2.1. Educational Context

In Norway, half the student population enters a vocational program in upper secondary school (Norwegian Directorate for Education and Training [UDIR] 2021). Most such programs consist of two years in school (years 11 and 12), followed by a two-year apprenticeship. After completing their apprenticeships, students qualify for craft certificates, or

they may add a third year in school to qualify for higher education. All students (regardless of study program) are required to pass a general English course totaling 140 teaching hours. This course prioritizes communicative and intercultural competence, basic literacy skills, and cultural and social content knowledge. Learning vocabulary is not an isolated goal but is linked to communication and language production (Norwegian Directorate for Education and Training [UDIR] 2006, 2019). Mostly, English classes are organized by program so that all students in one class attend, for instance, the Building and Construction program. This was the case for all classes in our study.

It is mandatory for all general subject teachers (including English teachers) to apply a vocational orientation approach to their teaching, but they enjoy substantial freedom in determining how and when.

2.2. Research Procedure

This qualitative study relies on non-participatory observation data that was collected as part of a larger project with ten teacher participants. In the larger project, we utilized a purposive sampling strategy with three selection criteria to identify schools eligible for participation:

1. an expressed commitment to VO teaching,
2. a vocational identity, and
3. a geographical location in eastern or western Norway to ensure some geographical spread. The researcher's travel time could not exceed two hours in eastern Norway, and schools in western Norway had to be accessible by airplane and public transportation.

We utilized county administration websites to obtain lists of all upper secondary schools with vocational study programs in our target locations (N = 146). Next, by examining school websites, we identified 22 suitable schools. The 22 schools were contacted, and ten teachers from ten of these schools volunteered to participate.

From May 2018 to April 2019, the first author collected data in the ten vocational English classrooms, including observations and student- and teacher interviews. Her observations, which are the data utilized in this study, comprised one cohesive teaching trajectory per classroom, lasting from two to five lessons (180–450 min), and, in total, 23 lessons are included in the material. The teaching trajectories were planned by the instructing teacher, who defined them as typical examples of their VO teaching. While the aforementioned interviews were not analyzed for this particular study, they have been analyzed for other purposes (Skarpaas and Hellekjær 2021) and have informed our analysis in the present study.

During the observed lessons, the first author took detailed, naturalistic observation notes focusing on the activities that the teachers initiated, describing (if applicable) expressed purposes and/or intended learning outcomes, tasks, learning materials, organization, and use of time. In addition, she wrote down several examples of dialogue between teachers and students, aiming to capture exact renderings of the exchanges. When she was unable to do this, she would make a note of it in her document and instead paraphrase what was being said to capture content. Example extracts of field notes are available in Appendix A. Table 1 includes information on the number of observations we conducted in each classroom.

2.3. Participants

The student participants in this study were all pre-service and living in Norway. They were between the ages of 16–20. The teachers had between 3–25 years of experience and were all trained English language teachers. All but one teacher (S6) reported very little collaboration with vocational colleagues when asked by the researchers about this relationship.

Table 1 provides an overview of participating classrooms, including what year (level) they represent, the number of students per class, and the number and minutes of observed

lessons. In Norway, the English subject in upper secondary school amounts to 140 teaching hours with no requirement in terms of individual lesson length. The lessons observed in this material ranged from 90–145 min.

Table 1. A table representing the participating classrooms.

School	Year (Level)	No. Students *	No./min. of Observed Lessons
S1	11	13	3/180 min.
S2	11	14	2/290 min.
S3	12	15	5/450 min.
S4	12	10	2/180 min.
S5	11	14	3/270 min.
S6	11	13	2/240 min.
S7	11	13	4/360 min.
S8	11	14	2/270 min.
S9	12	11	2/180 min.
S10	12	15	4/360 min.

* In Norway, vocational classes usually take up to 15 students.

As shown in Table 1, six classes were in Year 11 and four in Year 12. The main difference between Years 11 and 12 was that students in Year 11 attended a broader foundation course, while students in Year 12 had selected a more specialized course within their field. We, therefore, make the assumption that in terms of vocational learning, year 12 students will possess more specialized knowledge than their younger peers.

2.4. Data Analysis

To investigate the characteristics of vocabulary work within a VO approach, we followed procedures anchored in thematic analysis (Braun and Clarke 2012; Terry et al. 2017). We started by familiarizing ourselves with the data. Individually, both researchers read and reread the observation notes (comprising 126 pages), highlighting and taking notes to identify potentially interesting items. After working individually with the material, we discussed our perceptions of salient features to develop initial descriptive codes concerning classroom activities. Some example codes include individual work, word choice, strategies, teacher explanations, and vocabulary use. In the next phase, we utilized NVivo to review the data and the initial codes to identify broader topics. Thus, we developed themes, or overarching categories, to capture patterns across classrooms. At this point, we also compared our developing themes to topics in the relevant research literature and prioritized them according to relevance. From reviewing and reorganizing, we derived the following main themes: Explicit/implicit attention to vocabulary, word choice, organization, and vocabulary context (further described in Appendix B). Through the first theme, explicit focus, we saw that eight classrooms (out of ten in total) prioritized vocabulary explicitly. We decided to limit our scope to these explicit instances, so while S9 and S10 were part of the initial analyzes, they were not part of the further exploration on account of not meeting the criteria *explicit vocabulary attention*.

