

Curriculum Enactment by Vocational Teachers in Norwegian VET

Professional Judgement, Tensions and Local Adaptation in the Implementation of the Subject Renewal Reform

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Abstract This article explores how vocational teachers in Norway enact the revised national curriculum (The Subject Renewal Reform – LK20) within the two-year school-based part of the 2+2 model in upper secondary vocational education and training (VET). Drawing on data from interviews with vocational teachers in three vocational education programmes, the study investigates how vocational teachers interpret, adapt, and translate the intended curriculum into pedagogical practices, analysed through the perspective of curriculum enactment theory. Using the framework of the curriculum as intended, implemented, and enacted, combined with perspectives on professional judgement and curriculum making, the article analyses the tensions and affordances embedded in curriculum enactment processes, focusing on how vocational teachers negotiate policy changes while asserting their professional agency. The findings indicate that vocational teachers' professional judgement plays a pivotal role in mediating national policy intentions and local realities, and that local adaptation is shaped both by school cultures and workplace collaborations. The study contributes to the understanding of curriculum implementation as a dynamic, context-dependent process also in VET. The knowledge contribution highlights the enacted curriculum as a key analytical lens, making provisions for vocational teacher agency and professional judgement in situations of considerable tension, increased requirements, and multiple stakeholders.

Title Curriculum Enactment by Vocational Teachers in Norwegian VET – Professional Judgement, Tensions and Local Adaptation in the Implementation of the Subject Renewal Reform

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1 Introduction

VET systems across Europe are under increasing pressure to respond to rapid technological changes, shifting labour market demands, and broader societal expectations for inclusive and future-oriented education. Vocational teachers play a pivotal role in translating such policy ambitions into educational practice as they interpret and enact curriculum reforms in school-based settings (Priestley et al., 2012). In this context, curriculum reforms are regarded as key policy tools to ensure that vocational learners develop relevant competences for both the labour market and society. In Norway, these demands have prompted a national curriculum reform, the Subject Renewal (LK20), introduced in 2020. The reform aims to strengthen coherence between subjects, encourage deep learning, and provide more space for local curriculum work (Dahlback et al., 2022; Dahlback et al., 2023). In the vocational education programmes, the new curriculum seeks to reinforce the link between school and work, modernise subject content, and promote more coherent curricular structures. The reform also places new emphasis on interdisciplinary themes such as sustainability, democracy, and life skills, alongside a stronger focus on ethical awareness and critical thinking. These aims can be understood as a shift in how vocational knowledge is conceptualised, potentially challenging traditional understandings of VET as narrowly skill-based and technically instrumental.

To understand how these ambitions are to be realised, it is necessary to consider the organisational structure of the VET system in Norway. It is commonly organised according to the 2+2 model, in which students typically complete two years of school-based education (Vg1 and Vg2), followed by two years of apprenticeship training in a certified enterprise (Vg3). During the school-based education and training, students receive a general introduction to the broader vocational field while also beginning to specialise in a specific trade. The curriculum combines general academic subjects (such as Norwegian, English, mathematics, physical education, natural sciences, and social studies) with vocational subjects that integrate theoretical knowledge and practical training. In the first year (Vg1), the vocational component is broad and exploratory, whereas in the second year (Vg2), it becomes more targeted and aligned with specific occupational pathways as students decide which trade they wish to pursue. Upon completion of the school-based phase, students are eligible to enter a two-year apprenticeship during which they further develop their vocational competence through workplace training, culminating in a trade or journeyman's examination.

However, translating these ambitions into meaningful teaching practice is a complex task (Fullan, 2001; Honig, 2006; Levin, 2004; Priestley et al., 2012). While curriculum reforms are planned and structured at the national level, the curriculum is interpreted, mediated, and enacted by local actors, particularly teachers (Wallace & Priestley, 2017). This interpretive and context-dependent work is particularly prominent in VET, which is especially exposed to rapid occupational change and evolving qualification requirements (Andersson & Köpsén, 2017). Vocational teachers operate at the intersection of educational policy, occupational traditions, and workplace collaboration, often needing to reconcile national intentions with local realities. Thus, to understand how reforms unfold in practice, it is necessary to consider the wider forces that shape vocational education.

VET is shaped not only by pedagogical considerations, but also by institutional structures and changing labour market dynamics (Mulder, 2014). As highlighted by Cedefop (2017), three interrelated perspectives influence the evolving nature of VET: 1) an epistemological and pedagogical perspective concerned with what knowledge is valued and how it is taught, 2) an education system perspective focusing on how VET is organised and governed, and 3) a socio-

economic perspective emphasising VET's responsiveness to the labour market and broader societal goals. The Norwegian education reform can be understood in light of these perspectives as it seeks to modernise vocational learning both structurally and in subject matter.

Against this backdrop, it is essential to investigate how vocational teachers make sense of national reforms and translate them into pedagogical practice. Despite growing policy attention to curriculum change in VET, there is still limited empirical research on how reforms are interpreted and enacted in the day-to-day practice of vocational schools. To address this gap, we examine how vocational teachers in three Norwegian VET programmes interpret and realise the LK20 curriculum in school-based education. Adopting a comparative programme perspective, we explore both how curriculum intentions are translated into everyday teaching and how this work is shaped by teachers' professional judgement and local conditions. The study is guided by the following research question:

How do vocational teachers in three Norwegian VET programmes enact the LK20 curriculum reform in school-based education?

By exploring how vocational teachers in three Norwegian VET programmes enact the LK20 curriculum reform in school-based education, and how this enactment is shaped by their professional judgement and contextual conditions, the article contributes to current discussions on curriculum development and implementation in VET. It emphasises the importance of vocational teacher agency and contextual understanding and provides empirical insights into how national reforms are realised, or reinterpreted, through local professional practice.

This study investigates how vocational teachers interpret and realise curriculum reform in practice by drawing on the distinction between the intended (macro level), implemented (meso level), and enacted (micro level) curriculum (van den Akker, 2013). This framework offers a nuanced lens for examining how national intentions are translated into local educational practice. Rather than assuming a linear implementation process, the enactment perspective acknowledges the role of teacher agency and local context in shaping curriculum work (Priestley et al., 2012). It is particularly relevant in VET, where strong occupational traditions and local variation demand professional judgement and contextual adaptation.

Building on this framework and a comparative analysis across three vocational programmes, the article contributes to the broader discussion of curriculum development and implementation in VET by foregrounding vocational teachers as active curriculum actors. It highlights the context-dependent and interpretive nature of curriculum work in vocational education and shows how LK20 is enacted differently across programmes, reflecting both shared reform intentions and programme-specific logics.

The article is based on qualitative interview data from the research project Evaluation of the Subject Renewal curriculum reform in vocational education and training (Dahlback et al., 2022; Dahlback et al., 2023). The empirical material consists mainly of semi-structured group interviews, supplemented by a small number of individual interviews, conducted in 2021 and 2022 with 63 vocational teachers across 17 upper secondary schools in Norway. The participating vocational teachers represented three VET programmes that differ markedly in their vocational-didactic traditions and programme design:

1. *Building and Construction*, a long-established craft field with strong workshop-based traditions, dense collaboration with local companies, and a well-established apprenticeship and trade certification system. This programme provides a clear pathway from school to skilled work in

well-recognised occupations with rich knowledge and teaching traditions, and under LK20 has undergone a structural change requiring students to specialise in a specific trade in the study sample Vg2 tracks – Carpentry or Plumbing.

2. *Information Technology and Media Production*, a newly established programme created as part of LK20's structural change to respond to changing qualification needs in both existing and emerging occupations in the information technology and media sectors, partly building on earlier information technology and media curricula but with reconfigured competence structures and new apprenticeship pathways.
3. *Sales, Service and Tourism*, a programme teaching and training for occupations in sales, administration, tourism and security for the service sector. At the second year, Vg2, our sample draws on teachers in the track for Service, security and administration, with a dual occupational orientation towards administrative and security-related occupations. This programme is often characterised by weaker traditions of trade certification, by sectors where formal vocational qualifications are less consistently required or valued in employment, and by strong dependence on external learning arenas (Olsen et al., 2015).

The programme selection was purposively chosen to capture variation in occupational traditions, curriculum structures, opportunities for vocational teacher collaboration, and programme-specific curriculum work. By analysing how vocational teachers in these programmes interpret and enact the revised LK20 curriculum, the study contributes to a deeper understanding of curriculum work in VET.

