

Pedagogues or Craftspersons? A Latent Class Analysis of TVET Teachers' and Workplace Supervisors' Professional Identity and Socio-Emotional Support for Students

Sami Löfgren^{*1}, Katja Vähäsantanen¹, Kalle Virta²

¹*Häme University of Applied Sciences HAMK, Edu Research Unit, P.O. BOX 230, FI-13101, Hämeenlinna, Finland*

²*University of Helsinki, Faculty of Educational Sciences, P.O. BOX 9 FI-00014, Finland*

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Abstract

Context: Qualitative studies imply that technical vocational education and training (TVET) teachers and workplace supervisors can be classified into pedagogues and craftspersons according to their aims for teaching and guidance. Pedagogues and craftspersons further seem to differently promote socio-emotional features of the learning environment. However, statistical evidence for these arguments is scarce. Therefore, this study aimed to investigate whether TVET teachers and workplace supervisors can be classified into pedagogues and craftspersons according to their preferred aims for teaching and guidance and how these classes are associated with the provision of socio-emotional support for students.

Methods: Participants ($N = 637$) were Finnish TVET teachers ($n = 387$) and workplace supervisors ($n = 250$). We collected the data with an online survey and asked the participants to choose up to four options from eight available aims for teaching and guidance. Then, we used latent class analysis to classify the participants according to their chosen aims. We also asked the participants to rate to what extent they provide their students with the features of a socio-emotionally sound learning environment (social support, recognition, equal treatment and a positive climate for learning) and examined whether the classes established previously were associated with these features.

*Corresponding author: sami.lofgren@hamk.fi



Results: Latent class analysis showed that the participants could be classified into pedagogues and craftspersons. A multivariate multiple regression analysis showed that being classified as a pedagogue was associated with more social support, equal treatment and a positive climate for learning than being classified as a craftsperson. Holding an upper tertiary degree was associated with higher provision of equal treatment.

Conclusions: The results advance the scientific discussion about TVET teachers' and workplace supervisors' professional identity by showing relatively rare statistical evidence that the duality of a craftsperson identity and a pedagogue identity is linked to their preferred educational aims for teaching and guidance. The results further imply that pedagogues seem to better provide their students with the features of a socio-emotionally sound vocational learning environment than craftspersons. Thus, the results highlight the role of vocational teacher education and continuous learning efforts in the development of a pedagogical identity.

Keywords: Vocational Education and Training, TVET, Vocational Teachers, Workplace Supervisors, Professional Identity

1 Introduction

Modern technical vocational education and training (TVET) students increasingly study at the workplace (Löfgren et al., 2023). Students' rotation between school and workplace creates a boundary zone where they may develop their competencies with various educators in more versatile settings than school and workplace could separately offer (Bakker & Akkerman, 2019; Berner, 2010). In this study, we focus on TVET teachers and workplace supervisors due to their pivotal role on TVET student learning on the boundary zone between school and workplace. Previous studies from Finland (Löfgren et al., 2022; Virtanen et al., 2014), Sweden (Berner, 2010; Nylund & Gudmundson, 2017) and Estonia (Goodson & Ümarik, 2019) underline that especially TVET teachers and workplace supervisors seem to varyingly provide their students with socio-emotional support for learning. Previous studies also show that they differ in their educational aims, in other words, what knowledge they prefer to be mediated to their students and; thus, which tasks and practices they prefer in their teaching and guidance (Berner, 2010; Köpsén, 2014; Löfgren et al., 2022). Vocational teachers' and workplace supervisors' preferred educational aims are theoretically a part of professional identity (Bükki & Fehérvári, 2024; Vähäsantanen & Hämäläinen, 2019).

In principle, vocational teachers seem to identify themselves either as craftspersons or pedagogues: Craftspersons primarily aim to prepare the students for the immediate professional practice, whereas pedagogues also especially aim to instil in the students more general human development goals such as lifelong learning and citizenship (Bükki & Fehérvári, 2024; Köpsén, 2014; Nylund & Gudmundson, 2017). Previous studies further reveal that

pedagogues are more likely to provide their students with a socio-emotionally supportive learning environment which greatly contributes to student learning (Bakker & Akkerman, 2019; Berner, 2010; Virtanen et al., 2014). As vocational student dropout intentions are a concern in many countries, socio-emotional support may be of great importance to alleviate these intentions and enhance motivation (Bükki & Fehérvári, 2024; Pylväs & Nokelainen, 2025).

Earlier studies about vocational teachers' professional identity (e.g., Berner, 2010; Mårtensson et al., 2019; Vähäsantanen & Hämäläinen, 2019) and its connection to their support to students (e.g., Köpsén, 2014; Löfgren et al., 2022) are mostly qualitative. Quantitative studies examining and explaining these phenomena are relatively rare (Bükki & Fehérvári, 2024). This study contributes to this suggested future research avenue by using latent class analysis (LCA; Linzer & Lewis 2011; Weller et al., 2020). This study aims to quantitatively investigate whether Finnish TVET teachers and workplace supervisors can be classified into pedagogues and craftspersons based on their educational aims and how the classes of pedagogues and craftspersons are associated with the provision of socio-emotional support for students. A specific quantitative instrument called 'TVET Teacher and Workplace Supervisor Identity Measure' for investigating professional identity was developed and its theoretical groundings are explained in the following section. The results enrich the scientific understanding of TVET teachers' and workplace supervisors' professional identity and their support to the students; thus, contributing to vocational teacher training.