2.5. Ethics

Throughout the project, caution was exercised to maintain the right to privacy, and the field notes prioritized the larger picture of "life in the classroom" rather than focusing on individuals. Participants have been anonymized, and all proper names in the material are pseudonyms.

3. Findings

In this section, we first characterize the material by presenting three central aspects: *word choice*, *organization*, and *context* (Section 3.1). Then, we present three snapshots (Section 3.2), or examples, which will illustrate variety across the material. These par-

ticular snapshots were selected to illustrate practices of particular interest to language teaching/learning that were not easily captured in the cross-material characterizations of Section 3.1.

3.1. Characteristics across the Material

Table 2 provides a brief overview of our observations, including the two classrooms with no explicit vocabulary focus (S9 and S10) that were part of the overall project. Where applicable, it includes short descriptions of observed target vocabulary.

Table 2. A table describing observed instruction in S1–S10 and target vocabulary in S1–S8.

School	Descriptions of Observed Instruction	Target Vocabulary
S1	Students wrote instruction manuals for how to operate certain machines.	vocabulary related to the operation of a machine
S2	Students learned names of parts and processes involved in constructing all-terrain vehicles (ATVs)	vocabulary needed to describe the process of building ATVs
S3	First, students read about and discussed vocational education. Next, they read about and discussed safety at work and wrote accident reports describing a fictitious accident.	vocabulary concerning the students' own education + vocabulary concerning workplace safety
S4	First, students talked about a homework reading. Then, they worked on translation tasks. Finally, the teacher led a whole class session where students answered questions about their translations.	vocabulary to name various baked goods and cereals
S5	First, students discussed safety in the workshop. Next, they listed and translated vocabulary related to the topic *tools*.	vocabulary concerning workplace safety + vocabulary concerning tools
S6	First, students read about tools. Next, they worked with comprehension tasks and vocabulary related to the topic *tools*.	vocabulary related to the tools in the workshop
S7	First, students discussed various relevant occupations. Then, they wrote manuscripts for a presentation comparing two occupations in terms of education and work tasks.	vocabulary concerning vocational education and career paths
S8	First, students worked with vocabulary related to youth work. Next, they discussed the concept of a *role model*. Then, they read and discussed a text about nursing homes.	current focus terms in the students' vocational subject + vocabulary concerning nursing homes
S9 *	Students wrote papers on British hair or design history.	No target vocabulary
S10 *	In groups, students prepared oral presentations concerning music therapy for dementia patients.	No target vocabulary

* No explicit vocabulary attention and therefore not explored in detail in this study.

Vocabulary received explicit attention in eight out of ten classrooms. Thus, we can establish that explicit attention to vocabulary is a common element within a vocational orientation approach to English, at least in the Norwegian school system. We will use the subsequent sections to characterize this instruction further.

3.1.1. Word Choices: What Words Were Attended to?

Most of the target vocabulary could be classified as *work-related*. Examples were observed in all classrooms, except S7, and included words concerning the practices of relevant occupations, including tools, machines, safety gear, and produce—typically physical objects. In S5, for example, one of the observed activities involved listing hand tools the students had used as part of their vocational training.

In addition to the expected category of work-related vocabulary, our observations included two instances (in S3 and S7) of vocabulary that could be classified as relating to the system of vocational education. In both cases, the teachers included some of the same words, such as *apprentice* and *vocational education*, while other words differed.

To summarize, we found that all classrooms worked with specialized vocabulary, frequently of an occupational nature. More rarely, the words related to the system of vocational education. Table 2 above offers a brief description of the target vocabulary in each classroom.

3.1.2. Organization

We observed vocabulary work across all types of classroom organization—in whole-class instruction, group or pair work, and individual work (Consult Appendix C for an overview). In sum, teacher-led whole-class conversations were the most common and were observed in all eight classrooms. Group or pair activities relating to vocabulary were observed in four classrooms, while individual activities were observed in all but one.

Whole Class

Whole-class instruction with vocabulary focus could be grouped into one of two categories. Most common were conversations with an explicit focus on word form and how to translate words from Norwegian into English. These whole-class conversations were predominantly examples of the initiation-response-feedback (IRF) format, where the teacher asks a question, a student answers, and the teacher accepts or corrects them. To illustrate, we have included an excerpt from S3, in which the teacher checked the students' vocabulary retention from a homework reading:

Teacher: What safety gear do you need to wear? Thomas?

Thomas: eh . . . helmet

Teacher: Yes. We can also call this a hard hat

Lars: Vest . . . I don't know what *refleksvest* [reflective vest] is called in English

Allan: High-visibility vest

Teacher: Yes, either that or reflective vest

Lars: Ear plugs

Ola: Protective glasses

Ali: *Eller* [or] goggles

T: Excellent. You have read the text and remember a lot of the vocabulary

In this excerpt, the teacher accepted the translations *helmet* and *high-visibility vest* as alternatives to *hard hat* and *reflective vest*, although the reading had included the latter pair only. Ali, however, corrected Ola's suggestion from *protective glasses* to *goggles*. Although not the case in this excerpt, it was quite common for the teachers to solicit a specific word when they asked for L1–L2 translations and to correct students who offered alternatives. Across the material, the teacher in S8 was the only one who actively encouraged students to discuss alternative translations, in this way displaying a broader understanding of words and their function.

