VTE VOCATION, TECHNOLOGY & EDUCATION

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Multilingualism in technical vocational education and training: Linguistic diversity, practices, and norms

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ABSTRACT

Policy considers multilingualism as a key skill for all learners in vocational education and training (VET), but this is not consistently reflected in practice. The M-Voc project adopted a mixed-method research design to address the under-researched phenomenon of multilingualism in VET with a focus on technical professions. The findings, based on perceptions from 674 students and 87 stakeholders in the Swiss-Liechtenstein border region reveal that VET learners brought multiple languages to VET, which were used to communicate, collaborate, and build relationships in their workplaces internally and externally. However, linguistic diversity also created division and barriers, and the learners' linguistic experiences varied greatly. Differences in perceptions depended on learner language backgrounds, the companies that employed them, and the VET pathways they were enrolled in. This project argues for more flexible approaches to language education in VET to prepare future generations for the globalized workplace.

Key words: multilingualism, language socialization, language barriers, vocational education and training curriculum

INTRODUCTION

As a result of globalization, people with varied language skills and language biographies are increasingly brought together in the workplace. As a corollary, multilingualism is considered a key skill in vocational education and training (VET; Cedefop, 2020). To ensure that our future skilled workforce can operate effectively in multilingual situations internally and externally, it is important that VET programs prepare all apprentices for the demands of such workplaces. However, very little is known about the role of multilingualism in technical occupations and their respective VET programs (Coray & Duchêne, 2017). Thus, this project approached the under-researched phenomenon of multilingualism in VET, by employing a mixed-method design to elaborate insights into how language-related resources, realities, practices, norms, and expectations are perceived by learners and stakeholders in VET.

The vocational college that constituted the case study context (Berufs- und Weiterbildungszentrum Buchs Sargans, BZBS) is located in eastern Switzerland on the border with the Principality of Liechtenstein. In five of the 18 pathways offered at the case study site, English and/or French were compulsory subjects of study at the time of research. This confirms that language education is not the same in all pathways, despite policy documents encouraging the promotion of multilingualism in VET (Cedefop, 2020; Notter *et al.*, 2023). The apprentices who participated in this study attended BZBS college one or two days a week, while they were employed by

companies in both Switzerland and the Principality of Liechtenstein. To develop a balanced understanding, 86 stakeholder voices were also included in this study.

The language socialization perspective (Duff, 2020), which framed this study, was suitable to examine language norms, roles, power relations and practices that often remain unquestioned (Friedman, 2010). Thus, the research question, guiding this study was: What are stakeholder perceptions of language socialization in VET? Combining this lens with a mixed-method design uncovered that language socialization in VET was perceived in very different ways by different groups, and that opinions regarding languages in VET diverged widely.

METHODS AND RESEARCH DESIGN

The project was approved by the University of Exeter Ethics Board and the mixed-method data was collected in two sequential phases. The phase-one data collection resulted in 674 survey responses (Likert scales and open questions) and eleven interview transcriptions from apprentices. The phase-two data collection resulted in 86 stakeholder responses (open survey questions).

Quantitative data in the form of Likert scales were subjected to descriptive, quantitative analysis. Respective results are expressed as a percentage of participants who, for example, rather/totally agreed or rather not/not at all agreed with an opinion. Results were grouped according to VET pathways. Additionally, we combined similar questions into a multi-item scale or construct (*e.g.,* perception of a multilingual reality). In this process, questions (or items) on a topic were grouped together to assess the characteristics of the perception. The reliability of these constructs (*i.e.,* whether these questions measure similar matters) was confirmed by factor analysis. To determine ways in which the apprentices' home language use related to their perceptions of language realities in the workplace in a statistically significant manner, we also calculated correlations.

Qualitative data, specifically the responses to the open questions from the surveys (phases 1 and 2) and the interviews (phase 1), were analyzed thematically. A thematic analysis means that quotations from the statements made by participants are coded by themes and sub-themes. This creates a systematic overview of the statements made in the sample. Initial themes were predetermined by existing research (deductive), and further themes, including some new ones, were developed during the analysis (inductive).

The integration of quantitative and qualitative, as well as

learner and stakeholder, results enabled insights into aspects of language socialization, including linguistic diversity, resources, practices, and norms as reported below.

RESULTS

In this article, results are presented in a summary form. Full results and detailed quantitative and qualitative analyses, as well as evidence, substantiating our claims, are available in the form of a stakeholder report in English and German (Meier & Styger, 2023) and from further academic papers that are in preparation (see updates on website https://sites.exeter.ac.uk/m-voc/).

Description of participants
In phase 1, 674 VET apprentices across eleven VET pathways completed an online survey. Learner participants were enrolled in the following programs: Information technologists, design engineers, mechanical engineers (2 pathways), metal builders, electricians, painters, carpenters, joiners, bricklayers, and hairdressers. Eleven of the participants took part in a follow-on interview. Regarding languages, all pathways listed here had German in their curricula, and four of these also included English as a compulsory subject (information technologists, design engineers, mechanical engineers [2 pathways]).

In phase 2, 86 stakeholders completed the online survey. Of these, 39 participants were associated with host companies, 22 with vocational colleges, and 25 with multiple roles of responsibility associated with VET or beyond.