2 Theoretical Background

This chapter examines TVET teachers' and workplace supervisors' roles and tasks and how their educational aims relate to their professional identities. The chapter also addresses TVET teachers and workplace supervisors as advancers of a socio-emotionally supportive vocational learning environment.

2.1 TVET Teachers and Workplace Supervisors as Pivotal Advancers of Student Learning

Vocational education and training takes place both at school and workplace. Students cross the boundaries of these institutions multiple times during the studies to profit from their different learning possibilities (Bakker & Akkerman, 2019). Vocational teachers and workplace supervisors also act on this boundary zone (Vähäsantanen et al., 2009). Especially teachers have been characterised as gatekeepers or brokers who equip students with basic knowledge, skills and attitudes needed at the workplace (Isopahkala-Bouret, 2010; Löfgren et al., 2022) and use their workplace networks to match students in need of apprenticeship placements with workplaces (e.g., Bakker & Akkerman, 2019; Broad, 2019; Mårtensson et al., 2019).

Berner (2010) emphasises that vocational teachers provide a safe environment to practice the competencies needed at the workplace, while at the workplace there can be less room for mistakes, motivational problems and lack of self-confidence. However, some studies highlight that workplace supervisors in the European countries have adopted teaching duties since the 2000s along with the rise of students' workplace learning (Mårtensson et al., 2019) and emphasise that the tasks of teachers and workplace supervisors have approached each other (Isopahkala-Bouret, 2010), also within the Finnish TVET (e.g., Löfgren et al., 2023). Today, workplace supervisors may not only mediate domain-specific substance knowledge and skills to the students but also instil in them values, attitudes and conventions of the professional culture that prepare them for adulthood with a good trade behind them (Forster-Heinzer, 2020).

Despite the gradual increase of vocational student workplace learning and the strengthened status of workplace supervisors, the roles of Finnish vocational teachers and workplace supervisors are distinct from the legal/administrational perspective. Only vocational teachers are mentioned in the law. To become a legally qualified vocational teacher in Finland, an individual must have at least three years of job experience relevant for the field of teaching and 60 competence points of pedagogical studies; however, pedagogical studies can also be completed alongside employment within three years of starting work as a teacher (Finnish Decree on Teaching Staff Competency Requirements, 986/1998). Workplace supervisors, in turn, do not have a legal status or pedagogical requirements; they generally are trade-specific experts whose participation in guidance is up to them and their employers (Cedefop & Finnish National Agency for Education [EDUFI], 2023). Their guidance tasks include various teaching duties and they also participate with the teachers in the assessment of students' competence demonstrations at the workplace where they assess in line with the standards set in the vocational curricula (Cedefop & EDUFI, 2023; Isopahkala-Bouret, 2010).

Thus, the Finnish National Agency for Education (EDUFI) demands that VET providers organise voluntary training for the workplace supervisors (Cedefop & EDUFI, 2023). These trainings address planning of student workplace training; provision of vocational competence demonstrations; instruction and assessment; and mediation of vocational skills (Cedefop & EDUFI, 2023). While workplace supervisors generally appreciate these training possibilities, due to the voluntary nature of these trainings and workplace supervisors' time constraints, vocational teachers' assistance in curricular and pedagogical issues might be more important in practice than formal training (Isopahkala-Bouret, 2010). Vocational teachers also bear the ultimate pedagogical responsibility for student learning regardless of whether the learning takes place at school or at the workplace (Isopahkala-Bouret, 2010). All in all, vocational teachers and workplace supervisors in Finland are distinct groups of educators with some overlapping tasks. As they both have an effect on student learning, their educational aims are of particular interest here.

2.2 Educational Aims as Indicators of Professional Identity

To understand TVET teachers and workplace supervisors' educational aims, professional identity may serve as an analytical lens (Köpsén, 2014; Vähäsantanen & Hämäläinen, 2019). The concept of teachers' professional identity refers to the entity of various perceptions and collections on how teachers see and understand themselves as teachers (Kelchtermans, 2009; Vähäsantanen & Hämäläinen, 2019). Teachers' professional identity stems from the interplay of personal characteristics and reflection as well as social and organisational influences and it evolves during one's lifespan (Antera, 2022; Vähäsantanen & Hämäläinen, 2019). A recent study by Stellmacher and colleagues (2020, p. 215) found that the main motivations of vocational student teachers for becoming a teacher are 'subject-specific and educational interests', which indicate the specific nature of vocational teachers' professional identity. Vocational teachers' professional identity might also be shaped by such numerous factors as attainment of a pedagogical qualification, level of education, length of occupational work experience (Bükki & Fehérvári, 2024), age and length of teaching experience (Berger & Lê Van, 2019).