The second type of whole-class instruction, observed in three classrooms (S1, S3, S7), involved meta-conversations about vocabulary. Here, the teachers addressed such issues as the function of the specific vocabulary in instruction manuals (S1) and the impact of

vocabulary on grades (S3 and S7). These meta-conversations were highly structured by the teachers, who overall conveyed the message that appropriate vocabulary would improve the quality of a written or spoken text.

Group and Pair Work

In four classrooms, the students worked with vocabulary in groups or pairs. In two of these cases (S2 and S3), the pair/group activities concerned word-level translations in an online game. The game would only accept one translation as correct, and to play, the students would first have to memorize their teachers' translations.

In the other two examples of pair/groupwork (S6, S7), the activities required discussion beyond the word level. To illustrate, we will give an example from S6, where pairs of students translated an English textbook text into Norwegian. It was a spoken exercise, and the goal was to notice and learn new words and phrases. To aid their translations, the students used the textbook glossary as well as input from their teacher, who visited the groups one by one. The teacher also spent time asking the pairs how they had translated key terms, seemingly to check retention of central vocabulary.

Individual Work

Seven classrooms (all but S2) had one or more examples of students working individually with vocabulary. The word-level translation was the most common activity within the individual segment (observed in all seven instances). In S4, for example, the students were given a booklet with 43 baking-related words to be translated into English. In this example, the students worked independently to find appropriate translations, and they were not asked to use specific tools or strategies to complete the work. Many of the students used Google Translate, and at one point, the teacher felt the need to remind her students not to rely on this as a definitive tool for answers. However, she did not suggest other sources by which they could try to expand their strategic repertoire. In addition to Google Translate, we observed several instances where students asked the teacher to tell them the correct term. In these cases, the teacher performed as they asked by simply stating a translation.

To summarize, we mainly observed strong teacher regulation of whole class instances and standardized activities and task instructions in group/pair and individual activities. It was typical for the vocabulary work to be highly structured, and we observed many instances of L1–L2 translations across the organizational formats.

3.1.3. Vocabulary Context

In the observed trajectories, vocabulary episodes occurred in contexts of varying complexity. To describe this complexity, we need to account for two types of context: the inter-subject context, concerning links between the English instruction and the vocational subjects, and the intra-subject context, describing how vocabulary work relates to other tasks or activities within the English subject.

Inter-Subject Context

The inter-subject context concerns whether the observed instruction had expressed links to current (or past) units of the students' vocational subjects. In four classes (S1, S2, S5, S8), the teacher addressed this relationship, thus making the vocational orientation *explicit*. In the other four classrooms (S3, S4, S6, S7), such links were not mentioned, leaving the vocational orientation *implicit*.

There were differences in how explicit inter-subject links played out in our observations. In S1 and S5, the students were required to use content knowledge from their vocational subjects to solve English language tasks. In S2 and S8, however, the students worked with relevant vocabulary, but they were not required to utilize knowledge or competence from their vocational subjects. In other words, thematic links that were created between English and the vocational subject were not sustained in the actual activities.

In the four cases of implicit VO, neither the teacher nor the students addressed any links between English and the actual (completed or ongoing) content of the students' vocational study programs. Furthermore, there was no evidence to suggest a planned link in our observation notes nor in the teacher interviews that were conducted as part of the overall research project (see Section 2.2). When we use the term *implicit* to describe this type of instruction, it is because there were still loose ties between the English teaching and the students' vocational subjects. We can illustrate the notion of implicit inter-subject links by referring to an example from S7. Here, students in year 11, which is a fairly broad foundation course, were to work with vocabulary to describe the educational path to their future occupation. Clearly, this had relevance, as the discussed occupations were genuine career options for the students. A problem, however,—and the reason we consider it an example of implicit inter-subject link—was that the students had not yet decided between the various year 12 specializations that existed in their field and did not know much about their options.

Intra-Subject Context

Descriptions of the intra-subject context of vocabulary activities concern how these activities figure within a larger English teaching trajectory. We have categorized the vocabulary work as examples of either *separate* or *embedded* activities.

In what we term *separate activities*, learning words was presented as a goal in its own right. Seven classrooms (not S1) had at least one example of a separate vocabulary task. Most often, the separate tasks asked the students to work with L1–L2 translation, concentrating on form. We have already described how this transpired in S4 (above, under *individual work*).

For some of the activities that we have categorized as separate, the teachers did address why the students should acquire the target vocabulary. In S2, for example, the teacher specified that the students were learning words that would be useful for a test later in the semester. However, in the observed lessons, the words were simply translated and not utilized for communication or other purposes. The activity has therefore been classified as separate.

In *embedded activities*, attention to words was framed as necessary for completing a larger task within the observed trajectory. The students would, for example, be instructed to use suitable vocabulary when writing a longer text, or there was attention to the role of vocabulary in reading comprehension tasks. Because the words occurred in a richer context (compared to the separate activities), there were more opportunities to pay attention to meaning and use.