The article proceeds as follows. First, we situate the study within the broader field of research on curriculum implementation, with emphasis on the contextual and negotiated nature of reform processes. Next, we present the conceptual framework, drawing on distinctions between the intended, implemented, and enacted curriculum, together with perspectives on curriculum enactment that highlight teacher agency and local conditions. In the methodology section, we describe the research design, the data collection and analysis. The Findings section is organised by vocational programme and, for each programme, examines how teachers interpret the revised competence aims, how they organise teaching and assessment, and how their enactment of LK20 is shaped by material conditions, programme traditions, and collaboration with companies, followed by a cross-programme comparison. Finally, the discussion relates the findings to the theoretical framework and previous research before the article concludes with a summary, limitations, and implications for future research.

2 Previous Research on Curriculum Implementation in Vocational Education

The international literature on education reforms has demonstrated that such reforms are not implemented in a straightforward or uniform manner but rather take shape through locally context-dependent processes of interpretation, negotiation, and adaptation (e.g. Elmore, 1995; Fullan, 2001; Honig, 2006; Levin, 2004). It is highlighted that curriculum implementation is not simply a matter of applying national policy as intended, but a dynamic process shaped by the interplay between national goals, institutional structures, and local pedagogical cultures. This insight has led to growing recognition that educational reforms must be studied not only as policy outputs, but also as processes that are interpreted and negotiated by those who enact them.

A review of international literature on VET reform implementation further supports this perspective (Caves et al., 2021). The analysis highlights how reform processes are shaped by the institutional structures of VET systems, the degree of school and vocational teacher autonomy, and the extent to which the reforms align with existing pedagogical and organisational logics.

In VET, these processes are particularly complex due to several interrelated factors. First, the dual nature of VET, combining school-based and workplace learning, creates a need for curricular coherence across learning arenas (Aakernes, 2018; Akkerman & Bakker, 2012; Andersson & Köpsén, 2017; Berner, 2010; Colley et al., 2003, Dahlback et al., 2022). Second, vocational teachers often have strong occupational identities grounded in their professional backgrounds (Johannesen, 2015; Sarastuen, 2020). These identities shape their understandings of teaching and learning, which in turn influence how they interpret educational reforms (Vähäsantanen & Eteläpelto, 2009, 2011). Third, the institutional landscape of VET is characterised by considerable diversity. In Norway, schools enjoy relative autonomy in how they implement reforms, and geographical variations in industry structures and programme profiles contribute to local differences in curriculum enactment (Nordenbo, 2013; Olsen & Reegård, 2013; Reegård et al., 2019).

Vocational teachers' agency and professional judgement appear central in mediating between national policy goals and local realities (Hiim, 2017). The vocational teachers do not merely implement curricula but exercise professional judgement in adapting and operationalising reform intentions. Vocational teacher identity, shaped by prior industry experience and professional culture, serves as a resource in interpreting demands and developing curriculum and pedagogical practice (Farnsworth & Higham, 2012). Furthermore, vocational teachers' affiliations with occupational communities foster a sense of responsibility for maintaining workplace relevance, which can both support and constrain the enactment of broader educational aims.

As educational reforms often demand changes in vocational teachers' practices, they can experience uncertainties, dilemmas and practical tensions (de Bruijn, 2012). In the Netherlands, de Bruijn (2012) shows that the shift toward competence-based curricula altered the nature of vocational teachers' work, requiring the integration of domain-specific content with transversal skills such as collaboration and self-direction, often with limited institutional support. The result was a degree of professional uncertainty as vocational teachers needed to develop new pedagogical repertoires but lacked support in navigating this shift. Similar dynamics are also evident in research from Lithuania, where the modularisation of VET programmes has increased expectations for theory-practice integration and interdisciplinary collaboration. Tutlys and Vaitkute (2022) demonstrate that while these reforms aim to promote competence-oriented learning, they simultaneously disrupt established routines and place new demands on vocational teachers' planning and cooperation.

Vocational teachers must also navigate tensions between competing educational purposes, such as employability, civic engagement, and inclusion. In a comparative study of VET in Sweden and Iceland, Eiríksdóttir and Rosvall (2019) find that instruction tends to become individualised and task-oriented, often at the expense of broader educational aims such as ethical reflection and democratic participation. Their findings raise questions about how curriculum reforms are enacted in practice for a heterogeneous student population. In a Finnish context, Ilomäki et al. (2022) report that while vocational teachers value domain-specific competence and workplace learning, they also see school-based education as important for promoting equity and structured learning opportunities. This highlights the pedagogical balancing act involved in meeting both individual and collective goals within VET.

Moreover, teachers' engagement with reform initiatives is also closely linked to their perceptions of autonomy, identity, and workload (Ballet & Kelchtermans, 2008; Day, 2002). Thus, reforms perceived as top-down and lacking teacher involvement may face resistance. Alongside teacher agency, structural and organisational conditions, such as school leadership, are consistently identified as enabling or constraining factors in curriculum enactment (Blossing & Ekholm, 2008). Collaborative structures and the availability of time and space for joint curriculum planning are also essential (van den Berg et al., 2000).

In the Norwegian context, prior research on the Knowledge Promotion education reform (LK06) highlighted how weak central guidance and broadly formulated competence aims contributed to wide variation in local implementation (Aarkrog & Bang, 2012; Sivesind, 2012). However, granting vocational teachers a degree of interpretive and implementational autonomy may help strengthen the reform process (Nordenbo, 2013). More recently, Ballangrud (2022) notes that the LK20 reform in Norway assigns greater responsibility to school leaders and teacher teams for local curriculum development. This has increased the need for distributed leadership and institutional capacity to support curriculum work. The emphasis on interdisciplinary themes and local adaptation in LK20 creates new demands on schools to develop contextually relevant interpretations of national aims.

Despite a growing body of international research on the implementation of educational reforms, several knowledge gaps remain (Cedefop, 2022; Hordern et al., 2021; Priestley et al., 2012). Few studies provide detailed empirical insight into how curriculum reform is interpreted and enacted in the school-based part of VET, particularly with regard to planning practices, pedagogical strategies, and subject integration. Much of the existing literature tends to focus on single programmes or national systems, limiting opportunities for comparative perspectives across vocational fields with differing occupational logics and institutional structures (Caves et al., 2021). Moreover, the role of vocational-didactic traditions, vocational teacher collaboration, and programme-specific constraints in shaping curriculum work remains underexplored.

3 Conceptual Framework

This study draws on a multi-dimensional framework for understanding curriculum development and implementation, with particular emphasis on the concept of curriculum enactment. Our point of departure is the classic distinction between the intended, implemented, and enacted curriculum, first proposed by Goodlad (1979) and further developed by van den Akker (2013) and Priestley et al. (2012). This model provides a conceptual lens through which we analyse how national curriculum reforms are interpreted and realised in VET.

The *intended curriculum* refers to the formal curriculum as articulated in national policy documents, including learning aims, subject content, and overarching principles. In the case of LK20, this includes an emphasis on interdisciplinary themes, deep learning, and a renewed emphasis on relevance and coherence in vocational education. These intentions express a vision of competence development that extends beyond narrow skill acquisition, aiming instead for a more integrated and future-oriented conception of vocational knowledge (The Norwegian Directorate for Education and Training, 2021).

The *implemented curriculum* concerns how policy intentions are translated into institutional structures and local planning processes. It includes decisions made by local authorities and school leaders about course design, resource allocation, and possibilities for professional development. However, there is no direct or linear relationship between the intended aims and local

implementation. Organisational routines, resource constraints, and institutional priorities shape how reforms are taken up at the meso level (e.g. Fullan, 2001; Honig, 2006).

The main focus of this study, however, is the *enacted curriculum*, i.e. the curriculum as realised in vocational teachers' everyday pedagogical practice. This level recognises that the curriculum is not simply delivered but interpreted and adapted in local contexts (Priestley et al., 2012). Curriculum enactment is a complex, context-sensitive process in which teachers mobilise personal experience, institutional logics, and available resources to make sense of educational reforms (Ball et al., 2012). Teachers are thus positioned as *curriculum actors*, i.e. professionals who make context-dependent choices about content, pedagogy, and progression, rather than passive recipients (Levin, 2004). Their enactment is shaped by a range of factors, including occupational traditions, team cultures, school conditions, and perceptions of student needs (Priestley et al., 2012; Vähäsantanen & Eteläpelto, 2011).