Summary findings
Personal multilingualism
The apprentices, who took part in the M-Voc study, between them brought to their workplaces competences in 50 languages plus dialects (mastered at different levels). A total of 92% reported using German or a dialect and 33% said they used a different language at home (daily or almost daily or several times a week), either in addition to German or exclusively. This shows that this cohort was linguistically diverse and brought a wealth of language resources with them.

Multilingualism at work
Statistically significant quantitative results showed that learners perceived their VET workplaces very differently. Particularly, those apprentices who spoke a language other than German at home tended to perceive their workplaces as multilingual, as they came into contact with a total of 26 languages. This is illustrated by qualitative quotes from a bricklayer apprentice, who reported hearing "Croatian, Albanian, Spanish,

Portuguese, High German, Swiss German, and Czech" at work, and an electrician apprentice who stated that "it is normal for many different languages to be spoken in the construction industry". In contrast, those who used German at home tended to perceive their workplace as more monolingual. A joiner apprentice said: "German is the only language spoken everywhere, which simplifies many things, but also leads to deficits in later working life". This exemplifies, how VET experiences and language norms can be experienced very differently, depending on learner background, company and VET pathways. Regarding the latter some VET pathways were perceived as more monolingual (*e.g.* carpenter and joiner pathways) or as more multilingual (*e.g.* bricklayer and hairdresser pathways). Thus, not all apprentices had the same access to experiences and skills deemed necessary to work in globalized contexts.

Language use and development
Statistically significant quantitative results from the phase 1 survey showed that 62% of the learners stated that they heard several languages besides German at work, and 31% stated that they also spoke at least one additional language between daily and 2-3 times a month. As regards learning opportunities, 31% of apprentices agreed with the statement that they were able to learn one or more additional languages at work besides German. Specifically, those students with non-German home languages tended to learn and use several languages in the workplace, not all of them had English in the curriculum.

Functions of languages
A thematic analysis of qualitative findings (phase 1 and 2) indicates that many learners are aware of language barriers and ways of overcoming them in their workplaces. The analysis of quotes identified operational, social, emotional, and symbolic functions of languages, indicating that languages play a role not just to get work done, but also in relation to wellbeing. This is illustrated by a painter apprentice who said: "You feel comfortable with your own language", and a hairdresser apprentice: "You feel proud of yourself when you know a new language". Language genres used internally and externally included every-day language, occupation-specific and technical varieties. Importantly, apprentices also engaged in linguistic mediation to smooth interaction between people of different languages or competency levels. Such language mediation behavior was associated with effective teamwork and inclusive work environments. A design engineer apprentice illustrated both language awareness and pro-active behavior: "Then something clicks in my mind, hey Serbia and I'm from Bosnia. We speak the same, maybe I can stand here for ten minutes and try to explain it to him". However, not all learners were able to develop or practice this kind of awareness and behavior.

Language curriculum for VET
Qualitative results indicate that German was considered a priority for all, but there was a wide variation of opinion among respondents on the questions of what or whether additional languages should be included and for which VET pathways. Some preferred English for all, others wanted to see the school languages of English and French continued in VET, or advocated support for heritage languages, whereas again others felt no additional languages were necessary, desirable, or feasible in VET. This result indicates that it may be difficult to promote multilingualism *via* a traditional language curriculum.

CONCLUSION

The results from this project provide a rare insight into an under-researched topic, specifically into the role of multilingualism in VET programs as perceived by learners and stakeholders in eleven technical VET pathways. The findings developed through a mixed-method study and framed by a language socialization lens led to the conclusion that greater attention could be paid to multilingualism in VET also in the technical sector. This is supported by evidence, including the language wealth learners bring to VET and the diverging language practices and norms. Moreover, the divided opinions on curricula suggest that traditional language acquisition in school, *e.g.,* through increasing languages as subjects of study in college, may not find majority approval and may therefore be hard to implement.

To prepare all apprentices for globalized workplaces in a more consistent but feasible way, a more flexible approach to language education in technical VET, besides traditional language subjects, is recommended. Such an approach could incorporate a focus on individualized language coaching, language awareness and linguistic mediation skills; the latter are considered transferable soft skills necessary in all workplaces (Cedefop, 2020). A first step would be to take stock of good practices and materials that exist already, then trial and expand these in VET.

DECLARATIONS

Author contributions
Meier G: Conceptualization, Methodology, Formal

analysis, Writing—Original draft, Writing—Review and Editing, Project administration, Funding acquisition. Styger E: Conceptualization, Data collection and curation, Writing—Review and Editing, Project administration, Funding acquisition. All authors have read and approved the final version of the manuscript.

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Ethical approval
The study protocol was approved by the University of Exeter Ethics Board.

Informed consent
Written informed consent was obtained from the participants for publication. The authors declare that they have obtained appropriate informed consent from persons or their guardians appeared in the figures to be published in this article. The participants were informed that the interview data were only used for research purposes, and their information would be anonymized when presenting the research result. Moreover, they are also allowed to stop the recording at any moment during the interview, and they can refuse to respond to any question asked during the review.

Conflict of interest
The authors have no conflicts of interest to declare.

Data availability statement
Data used to support the findings of this study are available from the corresponding author upon request.

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