The embedded tasks most frequently combined vocabulary with reading (S3, S4, S5, S6, S7, S8). Vocabulary figured in pre-reading activities as students previewed central vocabulary prior to reading. Twice, vocabulary was attended to in the while-reading stage, once as the teacher asked students to underline central terms while reading (S3), and once as students read a text in English, which they simultaneously translated into Norwegian (S6). The most common observation, however, was for vocabulary to figure in the post-reading phase, typically as a comprehension check. In S6, the post-reading activity concerned the pronunciation of challenging words that the students had noticed in their reading (examples include *lathe*, *vernier calipers,* and *torque wrench*). We mention this in particular because it is the only example in our material in which pronunciation received explicit focus.

Furthermore, we observed three instances in which the embedded tasks combined vocabulary with writing (S1, S3, and S7). In writing trajectories, vocabulary work will be embedded in various ways, but we focus on instances in which it is explicitly mentioned. In our material, this mainly occurred in the whole class introduction of tasks when teachers framed vocabulary as important for writing quality. In S1, the teacher introduced specific vocabulary as an important genre trait for the instruction manuals the students wrote, while in S3 and S7, the teachers described the ability to use appropriate and advanced

vocabulary as a requirement to do well on the end-of-year exam. Furthermore, they framed the written assignments as opportunities to practice vocabulary skills. In S1 and S3, we also observed instances of teacher–student interactions about vocabulary that occurred as the students were writing. These instances did, however, involve a smaller number of students, typically on the initiative of the student.

It proved more challenging to give accurate descriptions of the way that vocabulary and speaking co-occurred in our material. We observed a great deal of speaking across all eight classrooms, sometimes mainly on the part of the teacher, but often also on the part of the students. However, few tasks or episodes involving vocabulary emerged as *primarily* about oral communication. Instead, they were typically incidents when students shared their answers to specific tasks in the initiation-response-feedback (IRF) format (i.e., the teacher checked the students' answers). One exception is S5, where we observed several longer stretches of classroom conversation. We will present the practices observed in S5 in the example section below (Section 3.2).

3.2. Three Snapshots from the Material

To provide more insight into how the overriding trends (Section 3.1) play out in our observations, we will present three snapshots from the material. These snapshots illustrate some of the dominant tendencies and capture interesting examples not easily covered in the structured presentations above. However, because they were selected to illustrate practices of particular interest to language teaching/learning in addition to the typical, they do not cover all the aspects addressed in Sections 3.1.1–3.1.3. Table 3 gives a more detailed overview of what the snapshots are examples of.

Table 3. Details about the observations described as snapshots.

	Word Choice		**Organization**			**Vocabulary Context**			
						Inter-Subject		**Intra-Subject**	
	Work	**Education**	**Whole Class**	**Group**	**Individual**	**Explicit**	**Implicit**	**Separate**	**Embedded**
S2	✔		✔			✔		✔	
S5	✔		✔		✔	✔			✔
S8	✔				✔	✔		✔	

3.2.1. Snapshot 1: Vocational Orientation Curbs English Language Use

We have classified this snapshot from S2 as an example of whole-class instruction targeting work-related vocabulary. Concerning the inter-subject level, this is an example of an explicit VO link, while at the intra-subject level, it illustrates a separate activity.

In S2, we observed how the teacher prepared his students for an upcoming English assessment where the students would describe the process of ATV assembly. The assessment itself was not part of the observed trajectory. To be able to perform well, the students would first need to learn relevant vocabulary, and the teacher had preselected target words, which he presented on digital flashcards. Words on his list included parts, such as *shock absorber* and *front hub*, and processes, such as *frame production* and *bending by bulging*. For each word, the teacher asked questions about the students' workshop experiences, and he offered additional information indicative of extensive technical knowledge. However, both teacher and students used Norwegian almost exclusively, and all technical explanations and interactions were all in Norwegian. English was only used in the actual translations of target vocabulary.

Of particular interest here is the way the teacher created an explicit VO link: there were clear bonds to an ongoing unit in the students' vocational subject, visible in the topic (ATV assembly), and in the teacher's rich descriptions of the target vocabulary. He gave detailed explanations of vehicle parts and construction processes and asked follow-up questions that tapped into the students' practical and technical competence. As an example,

when introducing *joining*, the teacher had four students comment on the joining processes used for ATV assembly. However, while the teacher was able to build on the students' vocational content knowledge, all communication, including the technical discussions, was conducted in Norwegian, and English was never used beyond the word level. The observed interactions involved many relevant terms, and if the interactions had been conducted in English, they would have afforded opportunities to practice vocabulary in relevant communicative contexts.

The observation exemplifies how it is possible for English teachers to create strong inter-subject links where students can use terminology to talk about their own work and experiences. However, it is also an example of how teachers may struggle to balance vocational topics with language learning. Across our material, the choice to use mostly Norwegian was not very common, but it was found in S2 and S6.

3.2.2. Snapshot 2: Vocabulary and Communication beyond the Word Level

In S5, the episode we report on occurred halfway through our first observation. We have classified this snapshot as mainly an example of whole-class instruction, with some individual work. The students targeted work-related vocabulary, more specifically, safety equipment. Concerning the inter-subject level, this is an example of an explicit VO link, while at the intra-subject level, it is an example of an embedded activity in which vocabulary has a function in spoken interaction.