As previously described in this article, curriculum enactment in VET poses particular challenges. Vocational teachers must navigate multiple and sometimes conflicting expectations: national competence aims, occupational standards, individual learner needs, and the requirements of local industry. Vocational teachers must often strike a balance between promoting transferable key competences and maintaining the specificity and authenticity of vocational competence. This work calls for a high degree of professional judgement and discretion where teachers' own knowledge, experiences and assumptions both enable and delimit the options they consider (Vähäsantanen & Eteläpelto, 2011). It also requires a reflexive capacity to make informed decisions in ambiguous and evolving contexts (Gewirtz et al., 2009).

Moreover, enactment in VET usually takes place in a *dual system* where the school-based part must both prepare students for the workplace and provide them with educational depth and breadth. Thus, vocational curriculum work involves continuous negotiation between educational ideals, labour market demands, and pedagogical possibilities (Eiríksdóttir & Rosvall, 2019; Ilomäki et al., 2022). These negotiations are shaped by the institutional histories and epistemic cultures of the programmes, as well as by the vocational teachers' affiliations with occupational communities and their sense of professional identity (Farnsworth & Higham, 2012).

In sum, this study conceptualises curriculum reform not as a top-down transmission of goals but as a *professionally mediated, context-dependent, and negotiated process*. By integrating the intended – implemented – enacted distinction with perspectives on curriculum enactment and professional discretion, we examine how vocational teachers interpret, translate, and transform reform ambitions into meaningful pedagogical practice. Through comparative analysis across three vocational programmes, we offer new insights into how programme traditions, institutional structures, and local labour markets interact with professional judgement in shaping curriculum work in school-based VET.

4 Methodology

This article is based on qualitative data from interviews with vocational teachers in three selected VET programmes in upper secondary education: Building and Construction; Information Technology and Media Production; and Sales, Service and Tourism. The purpose is to investigate how vocational teachers interpret, adapt, and enact the revised curriculum in the two-year school-based part of the 2+2 model (Vg1 and Vg2). While findings from the interviews have previously been presented in two published evaluation reports (Aakernes et al., 2022; Skålholt et al., 2023) the data

have been reanalysed for this article with a specific focus on how vocational teachers actively interpret and realise curriculum reform through professional judgement and pedagogical practice.

The research design is interpretive and abductive (Patton, 2015), aiming to understand how curriculum reform is realised through context-dependent professional practices. This approach acknowledges the complexity of curriculum work and the active role of vocational teachers as curriculum actors. Rather than testing hypotheses, the study seeks to identify patterns of meaning-making and contextual variation in how curriculum intentions are translated into pedagogical practice.

4.1 Data Collection

The empirical material consists of semi-structured interviews with vocational teachers from the three Norwegian VET programmes mentioned above. The interviews were conducted in two rounds: in spring 2021, with teachers at the Vg1 level, followed by a second round in spring 2022, with teachers at the more specialised Vg2 level. In total, 29 group interviews were conducted with 63 vocational teachers from 17 upper secondary schools across three counties. At the Vg1 level, five groups were interviewed in Building and Construction, five groups in Information Technology and Media Production, and three groups in Sales, Service and Tourism. At the Vg2 level, five groups were interviewed in Carpentry, three groups in Plumbing, five groups in Information Technology, and three groups in Service, Security and Administration. See Table 1 for overview.

Table 1: Distribution of Interviewed Vocational Teachers by Programme and Level

Programme	Level	N groups	N teachers
Building and Construction	Vg1	5	12
Carpentry	Vg2	5	9
Plumbing	Vg2	3	8
Information Technology and Media Production	Vg1	5	11
Information Technology	Vg2	5	9
Sales, Service and Tourism	Vg1	3	9
Service, Security and Administration	Vg2	3	5
Total		N 29	N 63

The schools were strategically selected to ensure variation in geographical location, programme structure, institutional context and regional industry structures, reflecting different connections between VET and local labour markets. As outlined in the introduction, the three VET programmes were purposively chosen to capture diversity in occupational traditions, curriculum structures and stages of programme development. Building and Construction shows a long-established craft field with a clear apprenticeship pathway, Information Technology and Media Production is a newly established digital programme, and Sales, Service and Tourism is a service-oriented programme with vaguer occupational orientation. In this way, the sample was designed to illuminate how LK20 is enacted under different programme-specific and diverse regional conditions.

All participants were teachers of *vocational subjects* and involved in planning and implementing the revised curriculum. Most interviews were conducted in small groups of two to four vocational teachers, which allowed for joint reflection and articulation of shared experiences and local adaptations. The use of group interviews enabled teachers to co-construct accounts of curriculum

work, elaborating and qualifying each other's descriptions. The interactional format also enabled observation of how shared understandings and programme-specific interpretations of LK20 were negotiated in situ. At the same time, the presence of colleagues may have favoured more consensual accounts over openly divergent or critical views. We sought to address this by inviting contrasting perspectives and by probing for concrete examples when participants expressed agreement.

Because some schools were small and thus employed fewer vocational teachers within a given programme, a small number of interviews (five in total) were conducted with a single teacher rather than a group. In these cases, the interviews took on a more individual and narrative character, providing more space for personal reflections on local curriculum work, but without the interactional dynamics and consensus-building processes observed in the group settings. In this sense, the sample was also shaped by pragmatic considerations of availability at each school. We have treated data from group and individual interviews as part of the same corpus while being attentive to how differences in interview format may have influenced how curriculum enactment was described and negotiated.

In the Norwegian upper secondary VET system, responsibility for translating national curricula into concrete teaching and assessment is formally allocated to the regional school owners at the county municipality, who further delegate to local schools and their teaching staff. Within this framework, curriculum work is often organised through programme- or subject-based teacher teams, particularly in larger schools, although the extent and form of such collaboration vary between programmes and institutions. The choice of group interviews was intended to reflect the collaborative dimensions of curriculum enactment while the inclusion of individual interviews captured situations where single teachers carried a larger share of this responsibility.

The interviews were audio-recorded with informed consent from the participants and subsequently transcribed verbatim for further analysis. The interview guide included themes such as:

- vocational teachers' interpretation of curriculum aims and content
- planning processes and interdisciplinary collaboration
- integration of key competencies and core values
- perceived tensions between policy expectations and local realities
- the influence of occupational traditions and workplace relevance

4.2 Analytical Approach

The data were analysed thematically, informed by the conceptual framework of the intended, implemented, and enacted curriculum (Goodlad, 1979; Priestley et al., 2012; van den Akker, 2013) and by the notion of professional judgement. The overarching analytical interest was to explore how vocational teachers in three programmes enact the LK20 curriculum reform in school-based education. The curriculum dimensions served as sensitising concepts for identifying how national intentions were interpreted, operationalised locally, and realised in everyday teaching practices.

1. In line with this framework, the analysis focused on three interconnected dimensions that also structure the presentation of the study findings. First, we examined how teachers interpreted the

revised competence aims and overall ambitions of LK20, including their understandings of in-depth learning, cross-disciplinary competence and vocational relevance (Interpreting the curriculum). Second, we analysed how teachers organised teaching and assessment in order to integrate theory and practice, basic skills, and reflection in concrete learning activities (Organising the education). Third, we explored how these interpretive and organisational practices were shaped by material conditions, programme traditions, organisational arrangements and collaboration with companies (Material conditions, programme tradition, and company collaboration). Across these dimensions, we paid particular attention to how professional judgement was exercised when teachers prioritised content, chose working methods and adapted the curriculum to local circumstances.

The analysis proceeded in two main steps. In the first step, we conducted programme-specific *thematic analyses* (Braun & Clarke, 2006) of how teachers in each of the three programmes described their work with LK20 in Vg1 and Vg2. In this phase, we coded instances in which teachers discussed planning, teaching activities, assessment practices, and collaboration with colleagues and external partners, with particular attention to how curriculum intentions were translated into practice within each programme context. In the second step, we conducted a cross-programme comparison to examine how these accounts of curriculum enactment were shaped by professional judgement, programme-specific and institutional conditions. Throughout the analysis, the concepts of intended, implemented, and enacted curriculum, together with the notion of professional judgement, functioned as analytical lenses rather than as fixed coding categories.