We observed how the teacher asked the students to write down examples of safety gear and protective clothing. They were told to use Norwegian only if they did not know or could not guess the word in English. After some minutes of individual work, the teacher started collecting words for a shared list. The first item mentioned was *safety glasses*. The teacher said this could also be a different word, and another student offered *safety goggles*. The teacher stated that *safety googles* are important to avoid getting splinters or swarf in the eyes and added a column to the blackboard where he wanted to write down why the various types of equipment are essential. The class then discussed where splinters or swarf come from and concluded that they are both hot and sharp. Four students engaged heavily in this discussion. After a while, the teacher continued collecting words:

Teacher: More for the list?

Filip: Safety boots

Teacher: Why are they safe?

Filip: Because if you drop a hammer on them, it won't hurt.

Teacher: Yes, but why? Why does it not hurt?

Filip: Because they have a steel tip

Teacher: What should we write on why?

Filip: So, I do not drop something on my feet, and it hurts?

Teacher: Yes, but it does not really protect you from dropping something, does it?

Filip: No . . . .

Teacher: So, we can put that safety boots are to protect from falling objects?

Filip: Yes!

The part of this observation we would like to unpack concerns the way the students were required to use domain knowledge to list and elaborate on vocabulary relating to safety equipment. As part of a health and safety certification mandatory in their vocational program, they had developed knowledge of workshop hazards and how to avoid them, such as by using safety equipment. The structure of the vocabulary activity allowed the students to use this knowledge not only to offer relevant vocabulary but also to engage in explaining the protective function of the various equipment. In this manner, the teacher and students used target vocabulary in communication beyond the word level, which we rarely saw in our material. The observation exemplifies how English teachers can create

opportunities for L2 interactions in which target vocabulary is in active use while students take responsibility for identifying relevant vocabulary within a specific topic.

3.2.3. Snapshot 3: An Opportunity to Practice Translation Strategies

We have classified this snapshot from S8 as an example of individual instruction targeting work-related vocabulary. Concerning the inter-subject level, it has an explicit VO link, while at the intra-subject level, it is an example of a separate activity that only concerns word learning.

We observed how, as the first activity of the lesson, the students were asked to translate thirteen terms from Norwegian into English. These terms were, in their Norwegian form, key for understanding the current unit in the vocational subject. Most of the words were quite challenging to translate, some because they were linked to the specific organization of health services in Norway, others because they were compound words, while others were challenging because the students lacked the necessary background knowledge to understand the words and their significance. The students used several electronic and online dictionaries, and if these gave no definitive answers, they made guesses, which they then set out to verify using online sources. One student, for example, used Google Images and Wikipedia to verify her initial guess of how to translate *sosial kompetanse* ("social competence") into English. In addition, the teacher aided her students in the process of analyzing L1 words to achieve a better understanding of their meaning. Here is one example:

> S9: I don't know how to translate *samhandlingskompetanse* [collaborative competence]
>
> T: What does it mean in Norwegian? What is the essence of this word?
>
> S9: I don't know. We haven't talked about it in our vocational subject yet.
>
> T: [To everyone]: When you encounter a word you are unsure of, it is very helpful to think about the word in Norwegian. And if you do not know what it means in Norwegian, you can look it up and read about it in Norwegian before translating into English.

As a final part of this segment, the teacher asked the students to use digital flashcards that she had prepared to check their translations against hers. However, the teacher did not treat her own suggestions as final or the only possible options, telling her students that "if you disagree with the way I have translated something, let me know and we can discuss it." Our observations include examples of students who initiated such discussions.

In this classroom, we noticed how the students persisted in their translation work, and instead of giving up or asking the teacher for help (which we observed in many other instances), utilized a repertoire of strategies to identify suitable translations. We did not observe similar practices anywhere else. This observation exemplifies how students can become proficient and autonomous users of translation strategies, but because it was the only instance when we observed strategy use, it also suggests that students do not automatically develop the strategies they need.

4. Discussion

In this study, we have described characteristics of vocabulary work within a vocational orientation to L2 English teaching. The study is informed by Skarpaas and Hellekjær (2021), who found that English teachers in Norway described vocabulary work as a backbone of VO teaching. Our study supports this contention by establishing that vocabulary work indeed had a strong presence within the VO instruction that we analyzed. In the following, we discuss our findings, starting with word choice (Section 4.1), then organization (Section 4.2), and finally context (Section 4.3).

4.1. Word Choice

Regarding word choice within the VO approach, we found that the teachers prioritized terminology from the students' vocational programs. Using Nation's (2001) description

of the levels of vocabulary (i.e., high-frequency words, academic vocabulary, technical vocabulary, and low-frequency words), we conclude that VO teaching mainly addresses technical vocabulary. In other words, most of the vocabulary concerns words that are part of the system of subject knowledge within a particular domain (Chung and Nation 2004). We also found evidence that some teachers take a broader approach to VO vocabulary, by including words to describe education and school systems. This vocabulary would typically be categorized as academic, using Nation's (2001) descriptions. Thus, the vocabulary taught under a VO heading can be classed as belonging to one of two categories: technical words to describe (future) work-related practices or academic words to describe education. Of these, the first category was by far the most common.