2. Throughout the process, the analytical work was guided by principles of systematic thematic coding and iterative categorisation. While coding software such as NVivo was used selectively to support data organisation, the analysis primarily relied on collaborative interpretation within the research team. Coding structures and thematic categories were discussed and refined collectively to ensure consistency and coherence between the empirical material and the conceptual framework.

4.3 Research Quality and Ethical Considerations

The study adheres to principles of qualitative research quality by aiming for internal and external validity, as well as overall trustworthiness (Cohen et al., 2011). Internal validity was supported through a careful and systematic analytical process, ensuring that the empirical material adequately captured the phenomenon under investigation. Group interviews enabled the inclusion of diverse perspectives, and particular attention was paid to selecting interview excerpts that reflected participants' views without being taken out of context. Through iterative interpretation and critical dialogue within the research team, the analysis sought to preserve both the coherence and complexity of the data.

External validity was strengthened by anchoring the study in a relevant conceptual framework and situating the findings in relation to previous research. The selection of programmes and schools was strategically designed to ensure variation in institutional context and programme structures, enhancing the potential for analytical generalisation to similar VET contexts.

To ensure the study's overall trustworthiness, we emphasised transparency throughout the research process. Methodological decisions were made explicit and well-justified, and the

presentation of findings was designed to make clear how interpretations are grounded in the empirical material.

The study adhered to the ethical guidelines of the Norwegian National Committee for Research Ethics in the Social Sciences and the Humanities – NESH (2021). Participation was voluntary and all participants were informed about the study's aims, confidentiality procedures, and their right to withdraw. Informed consent was obtained from all participants. Data were anonymised during transcription and analysis, and schools and individuals are not identifiable in the presentation of findings. The research project was reported to the Norwegian Agency for Shared Services in Education and Research (Sikt) which approved the data protection plan.

The study also has some limitations. First, the data from interviews in three selected programmes does not cover the full breadth of Norwegian VET. Second, the use of group interviews in most cases may have downplayed more controversial or dissenting views, as participants co-constructed shared accounts in interaction while the smaller number of individual interviews foregrounded personal experiences and perspectives. Third, the interviews provide a cross-sectional snapshot from an early phase of LK20 implementation rather than longitudinal trajectories. These limitations should be kept in mind when assessing the transferability of the findings beyond the studied programmes and time period.

5 Findings: Enacting LK20 in Three Vocational Programmes

In this section, we present how vocational teachers in the three programmes Building and Construction; Information Technology and Media Production; and Sales, Service and Tourism enact the LK20 curriculum reform in school-based Vg1 and Vg2. The analysis is organised by programme in order to foreground programme-specific logics and contextual conditions while still allowing for cross-programme comparison. For each programme, we examine how teachers interpret the revised competence aims, how they organise teaching and assessment to integrate theory and practice, and how their professional judgement is shaped by material conditions, organisational arrangements, programme tradition and collaboration with companies. The last section summarises key similarities and differences across the three programmes.

5.1 Building and Construction: Enacting LK20 Within Strong Workshop Traditions

In the Building and Construction programme, curriculum enactment takes place within well-established workshop traditions and dense networks with local companies. Teachers in Vg1 and the two specialised Vg2 programmes, Carpentry and Plumbing, describe how LK20's ambitions for relevance, integration and reflection are interpreted against this backdrop.

5.1.1 Interpreting the Curriculum

Building and Construction teachers broadly welcomed LK20 as a step towards more coherent and work-oriented vocational education. In the interviews, teachers expressed appreciation for the stronger emphasis on reflection, critical thinking and connections between subjects, and they viewed the reform as having the potential to strengthen the link between school-based training and workplace demands. In Vg1, teachers emphasised “the importance of encouraging students to reflect on and justify their own work”, linking LK20's emphasis on critical thinking to students' ability to assess quality and safety in practical tasks.

At the same time, teachers also described a recurring tension between the ambition of in-depth learning and what they experienced as the practical requirements of teaching diverse Vg1 cohorts across many trades within a limited time. Several teachers linked this tension to variations in students' basic skills, particularly Norwegian language and mathematics, which they viewed as prerequisites for vocational learning and, in some situations, for safety. As one teacher explained, communication in the workshop can be time-critical: "If I have to call out 'stop the saw', it can be risky if the message isn't understood immediately." Teachers described how such needs sometimes required additional explanation, repetition, and support, which could reduce the time available for sustained hands-on practice and for completing work processes. In this sense, the in-depth learning teachers aspired to was not only a matter of curricular prioritisation, but also of balancing workshop progression with the pedagogical work needed to ensure that all students could participate safely and meaningfully in vocational tasks.

Vocational teachers in Vg2 Carpentry and Vg2 Plumbing echoed similar concerns, describing the revised curriculum as "more ambitious and complex than Vg3 [the curriculum for the apprenticeship]", with increased detail and scope in the competence aims. While they expressed support for the intention to raise expectations and strengthen occupational relevance, several teachers worried that the expanded content reduced opportunities for repetition and hands-on training. As one Carpentry teacher noted, "There are a lot of small-scale tasks now. Students complete more short and fragmented assignments than before." Several teachers noted that the increasing number of short, fragmented assignments limited students' opportunities to work through complete processes and thus undermined the conditions for in-depth learning that LK20 formally promotes. At the same time, the move to the two single-trade programmes in Vg2 was widely welcomed as it allowed students to focus exclusively on the trade they were preparing to enter as apprentices: "This is what we plumbers have wanted for years," one Plumbing teacher said.

5.1.2 Organising the Education

In Building and Construction, teachers explained that shared vocational backgrounds supported calibration of standards and joint decisions, and that long-established workshop traditions and routines provided continuity and a stable framework for linking theory and practice. In both Vg1 and Vg2, the vocational teachers described workshop-based tasks as the main vehicle for enacting LK20. They emphasised the importance of ensuring vocational relevance through practical projects that integrate theoretical principles, basic skills, and core values into concrete construction processes. A Vg2 Carpentry teacher illustrated this integrated approach: "When we construct floor frameworks, we simultaneously teach the theoretical principles behind the process."

In some schools, Vg 2 Carpentry teachers described how new facilities enabled more advanced project work: "We now have a new hall where we can construct small buildings, nine by 19 metres, two floors, and eventually micro houses." The micro house contained more complex elements of a home, with a wide-ranging use of building materials in line with the curriculum, compared with previous tasks such as student-built garages and doll houses. These examples illustrate that the detailed LK20 competence aims can be enacted in quite different ways. In some schools, teachers translated them into a series of short, fragmented tasks, whereas in others they were used as a basis for extended and holistic projects, such as building micro houses that allowed students to work through complete processes. This variation points to the openness of the curriculum for local

interpretation and to the central role of teachers' professional judgement and school-level conditions in shaping how LK2O is realised in workshop-based teaching.

Assessment was typically described "as more closely integrated into daily teaching" under the new curriculum. In the interviews, teachers in both Vg1 and Vg2 emphasised formative assessment, feedback and student reflection, often framed as "assessment along the way" rather than as separate events. Assessment was usually embedded in ongoing workshop activity, with formative conversations at the bench where students were asked to evaluate and justify their own performance. Rather than relying on written tests, teachers explained that they used dialogue to make criteria explicit and to discuss standards of quality and safety during the work process. The teachers emphasised this approach as consistent with both LK2O's emphasis on reflection and the culture of the trades where competence is demonstrated in practical work and evaluated as the work unfolds.

5.1.3 Material Conditions, Programme Tradition and Company Collaboration

Across Vg1 and Vg2, teachers emphasised that material conditions, institutional arrangements and programme traditions strongly shaped how LK2O could be enacted in Building and Construction. In the interviews, they underlined that curriculum work was not only a matter of interpreting competence aims, but also of the resources, facilities, and external partnerships available at their schools.