We take the priority given to work-related vocabulary as an indication that the teachers wanted to target words that may prove useful to their students in their future work life. In the classrooms we studied, the English teachers had typically preselected target words (see Snapshot 1), and we observed very few instances where students were involved in negotiating relevant words (Snapshot 2 provides one of those rare examples). From the perspective of teachers, it is clearly an advantage to preselect vocabulary, as it means they can—to some extent—remain in control of the learning sequence even with very little vocational background knowledge. However, as several others have described how language teachers struggle to identify which L2 words vocational students need to learn (Cowan 1974; Webb and Nation 2017; Widodo 2016), this is not necessarily an advantage from the perspective of student learning. To some degree, a teacher's ability to pinpoint what is relevant vocabulary will be determined by their domain content knowledge (Nagy and Townsend 2012) and the extent to which they collaborate with vocational teachers (Widodo 2016). We know from Skarpaas and Hellekjær (2021) that vocational English teachers in Norway rarely experience such collaborations and that they also struggle to comprehend the core content of their students' vocational educations. This raises the question of whether the teachers are in a position to select vocabulary that represents core aspects of their students' vocational learning. To ameliorate what can be seen as a problematic situation, we build on Alcina (2011), Fernádez et al. (2009), Chung and Nation (2003), and Nation (2001), whom all argue that there is no need for English teachers to be vocational experts to succeed in teaching vocational terminology. Instead, English teachers in vocational education can retain their role as language experts and focus on facilitating vocational language encounters. This would entail a practice of involving students in identifying central vocational topics and key terminology related to the topics in question. Rather than being the students' dictionaries, teachers can explain dictionary use, support the students' language awareness and require them to review their understanding of central vocational content by identifying key terms. Snapshot 2 gave one example of how this might function in practice.

4.2. Organization

Our second finding concerns classroom organization. We found that vocabulary work was included in whole-class instruction, group or pair work, and individual work. Of these, teacher-led whole-class conversations were the most common and found in all eight classrooms with explicit vocabulary focus. Typically, the conversations were instances of highly structured IRF sequences. Independent work was also common and included many instances of L1–L2 translation. Group or pair work could be identified in only half of the classrooms and was clearly outnumbered by the other two organizational forms.

Regardless of organizational form, most vocabulary tasks were highly structured, either by the teacher or by task instructions, and they rarely required independent reasoning. Webb and Nation (2017) argue that the quantifiable nature of vocabulary learning makes the progress of lexical development relatively clear compared to other language skills, which is something students tend to appreciate. In general, when translating a list of words into English, teachers and students might achieve a sense of quick progression as they check off words that have been satisfactorily translated. In our observations, the teachers typically helped students who struggled with their translations by offering the correct

answer instead of supporting them in figuring it out on their own. This ensured (superficial) progress for everyone. In line with Webb and Nation (2017), we hypothesize that the highly organized structure of much vocabulary work, combined with this sense of progress, could explain why teachers perceived it to be a popular VO approach among vocational students (Skarpaas and Hellekjær 2021)

In this study, we found that when VO teaching trajectories include explicit attention to vocabulary, form-focused instruction, and to some degree comprehensible input, is prioritized over meaning-focused output and fluency development (i.e., the four strands, Nation 2001). We believe that this imbalance would be redressed by a shift in the instructional organization away from teacher-led whole-class instruction. We will also argue that because the material contains extensive use of L1–L2 translation, there is great but untapped potential to practice vocabulary strategies and to raise the students' language awareness. Both strategy practice and language awareness have been described as particularly important for students who have a great deal of English-language contact outside of school (Nation 2001; Schmitt 2017; Webb and Nation 2017). S8, which we presented in some detail in our third snapshot, provided the only example of how translation tasks can be utilized to develop students' autonomous use of language learning strategies. Here, the teacher developed a standard translation task to house explicit focus on how to use translation strategies independently, which she paired with an invitation to utilize vocational knowledge as a resource while engaging in the translations.

4.3. Context

The third and final finding concerns contextual variations in vocabulary teaching. We have described context using two parameters: inter- and intra-subject relationships. We argue that the findings in this study suggest that both aspects of context are important to realize the full potential of vocabulary teaching from a VO perspective.

Creating close inter-subject links between English and the students' vocational subjects is a practice that contributes toward framing English as a relevant part of vocational education, which is typically what educational stakeholders have called for when requesting an integration between general and vocational subjects (see Conroy and Walker 2000; European Centre for the Development of Vocational Training (CEDEFOP) (2019); Hoachlander 1999; NOU 2008:18 2008; Quinn 2013; Roberts et al. 2005; Vogt and Kantelinen 2012). Snapshots 1 (S2) and 2 (S5), where target words were anchored in a vocational unit, exemplify what this may look like in relation to vocabulary teaching. However, in Snapshot 1, we also observed that on the intra-subject parameter, the vocabulary work occurred in isolated activities, with no opportunities for application to reading, writing, or speaking purposes. Webb and Chang (2015) argue that the application of newly encountered words is key to more durable long-term learning gains, and for the same reason, Nation (2007) urges teachers to develop a system to ensure the return to the same material several times over. On these grounds, we argue that in the case of S1 (and the other examples of isolated vocabulary practices), the conditions for vocabulary retention would be improved if the teacher planned for multiple encounters—preferably across the four language skills—with the same vocabulary within a short timeframe.