Teachers highlighted the material and economic dimensions of curriculum implementation, particularly the conditions for facilitating high-quality workshop training. In some schools, they pointed to a lack of suitable facilities and explained that the new curriculum required more advanced and diverse tools in Vg1 than before, which posed challenges for schools with limited budgets. In this context, several teachers gave examples of local companies providing direct financial support to upgrade workshop facilities. In one school, the local business community had funded the furnishing of a new workshop with up-to-date equipment, which teachers saw as crucial for aligning training with current workplace practice. At the same time, other teachers described how schools were increasingly producing items for sale to finance equipment and materials. In the public Norwegian school system, upper secondary education is formally based on the principle of free education, meaning that students should not be required to cover costs for ordinary teaching and learning activities (European Commission). Teachers worried that a growing reliance on product sales and sponsorship blurred this boundary and shifted financial responsibility away from school owners. As one teacher noted: "If the curriculum assumes we must sell products or rely on sponsorship, that should be stated clearly; otherwise, we're unsure whether what we're doing is actually allowed."

These financial and material constraints were closely connected to how workshop training was organised. Vocational teachers in Vg2 Carpentry drew attention to rising material costs which limited students' opportunities for individual hands-on practice. "Because of high costs for windows and doors," one teacher explained, "students work in groups and have to wait their turn." In practice, this meant that only one or two students carried out the actual installation work while the others observed or assisted, so that not every student could perform all parts of the task themselves. This waiting time, the teacher worried, reduced students' opportunities for "time-on-tool" and thereby their readiness for apprenticeship. Several teachers therefore emphasised the need for national

standards for workshop equipment, both to ensure the quality of training and to reduce disparities between schools.

At the same time, teachers described long-standing partnerships with local companies that had been developed over time. This collaboration included facilitating students' placement periods and inviting industry representatives to the school to present different trades and share insights into workplace cultures. Teachers portrayed these connections as vital for maintaining up-to-date vocational competence, designing authentic tasks, and helping students navigate the transition between school and work. As one teacher said: "Our success depends on the companies; if that connection isn't in place, we will end up educating students who don't get apprenticeships." Regional labour market structures also mattered in teachers' accounts. They pointed out that small enterprises in rural areas often required broad competence and autonomy, as employees were expected to handle a wide range of tasks across the building process. By contrast, large urban construction sites tended to divide work into more specialised roles, with workers responsible for narrower segments of the project. According to the teachers, these differing expectations influenced how they prioritised content and tasks when enacting LK20.

To sum up, these accounts illustrate how professional judgement in Building and Construction is exercised within long-standing workshop traditions and dense company networks, as well as under significant material and economic constraints. Vocational teachers steer through enacting the curriculum while enduring two-sided pressure from both policy and companies to deliver competent apprentices.

5.2 Information Technology and Media Production: Enacting LK20 in a Newly Established VET Programme

In the Information Technology and Media Production programme, teachers enacted LK20 within a rapidly changing digital landscape. In the interviews, they described simultaneously welcoming the reform's ambitions and struggling with the scope and complexity of the new curriculum, both in Vg1 and in the specialised Vg2 Information Technology. The teachers highlighted how they interpreted ambitious competence aims, organised project-based teaching, and navigated limited time and uneven access to up-to-date equipment while building new collaborations with companies.

5.2.1 Interpreting the Curriculum

In Information Technology and Media Production, the teachers also largely interpreted LK20 as a step towards a more coherent, relevant and work-oriented education, aligned with the curriculum's focus on in-depth learning, cross-disciplinary competence and an expanded understanding of vocational competence that includes reflection and critical thinking. Teachers in Vg1 explained that they linked critical thinking particularly to digital judgement and professional responsibility in areas such as "source criticism, data security, advertising influence and digital footprints".

At the same time, the teachers frequently described tensions between the ambition of in-depth learning and the breadth of the competence aims in the new programme. They characterised the competence aims as numerous and wide-ranging and questioned how deeply they could realistically go within the available time. As one Vg1 teacher questioned: "We need to make sure we cover all the competence aims; therefore, how deep can we really go?" Several teachers commented that the overall complexity of the programme's curriculum reinforced this concern. Some drew explicit

parallels between LK20 and curricula at bachelor's or master's level, questioning whether the ambitions exceeded what was realistic at the upper secondary level. Regarded together, these accounts suggest that the teachers saw LK20 as raising the bar for digital vocational competence. Yet at the same time, requiring them to exercise considerable professional judgement in deciding where to go into depth and how to adapt the curriculum ambitions to what they considered possible to accomplish during school-based Vg1 and Vg2.

5.2.2 Organising the Education

When describing how they organised the education, teachers underlined the importance of access to appropriate digital tools and learning environments to implement the curriculum as intended. Some Information Technology and Media Production teachers reported having access to updated digital equipment and adequate facilities, which enabled them to provide students with high-quality learning experiences. Others, however, described the burden of preparing and equipping specialised rooms themselves, such as green screen studios and streaming rooms, in addition to their regular teaching duties. Several teachers explained that setting up and maintaining these facilities often had to be done at their own time without additional compensation. At one school, during the interview, a teacher explicitly questioned how much unpaid overtime they were expected to contribute in order to make the new programme work as intended.

Alongside these concerns, teachers across Vg1 and Vg2 also described how they organised teaching and assessment to integrate competence aims, vocational content and basic skills in ongoing learning activities. Assessment was described as more closely included in daily teaching in the new curriculum. In the interviews, the teachers highlighted formative assessment, feedback and student reflection as central principles, and some explicitly contrasted this with more traditional testing practices. One Vg2 Information Technology teacher explained: "We haven't used tests for years. We use dialogue that reflects what it's like in the workplace." By using these ongoing conversations about quality and expectations, teachers sought to mirror workplace practices and help students understand professional standards in authentic ways.

5.2.3 Material Conditions, Programme Tradition and Company Collaboration

Information Technology and Media Production teachers' accounts highlighted how professional judgement was exercised under demanding institutional and contextual conditions. At some schools, the programme had to be developed almost from scratch, with few existing routines or resources to draw on. Others could build more directly on earlier experiences from the former programmes Media Production or Information and Communication Technology (ICT) Service, including established teaching practices and local networks. At the Vg1 level, teachers described mixed experiences with implementation support. Some referred to county-level initiatives that enabled vocational teachers to participate in university-level continuing education while others reported that no additional resources had been allocated for the start-up. As one teacher noted: "No extra resources were allocated for the start-up or for continuing education. Everything must be done on top of regular duties, and now that we're starting up, we are focusing entirely on teaching." This comment illustrates how the absence of additional resources left vocational teachers with a limited opportunity to familiarise themselves thoroughly with the new curriculum or to update their own vocational competence, as the immediate demands of teaching took priority.

Institutional context and collegial collaboration further conditioned how the teachers enacted LK20. In some schools, teachers described being part of functioning professional teams that shared responsibility for interpreting the curriculum and planning teaching. In others, the teachers reported feeling isolated and fully accountable for curricular decisions, a situation they described as particularly demanding for newly qualified teachers. In such settings, teachers said they relied heavily on their own vocational experience when prioritising content, organising learning activities and aligning teaching with perceived workplace expectations.

In their descriptions of everyday curriculum work, the teachers also underlined the need for close collaboration with workplaces to keep school-based teaching up to date. They emphasised the challenges of doing so in a fast-moving field: “Things are changing at lightning speed, and it takes a lot to keep up. It’s challenging to provide students with up-to-date education. We depend on strong collaboration with companies.” As the programme was newly established, some teacher teams encountered difficulties in building connections with relevant workplaces from scratch. This was particularly evident in Vg2 Information Technology where the programme offered two distinct occupational pathways: IT Operations, could build on traditions from the earlier Information and Communication Technology (ICT) Service programme, whereas the other occupation, IT Development, represented a new apprenticeship track in programming in a sector without established apprenticeship traditions. Teachers explained that, in this context, developing collaboration with local companies was both time-consuming and essential. They stressed that without such partnerships, the programme would struggle to secure apprenticeships. As one teacher said, “There must be relevant possibilities for apprenticeship, otherwise the programme has no future.”

Together, these accounts show how professional judgement in Information Technology and Media Production was exercised in a landscape characterised by ambitious curriculum aims, rapidly changing technologies, uneven institutional support, and emerging company networks.

5.3 Sales, Service and Tourism: Enacting LK20 in a Dual-Oriented Pathway

In the Sales, Service and Tourism programme at Vg1 and its Vg2 continuation in Service, Security and Administration, LK20 was enacted within a pathway that combines service-oriented competences with administration- and security-related competences. Teachers’ accounts highlight how they interpreted the revised competence aims, organised simulated service and security situations, and used professional judgement to manage tensions between different occupational pathways under varying material conditions.