To develop comprehensive word knowledge, learners need to focus on form, meaning, and use and to practice the words receptively and productively (Nation 2001; Webb 2005). Our snapshot design cannot reveal whether target vocabulary was revisited outside of the observed trajectories, and it is, therefore, possible they were given more attention at a later date. However, we did observe complete trajectories, and within these trajectories, there were typically few opportunities for repeated use and few opportunities to use target vocabulary while producing output. Our study is not in a position to explain why this may be. Instead, we contend that although the students' vocational subjects are a good place to anchor vocabulary instruction, the vocational link must not overshadow the language aspect of vocabulary learning. With grounds in the previous research presented above, we suggest a need to balance the two aspects of context so that the engagement-supportive

practices of VO do not hamper the language learning prospects of vocabulary activities. In sum, our study suggests that a potential means of improvement within VO vocabulary instruction is the extent to which it supports the development of speaking and writing skills, as well as the type of language awareness needed to understand nuances linked to meaning and use. Vocabulary work can become richer if teachers consider both the inter- and intra-subject aspects of the context in planning their activities.

5. Concluding Remarks and Didactic Implications

Through the investigation of twenty-three English L2 lessons in eight vocational classrooms, this study has identified aspects of VO vocabulary instruction that can be used to discuss why vocabulary is a favored part of VO teaching. Furthermore, the study has analyzed how teachers approach vocabulary and it has identified some debatable issues.

The main contribution of this study lies in the way it documents vocabulary practices within VO teaching. By observing multiple classrooms, the material provides grounds for future comparisons, such as with VO English teaching in other countries and contexts. Furthermore, the study is a contribution within the field of vocabulary instruction, where naturalistic observation studies of classroom practices are scarce.

In terms of motivating vocational students, an advantage of working with vocabulary within a VO frame is that it comes with a highly noticeable and easily accepted link between English and the students' vocational subject. When, for example, teachers ask their students to translate a list of tools found in the workshop, the task is recognizable both as an English language task and as relevant for vocational education.

In line with central voices in vocabulary research (Nation 2001; Schmitt 2017; Webb and Nation 2017), it is an important goal for students to become autonomous language learners and increase their word awareness (for example, ability to recognize words as technical and relate core meaning to technical meaning) as part of vocabulary instruction. Accordingly, a further advantage of linking vocabulary and relevant vocational issues—not fully utilized in the classrooms we observed—is that students can be involved in identifying key terms and in finding and testing strategies for arriving at precise terms. In this way, vocabulary tasks can support the students' language learning autonomy and release teachers from the responsibility of being vocational authorities.

Translating terms from L1 into L2—even if they are VO terms—will not automatically propel students' language competence forward. Instead, we suggest teachers prioritize activities that support student autonomy and help students develop a broader repertoire of vocabulary strategies. Furthermore, by embedding vocabulary work within a larger trajectory of, for example, writing and/or speaking, the students will have more opportunities to go beyond form to explore aspects of meaning and use.

Throughout our observations, the students seemed quite content with basic translation tasks. We can only speculate that this might be because it is a manageable task imbued with a sense of progress as words are translated. However, they are used to active ways of learning from their vocational subjects, and there is no reason to expect that the English subject would become less appealing if vocabulary activities prioritized autonomy, language exploration, and use over structured tasks.

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Appendix A. Example Fields Notes

Example field notes 1, S4
Time: 0823-0840

The teacher starts the class by referring to the booklet from last week, saying that they are to finish their walk-through of correct answers. This becomes a sequence where two students partake, and the teacher is the main voice heard. She adds additional information on every bread/baked good they go through, and students are only invited to say one word here and there.

T: Find your booklet [waves the booklet from last week in the air]
S2: I am sorry, but I have lost it
T: Well, I do not have an extra copy, so then you will have to dig deep in your memory to remember.

They are to go through the answers for last week's glossary tasks. The teacher projects pictures of bread and baked goods onto the screen. First word (and picture) today is rundstykker 'rolls'. The teacher asks for the English name, a student says rolls. Teacher adds that in the English-speaking world rolls are usually eaten with food, not with cold cuts and spreads like we do in Norway.

Next picture is of a rugbrød 'rye bread'. One student gives the English name. Teacher says it is fairly coarse, and that barley and rye does not rise a whole lot. Therefore, it looks like a brick and is fairly heavy.

Next picture is a scone. A student gives the English name as scones. Teacher says it is something that used to be popular to make in elementary school in Norway, perhaps as the first thing to make in Mat og Helse 'food and health subject', because it is easy to make.

T: Do you know what scones are used for in England?
S3: They are eaten with jam or cheese or something.
T: Yes

Teacher proceeds to talk about clotted cream and that scones are eaten with tea in the afternoon. She also adds that proper scones should be baked so that you do not need a knife to cut them, you can simply twist them.

Next picture is of sourdough bread. Teacher asks what makes it different from other bread. One student says it is sour. Teacher says not necessarily in the flavor. A student says something about the way it is made, and the teacher agrees [I did not quite catch it].

Next is spelt bread. Teacher asks what makes it different from a regular loaf of bread. No one answers. Teacher eventually says you cannot tell from looking at it. However, it is the flour. Spelt is one of the original grains, it has more gluten in it and is therefore easier to bake with.

Example field notes 2, S7
Time: 0820-0848

The students sit quietly at their desks; the teacher is speaking. She introduces the project and says that it will end up with oral presentations. It is a continuation of what they did two weeks ago—now they will study two vocations in more depth. They should choose jobs they are interested in and might want in the future.

The teacher links the project to vocabulary, by saying that she often experiences that students do not use appropriate vocabulary when presenting their education or future jobs. She would therefore like to remind them of a few things related to vocabulary. She says that she wants them to take notes because this is important. The students get ready for

taking notes (however my impression is that only one of them actually does it). The teacher writes on the board: Design, arts and crafts, not: going on a line, but "taking a course".

T: First and foremost, you are studying what in English is called Design, Arts and Crafts. So, when you refer to your study, use this title, and notice that in English you have upper case letters for each of the words. Often students tell me, they are going on a line called Design, Arts and Crafts. To a native speaker that sounds as if you are walking on a line, like this [mimes]. So, you can say that you are taking a course. A course is what they refer to as a line of study in English. Design, Arts and Crafts is one course in the vocational programme in Norway.

Then, the teacher goes through some other words on the board. The first one is 'vocational'. She says this is a word they have encountered earlier this autumn and asks if anyone remember what it means. No one answers, and the teacher says it means 'yrkesfalig'. She states that it is a very useful term for them to know. The next word is 'apprentice'.

T: Also, when you have studied here for two years, you may become an 'apprentice', what is that?
S1: [hand up]
T: Yes
S1: Skal jeg si det på norsk eller engelsk? [Should I answer in Norwegian or English?]
T: Si det på norsk, oversettelsen [Say it in Norwegian, the translation]
S1: Lærling da [Apprentice, then]

The next word is 'work placement', which the teacher explains herself. Then she mentions 'skills' and talks a bit about skills and 'competences' herself. She says that at the end of an apprenticeship, if you prove your competences you will get a 'diploma', or 'fagbrev'.

The teacher repeats that she wants the students to write the words down (they are all written on the board now), because students are very often not successful when they attempt to translate words that have to do with the Norwegian educational system into English. She also stresses that she would like to hear these words in the presentation.

Appendix B. Themes, Descriptions, and Examples

Table A1. Coding scheme with examples.

Theme	Sub-Category	Descriptions	Example
Instruction with explicit attention to vocabulary	Yes	The field notes report explicit attention to vocabulary in (a) the teacher's framing of task/learning outcome and/or (b) the activities the teacher initiate as part of a task.	(a) The teacher frames vocabulary as a central genre trait for instruction manuals, making attention to vocabulary a requirement as the students write manuals (S1). (b) Students label the parts of an all-terrain vehicle in a visual mind map (S2).
	No	The field notes report no explicit attention to vocabulary as part of the observed instruction.	Students prepared and presented talks about music therapy for dementia patients (S10, not included).

Table A1. *Cont.*

Theme	Sub-Category	Descriptions	Example
Word choice	Anchored in work	Vocabulary to describe own work	Students talk about safety equipment and protective gear necessary to keep safe the workshop (S5).
	Anchored in education	Vocabulary to describe own education	After the students have worked with a gap-fill exercise to describe their own education program, the teacher proceeds to test their retention of central education terms (S3).
Organization	Whole class	Teacher and students concurrently direct their attention to the same information, task or issue. Teacher is typically responsible for pace and structure.	In a whole-class format, teacher asked the students to list tools they had used in the workshop (S6).
	Group/pair	Students work together, two or more, to solve tasks. The teacher offers his/her support as needed.	Students played an online vocabulary game, competing against each other in teams of three (S2 and S3).
	Individual	Students work alone to solve tasks. The teacher offers his/her support as needed.	Students worked individually to translate a list of current focus terms (L1) from their vocational subject (S8)
Vocabulary context: Inter-subject level	Explicit	Explicit when observed instruction had expressed links to current (or past) units of the students' vocational subjects	Students wrote instruction manuals describing how to operate a machine they had used as part of their vocational education (S1).
	Implicit	Implicit when there is no evidence of links between observed English instruction and current (or past) units of the vocational subjects.	First-year students read about occupations they might choose to qualify for in their second year of upper secondary school (S7).
Vocabulary context: Intra-subject level	Separate	The purpose of the activity is to learn the words. The words are not utilized for any other purpose in the observed trajectory.	Students translated baking-related terms from Norwegian into English (S4).
	Embedded	The attention to words is framed as necessary for completing a larger task	Students write presentations comparing two occupations in terms of education and work tasks. The teacher has framed specific vocabulary, particularly to describe education, as important for goal attainment (S7)

Appendix C. Overview of How Vocabulary Instruction Was Structured in the Observed Classrooms

Table A2. Overview of how vocabulary instruction was structured in the observed classrooms.

	S1	S2	S3	S4	S5	S6	S7	S8
Whole class	✔	✔	✔	✔	✔	✔	✔	✔
Group or pair		✔	✔			✔	✔	
Individual	✔		✔	✔	✔	✔	✔	✔

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