5.3.1 Interpreting the Curriculum

As in the other programmes, Sales, Service and Tourism teachers largely interpreted LK20 as a move towards more coherent, work-oriented vocational education associated with in-depth learning, cross-disciplinary competence, and an expanded understanding of vocational competence. In Vg1, reflection was described as integrated into the development of identity and judgement, even if it was not explicitly framed as “critical thinking”. Teachers emphasised the importance of helping students understand what it means to act professionally in different service encounters, and to reflect on their own behaviour towards customers and colleagues.

In Vg2 Service, Security and Administration, teachers expressed rather positive views of the revised curriculum. They highlighted that having fewer competence aims than before enabled

greater depth and created new opportunities for more elaborate learning of occupational tasks and work procedures. For example, teachers explained that this made it easier to work in a multidisciplinary way with competence aims such as planning and organising large events, drawing together elements from administration, logistics and security. This view diverged from the perceptions of vocational teachers in the two other programmes, who generally viewed the curriculum as having become more demanding and extensive.

At the same time, Vg2 teachers were acutely aware of the programme's dual orientation, which created tensions between the two occupational orientations: administration and security. These were perceived as distinct occupations requiring different types of competences and aimed at two diverse student groups, which posed challenges when working toward common competence aims. In response, vocational teachers deliberately facilitated early differentiation, allowing students to pursue the occupation most relevant to their interests and aspirations. As one teacher described:

“Students should be able to choose a path based on their interests. It becomes meaningless if the teaching isn't differentiated. The students often question why they need to learn about economics and administration if they're aiming for an apprenticeship as a security officer.”

These tensions prompted teachers to use their professional judgement to interpret the curriculum in ways that allowed for early differentiation and occupational relevance.

5.3.2 Organising the Education

When describing how they organised teaching under LK20, Sales, Service and Tourism teachers repeatedly highlighted the lack of specialised facilities. Several teachers expressed frustration that the programme was not treated as a fully vocational track in terms of infrastructure. One teacher commented:

“Those who planned the school [i.e. the local school authorities] clearly didn't consider Sales, Service and Tourism as a vocational programme. We've complained that a regular classroom with PCs is being defined as our workshop. While a coffee bar and a shop have been built as part of the LK20 implementation—since the curriculum clearly states that students must carry out a sale—our facilities still don't compare to those in, for example, Restaurant and Food Processing.”

In this context, teachers reported that much of the school-based training had taken on a more theoretical character, making students dependent on external placements for authentic learning experiences. By comparing their own facilities to those of another vocational programme within the same school, the teachers highlighted what they perceived as unequal prioritisation of practice-oriented learning arenas across programmes.

Within these constraints, the teachers described how they organised learning activities to approximate vocational practice. They used simulated service encounters, role-play, case work, and event planning projects to bring together subject knowledge, communication skills, and professional behaviour. In Vg2, teachers emphasised early differentiation between administration and security pathways as a central organisational strategy to ensure vocational relevance.

As in Building and Construction and Information Technology and Media Production, assessment was described as closely integrated into everyday classroom interactions. Sales, Service and Tourism teachers explained that assessment conversations were often embedded in ongoing activities, providing immediate feedback and supporting students' confidence and self-

understanding. They also gave examples of flexible assessment formats, where students could choose the format of assessment; for instance, some received audio feedback on a podcast they had produced. This emphasis on formative assessment, feedback and student reflection was presented as consistent with LK20's focus on life skills, democracy, citizenship and local belonging.

5.3.3 Material Conditions, Programme Tradition and Company Collaboration

Teachers in Sales, Service and Tourism underlined that institutional and material conditions substantially shaped how LK20 could be enacted. In the interviews, they reported that preparatory work for the reform had often focused on overarching goals and cross-disciplinary themes while less time had been allocated to analysing the subject-specific curricula. Several teachers stated that they had missed more systematic work on the vocational subjects during the implementation phase. At the same time, they described strong collegial collaboration within programme-specific teams but also in regional networks as essential for handling the programme's dual occupational focus and maintaining a shared understanding of curricular goals.

Material conditions were described as a particular challenge, and the occupational relevance of training depended heavily on work-based learning outside school. Teachers described a strong dependence on external placements to provide authentic learning environments. They reported spending considerable time on establishing and maintaining agreements with companies and organisations that could offer relevant learning situations. Partnerships with local enterprises were thus central to curriculum enactment in the vocational programme. Teachers explained that collaboration with security firms directly influenced how they organised training and assessment to mirror workplace expectations: "We have a close collaboration with the security companies, and they influence how we organise training to ensure it aligns with workplace expectations." In these accounts, such partnerships were not only a means of securing placements for the students, but also a key arena for negotiating what counted as relevant competence and how LK20's competence aims could be translated into concrete tasks and assessment criteria.

Regarded together, the interviews with teachers in Sales, Service and Tourism illustrate how curriculum enactment in this dual-orientation field is conditioned by limited in-school facilities, a strong reliance on external learning arenas, and the need to reconcile divergent occupational pathways within a single programme. Within these constraints, teachers exercised professional judgement by differentiating teaching, using flexible assessment practices and cultivating close ties with companies to sustain both student motivation and occupational relevance. The push from policy seemed stronger on the teachers than the expectations from the companies in the sector. This might indicate incoherent relationships between the school-based education and the competence requirements in service sector occupations with vague labour market ties.

5.4 Cross-Programme Patterns and Contrasts

Table 2 summarises key similarities and differences across the three programmes. The teachers broadly interpreted LK20 as a move towards more coherent, work-oriented vocational education, raising the ambitions for vocational competence and emphasising in-depth learning, cross-disciplinary competence, and an expanded understanding of vocational competence that includes reflection and critical thinking. At the same time, they described tensions between extensive competence aims and the time, resources and learning arenas available, making curriculum enactment a matter of ongoing prioritisation rather than straightforward implementation.

Table 2: Overview of Programme-Specific Conditions Shaping Curriculum Enactment Under LK20

Dimension	Building and Construction	Information Technology and Media Production	Sales, Service and Tourism
Programme traditions and curricular structure	Long-standing workshop-based programme with strong trade traditions; move to single-trade Vg2 Carpentry and Vg2 Plumbing closely aligned with apprenticeship structure	Newly established digital programme; partly builds on former ICT and Media Production, but with expanded and reconfigured competence structure; Vg2 split into IT Operations and IT Development	Vg1 Sales, Service and Tourism leading into Vg2 Service, Security and Administration with two different occupational orientations (administration and security)
Competence aims and perceived room for in-depth learning	Wide Vg1 competence aims across many trades; Vg2 perceived as ambitious and complex; teachers describe tension between breadth and possibilities for in-depth learning	Numerous and wide-ranging competence aims; ambitions sometimes likened to bachelor/master level; strong sense of tension between coverage and depth in school-based Vg1 and Vg2	Described as having fewer competence aims than before, enabling greater depth and multidisciplinary project work (e.g. planning and organising large events)
Material conditions and facilities	Workshop-based training central; some schools have new halls enabling extended projects (e.g. micro houses), others face limited facilities, rising material costs and a need for product sales or sponsorship	Marked variation from well-equipped digital workshops to schools where teachers must establish green screen and streaming studios themselves, often in their own time and without extra resources	Lack of specialised facilities; regular classrooms with PCs defined as “workshops”; strong reliance on coffee bar/shop and, above all, external placements for authentic learning situations
Organisational capacity and collegial collaboration	Shared trade backgrounds and established vocational teams support calibration of standards, joint planning and continuity in workshop traditions	Large variation: some schools have functioning professional teams sharing curriculum work, others rely on single teachers with full responsibility for interpreting and enacting LK20	Strong programme-specific teams seen as essential for handling the dual occupational focus despite widely varied vocational backgrounds among teachers
Company collaboration and labour market embeddedness	Dense and long-standing networks with local companies; firms provide placements and co-shape tasks; regional labour markets (small firms vs large sites) influence content priorities	Need to (re)build collaboration with companies, especially for the new IT Development apprenticeship track in sectors without established apprenticeship traditions; concern that the programme’s future depends on securing relevant apprenticeships	Close collaboration with security firms shapes how training and assessment are organised to mirror workplace expectations; strong dependence on external partners to provide authentic service and security situations

Professional judgement in deciding where to go into depth, what to foreground or downplay, and how to adapt the curriculum to local conditions thus emerges as a necessary condition for translating LK20 into teachable content and workable learning trajectories.

The comparison also shows that this judgement is exercised in programme-specific ways. In Building and Construction, long-standing workshop traditions and dense company networks provide a relatively stable frame for aligning teaching with occupational standards, even under tightening material conditions. In Information Technology and Media Production, enactment is shaped by a newer, more fluid programme structure, rapid technological change, and uneven institutional support which can push curriculum reasoning back onto individual teachers. In Sales, Service and Tourism, limited in-school facilities and a dual occupational orientation in Vg2 make

external placements, simulated practice and team-based planning crucial for sustaining vocational relevance. Taken together, these contrasts illustrate how LK20 is filtered through different programme logics and resource regimes, so that similar reform intentions result in markedly different conditions and strategies for practice-oriented teaching.

These cross-programme patterns suggest that curriculum enactment under LK20 is best understood as a negotiated alignment between national intentions and programme-specific ecologies, rather than as a uniform reform process. The findings indicate that vocational teachers' professional judgement and local conditions jointly shape how the curriculum is interpreted, adapted and realised in everyday practice. This provides an empirical basis for the subsequent discussion, where we further examine how these dynamics of judgement and context help explain variation in curriculum enactment across Norwegian VET.

6 Discussion

This study has examined how vocational teachers in three Norwegian VET programmes enact the LK20 curriculum reform in school-based education. The findings show that enactment is neither a straightforward translation of national intentions nor a random set of local responses but a patterned, context-dependent accomplishment. In what follows, we discuss these patterns through the lens of intended, implemented and enacted curriculum (Goodlad, 1979; van den Akker, 2013) and research on curriculum enactment, teacher agency, and professional judgement (e.g. Ballet & Kelchtermans, 2008; Farnsworth & Higham, 2012; Hordern et al., 2021; Priestley et al., 2012; Vähäsantanen & Eteläpelto, 2011), with particular attention to how programme traditions, institutional arrangements, and labour market relations shape curriculum work in VET.

6.1 From Intended to Enacted Curriculum

LK20 formulates ambitious intentions for Norwegian VET, emphasising in-depth learning, cross-disciplinary competence, coherence and relevance, and a broader understanding of vocational competence that includes reflection, ethical awareness and critical thinking. In all three programmes, teachers broadly endorsed these aims and interpreted them as a strengthening and clarification of existing ambitions for holistic vocational competence in contrast to views of VET as narrowly skill-based and technically instrumental. This convergence at the level of interpretation suggests that the intended curriculum has been taken seriously as a guiding framework across fields.

However, the findings clearly indicate that the move from intended to enacted curriculum is mediated by programme-specific ecologies rather than following a linear implementation pathway. In Building and Construction, long-standing workshop traditions, the new single-trade Vg2 structure and dense company networks reduce the distance between national aims and classroom practice. Here, LK20's emphasis on coherence and in-depth learning is translated into extended projects that mirror work processes, formative "at-the-bench" dialogue about quality, and close calibration with apprenticeship requirements. In van den Akker's terms (2013), programme traditions and vocational cultures provide a strong bridge between intended and enacted curriculum, stabilising local interpretations and supporting relatively coherent enactment.

By contrast, Information Technology and Media Production illustrates a more fragile and contingent translation process. As a newly established programme, it lacks consolidated

pedagogical routines and apprenticeship traditions in parts of the field. Teachers must develop programme structures, facilities and company collaboration at the same time as they interpret and implement LK20. In this context, the implemented and enacted layers develop concurrently rather than sequentially (van den Akker, 2013), and the same competence aims are enacted differently across schools depending on institutional support, equipment, and team structures.

In Sales, Service and Tourism enactment is shaped by a dual occupational orientation and comparatively weaker traditions for trade certification and vague labour market employment rates particularly for apprentices taking the Journeyman's certificate in the occupation Service and Administration. Teachers in Vg2 Service, Security and Administration, read LK20's competence aims through the lens of two distinct occupational logics – administration and security – and respond by facilitating early differentiation and by relying heavily on external arenas and simulated practice to sustain vocational relevance. Here, the intended curriculum is recontextualised within a pathway where institutional infrastructures and labour market signals differ from those in more established craft occupational fields.

Together, insights from the programmes concretise a key insight from implementation and enactment research: nationally designed curricula are inevitably filtered through institutional histories, organisational routines and local labour markets (Caves et al., 2021; Farnsworth & Higham, 2012). Rather than a uniform reform process, LK20 appears in the data as a set of ambitions that are translated, adapted and, at times, constrained by programme-specific ecologies.

6.2 Professional Judgement in Curriculum Enactment

Across programmes, curriculum enactment appears as an exercise of professional judgement rather than a straightforward application of prescribed aims. Teachers do not simply “deliver” LK20; they continuously decide what to prioritise, how deeply to go into particular topics, and how to connect abstract competence aims with concrete tasks, student groups and workplace expectations. This resonates with conceptualisations of teachers as curriculum actors who interpret and transform policy in light of their own knowledge, values and contexts (Levin, 2004; Priestley et al., 2012; Vähäsantanen & Eteläpelto, 2011).

The findings suggest three closely related domains in which professional judgement is exercised. The first concerns curricular prioritisation and progression, as teachers navigate tensions between breadth and depth in the competence aims. In Building and Construction, teachers described how they selectively prioritised competence aims and structured sequences of tasks so that students could work through complete vocational processes, despite wide Vg1 curricula and constraints related to time and material costs. In Information Technology and Media Production, teachers used professional judgement to decide where in-depth learning was pedagogically and practically feasible within an expansive and rapidly changing competence structure, often questioning how far LK20's ambitions could be realised at upper secondary level. At Vg2 Service, Security and Administration, judgement was exercised through early differentiation of content and tasks in order to reconcile the programme's dual occupational orientation towards administration and security. Across the three programmes, these decisions illustrate how teachers actively negotiate between institutional curriculum demands, occupational standards and their own conceptions of meaningful and teachable vocational practice, consistent with Vähäsantanen and Eteläpelto's (2011) understanding of professional agency as situated negotiation.

Second, professional judgement is central to the design of authentic practice-oriented tasks that integrate theory, basic skills, reflection and assessment. Rather than treating theoretical knowledge and practical training as separate components, teachers across programmes described how they embedded concepts, criteria and feedback directly into work processes. Teachers describe how competence aims are enacted through authentic or simulated work processes: for example, phases of real construction work, project-based tasks in programming and media production or planning events. Within these tasks, they embed theoretical explanations at the point of use and engaged in reflective dialogue while tasks were being performed. This corresponds to an epistemological and pedagogical perspective on VET where vocational knowledge is understood as situated, integrated and action-oriented rather than as separable theory and practice (Berner, 2010; Cedefop, 2022; Colley et al., 2003; Hiim, 2017). Teachers' decisions about when and how to introduce concepts, how to phrase feedback, and which criteria to foreground can be seen as instances of curriculum reasoning in action.

Third, professional judgement is exercised through the calibration of school-based tasks and assessment against occupational reference points, an interpretive "translation" work that links the intended curriculum to vocationally credible enacted practice (Priestley et al., 2012; Vähäsantanen & Eteläpelto, 2011). Teachers relate to company expectations, apprenticeship requirements and occupational norms as interpretive resources when deciding what counts as relevant competence, acceptable quality and appropriate progression (Farnsworth & Higham, 2012). Through locally grounded judgements about standards, competence aims become teachable. At the same time, the data indicate that calibration takes different forms depending on what could be called the "thickness" of occupational communities and the stability of external reference points. In Building and Construction, long-standing workshop traditions and dense company networks appear to reduce uncertainty by providing shared repertoires and relatively stable quality criteria, thereby tightening the coupling between school-based training and apprenticeship structures. In Sales, Service and Tourism, weaker in-school sociomaterial infrastructures and the programme's dual occupational orientation at Vg2 seem to make company collaboration a key site where occupational relevance is continuously negotiated, with firms effectively shaping what is treated as vocationally relevant. In Information Technology and Media Production, the absence of established apprenticeship traditions, opaque labour market expectations and rapid technological change make calibration more provisional, as teachers must negotiate "up-to-date" standards with workplaces where qualification expectations are less settled.

Seen through a boundary-crossing lens (Akkerman & Bakker, 2012), these occupational reference points operate as shared benchmarks that help teachers align school-based tasks with workplace logics, but they do so unevenly across programmes. Where apprenticeship routes and company expectations are well established, as shown in Building and Construction, calibration can draw on relatively stable external anchors; where traditions are weaker or expectations are unsettled as in Information Technology and Media Production, teachers must invest more effort in negotiating standards and progression with external actors. This means that company collaboration is not only a resource for relevance, but a condition that shapes how demanding and uncertain curriculum work becomes.

Overall, the analysis suggests that professional judgement is not an optional supplement to reform implementation, but the mechanism through which LK20 becomes teachable under local conditions. Across the programmes, teachers exercised judgement by prioritising and sequencing competence aims, designing practice-oriented tasks that integrate knowledge, reflection and

assessment, and calibrating school-based work against occupational reference points. What varied was not whether judgement mattered, but the conditions under which it could be exercised collectively and sustained over time, an issue we examine in the next section.

6.3 Conditions for Teacher Agency: Programme Traditions, Collaboration and Material Regimes

While the findings highlight vocational teachers' agency, they also show that this agency is unevenly enabled and constrained by institutional and material conditions. Teacher's judgement is not exercised in a vacuum but within structural and cultural conditions that shape what becomes possible, legitimate and durable in everyday curriculum work (Ball et al., 2012; Priestley et al., 2012).

A first condition concerns programme traditions and vocational-didactic cultures as resources for collective sense-making. In Building and Construction, established workshop pedagogies, shared trade identities, and long-standing company relations provide a relatively "thick" professional context in which interpretations of LK20 can be stabilised and tested against recognised standards.

In Information Technology and Media Production, by contrast, teachers operate within a newer, more fluid programme with less consolidated vocational didactic traditions. Here, enactment is more dependent on local initiative and pioneering work, and the burden of designing new forms of practice-oriented teaching and building partnerships with companies with limited prior experience with apprentices is more easily placed on individual teachers. In Sales, Service and Tourism, programme traditions are shaped by weaker traditions of trade certification, more uneven links between formal qualifications and labour market status, and the two occupations taught and trained for during Vg2. Altogether, this increases the importance of collective negotiation within teacher teams and of external reference points for maintaining occupational relevance.

A second condition concerns organisational capacity for collaboration which affects whether curriculum reasoning becomes a collective practice or an individual responsibility. When programme-based teams and common planning time are in place, as in several Building and Construction and Sales, Service and Tourism contexts, curriculum reasoning and enactment become more collective enterprises, conditions highlighted as essential for sustained reform work (Blossing & Ekholm, 2008; van den Berg et al., 2000). In such settings, teachers can coordinate interpretations of competence aims, align projects and develop shared assessment practices. Where such structures are fragmented, as in some Information Technology and Media Production settings, teachers are more likely to report isolated curriculum work, and enactment risks becoming dependent on personal resilience and goodwill rather than on institutionalised routines (Ballet & Kelchtermans, 2008).

A third condition concerns material regimes and learning which set concrete limits on what can be organised as practice-oriented learning (cf. Asplund et al., 2021). In Building and Construction, rising material costs and uneven workshop standards limited students' individual time-on-tool and sometimes prompted reliance on product sales or sponsorship, raising questions about equity between schools (Aarkrog & Bang, 2012) and the principle of free education. In Information Technology and Media Production, variation in access to up-to-date equipment and specialised studios, and reliance on teachers' unpaid efforts to establish the latter affect both the tempo and the quality of enactment. In Sales, Service and Tourism, limited in-school facilities shifted vocational learning towards simulated activities and external placements, placing additional coordination

demands on teachers and reinforcing dependence on company partnerships. Across programmes, these material and organisational arrangements functioned as active elements of enactment rather than background conditions, shaping both what can be taught and how consistently it can be sustained over time (Berner, 2010).

Together, these conditions help explain why the same national reform is enacted through markedly different strategies and with different degrees of coherence across programmes. Material and organisational infrastructures are not neutral backdrops but active components of curriculum enactment, shaping both the opportunities for practice-oriented provision and the limits of what can be sustained in everyday teaching. In combination, programme traditions, collaborative capacity, and material regimes shape not only what teachers can enact, but also the continuity and equity with which LK20 can be realised across schools and programmes. This points to a central implication: Supporting vocational teachers' agency in curriculum reform requires attention not only to curricular intentions, but to the institutional conditions that make coherent and equitable enactment possible—a topic we develop in the concluding reflections and implications.

7 Concluding Reflections and Implications

This study has examined how vocational teachers in three Norwegian VET programmes enact the LK20 curriculum reform in school-based education. The findings contribute to understanding curriculum reform in VET as a complex, context-sensitive process and highlight the central role of vocational teachers' professional judgement in mediating between national aims and local realities. Rather than a linear translation of policy into practice, curriculum enactment emerges as negotiated work in which intentions are interpreted, prioritised, and made workable under specific institutional and occupational conditions.

The study has some limitations that should frame the understanding of the conclusion. The empirical material covers vocational teachers at three out of ten vocational programmes in Norway and captures enactment in an early phase of the LK20 implementation. Moreover, the interview material provides access to teachers' accounts of curriculum work rather than direct observations of teaching and training in practice. These limitations imply that the findings should be understood as analytically generalisable patterns rather than as representative descriptions of Norwegian VET as a whole, and they strengthen the case for longitudinal and broader comparative research.

A central conclusion derived from this study is that vocational teachers' professional judgement is the key mechanism through which the new curriculum LK20 is translated into teachable content and workable learning trajectories. Furthermore, teachers continuously weigh ambitious competence aims in an outcome-based curriculum against available time, resources and accessible learning arenas. Accordingly, they design practice-oriented tasks that integrate knowledge, reflection, and assessment to enhance their students' learning; and professional judgement at the core in how they utilise occupational reference points and company collaboration to sustain vocational credibility. This echoes and extends research on curriculum enactment and teacher agency (Caves et al., 2021; de Bruijn, 2012; Hordern et al., 2022; Priestley et al., 2012) by specifying how judgement operates in programme-sensitive ways. Professional judgement is exercised differently where occupational communities provide stable standards and infrastructures than where traditions are weaker, facilities are limited, or where competence standards are still being negotiated and clarified between schools and companies.

The findings have implications for VET policy and practice. If vocational teachers are to act as informed curriculum actors, they require more than trust in their professionalism; they need time, collegial structures and material conditions that support collaborative curriculum work and sustainable practice-oriented provisions. Answering the research question about vocational teachers' curriculum enactment of LK20 raises additional questions. One is about VET-teachers' professional practices teaching the curriculum between a rock and a hard place as they navigate the simultaneous push from policy while upholding professional standards in vocational didactics to ensure updated knowledge in both initial occupation and teacher profession (cf. Hordern et al, 2022). Another concerns the structures and contents of teachers' competence development, and vocational teacher education and training in preparing teachers for curriculum enactment. Third, the findings suggest that teacher autonomy should be seen in an amalgam of strengthened professional communities in schools and across companies. This entails shifting responsibility for student placements and occupational networks from individual teachers to the meso level of school management to ensure sustainability. Without such conditions, enactment is likely to remain uneven across schools and programmes, with implications for coherence and equity in students' opportunities in vocational learning. Our analysis also implies that implementation support should be differentiated because established craft fields, newly created digital programmes, and service pathways face different challenges. Programme-sensitive strategies should be initiated to align curriculum aims with the three dimensions of VET (Cedefop, 2017): labour market, educational system, and pedagogy/epistemology, to support vocational teachers in designing conducive learning conditions to ensure the quality of occupations, Bildung understood as cultivation of the self in society through education and training, and the development of students' occupational identity.

Finally, the study underscores the value of comparative programme analyses for understanding curriculum reform in VET. Tracing how the same national reform is enacted across contrasting programmes reveals not only variation in outcomes, but variation in the conditions and mechanisms through which curriculum work becomes possible. Future research could follow enactment over time and expand the comparative scope across programmes and national contexts, thereby deepening knowledge of how VET reforms are negotiated in practice.

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