In this study, we examine TVET teachers' and workplace supervisors' professional identity in terms of *educational aims* which are conceptually related to task perception (e.g., Bükki & Fehérvári, 2024; Kelchtermans, 2009; Vähäsantanen & Hämäläinen, 2019). Educational aims imply which objectives and contents vocational teachers personally value and address in their teaching and guidance (Bakker & Akkerman, 2019; Nylund & Gudmundson, 2017; Vähäsantanen & Hämäläinen, 2019). Previous studies argue that vocational teachers can be classified into craftspersons and pedagogues according to their preferred educational aims (e.g., Berner, 2010; Köpsén, 2014; Nylund & Gudmundson, 2017). Their educational aims can be divided into 'more trade-focused', professional aims and 'more general', pedagogical educational aims.

Craftspersons' educational aims are predominantly professional (Bükki & Fehérvári, 2024; Löfgren et al., 2022; Nylund & Gudmundson, 2017). They aim to prepare and coach students for workplace learning and professional practice; therefore, they try to develop students' *professional expertise* by teaching trade-specific substantive knowledge and psychomotor skills, for example usage of tools and assembly techniques (Köpsén, 2014; Nylund & Gudmundson, 2017). Craftspersons also commonly aim to *develop students' professional identity* by relating incidents from their past job experience and modelling how a professional looks, feels, acts and communicates (Berner, 2010; Löfgren et al., 2022). Furthermore, craftspersons value basic-level professional expertise and a budding professional identity as important educational aims because they tend to help the students to *acquire a membership in the professional community of practice* (Bükki & Fehérvári, 2024; Mårtensson et al., 2019). It entails that senior workmates consider the newcomers potential and find them worth further teaching and guidance (Ferm et al., 2018; Gustavsson & Persson Thunqvist, 2019). The ultimate aim for craftspersons is *to get the students employed* so that they become productive workers and taxpayers (Köpsén, 2014; Löfgren et al., 2022).

The afore-mentioned professional educational aims related to the craftsperson identity are usually valued by (almost) all vocational teachers due to their background in the industry (Antera, 2022; Bükki & Fehérvári, 2024; Nylund & Gudmundson, 2017). Still, those who identify themselves as *pedagogues* agree that preparing students for the immediate professional practice is important but also students' comprehensive development and societal issues (Antera, 2022; Bükki & Fehérvári, 2024; Nylund & Gudmundson, 2017). For example, pedagogues aim to foster students to become *lifelong learners* so that they may adapt and act when there are changes in the industry competency demands, labour market or personal circumstances (Gustavsson & Persson Thunqvist, 2019). Consistently, pedagogues value *general education and eligibility to further education* because they provide the students with a means to engage in the society and advance their careers and personal development (Gustavsson & Persson Thunqvist, 2019; Nylund & Gudmundson, 2017). In fact, pedagogues consider that vocational studies may assist the students to aspire for *a good life* (Gustavsson & Persson Thunqvist, 2019; Mulder, 2014). *Gender equality* is also a pedagogical educational aim. It is an everlasting topic within the male-dominated technical trades and nowadays even more topical at least in the Nordic countries and Estonia because many technical trades lack a sufficient competent workforce (Ferm & Gustavsson, 2021; Goodson & Ümarik, 2019; Nylund & Gudmundson, 2017).

Furthermore, earlier research has shown that most vocational teachers across different trades seem to have a dual identity: They may prefer craftspersons-oriented or pedagogical aims but have usually adopted aims from both poles (Antera, 2022; Berner, 2010; Bükki & Fehérvári, 2024). However, those who are primarily pedagogues tend to guide their students to learn better thanks to their aspiration for and adherence to sound pedagogical competency (Nylund & Gudmundson, 2017). Craftspersons, in turn, tend to overlook the need for pedagogical competency or systematic support for student learning (Goodson & Ümarik, 2019; Mårtensson et al., 2019; Virtanen et al., 2014). Across various vocational learning environments, teachers' and workplace supervisors' socio-emotional support seems to advance student learning (Hurskainen et al., 2023; Virtanen et al., 2014). Socio-emotionally supportive vocational learning environments are addressed next.

2.3 Features of a Socio-Emotionally Supportive Vocational Learning Environment

A learning environment is a broad concept. It may refer, inter alia, to learning space, facilities and tools; curricular contents and intended learning outcomes; or such social or interactional pedagogical features as teacher- vs. student-centredness, collaborative learning, student activation and climate for learning (Forster-Heinzer, 2020; Hurskainen et al., 2023). Social and emotional features of the learning environment are especially important within

vocational education where students gradually approach a full-fledged membership of their community of practice by interacting with their teachers, workplace community and peers (Bakker & Akkerman, 2019; Forster-Heinzer, 2020; Upola et al., 2023).

The following components of a socio-emotionally advanced learning environment are especially important for student learning. To begin, as teachers give *social support* to their students, students may better tackle their personal setbacks and focus on learning (Toom et al., 2017; Upola et al., 2023; Virtanen et al., 2014). Students may further develop better self-efficacy beliefs and advance in their personal growth as their teachers *recognise* and acknowledge their efforts in learning (Hurskainen et al., 2023; Karkkulainen et al., 2025; Toom et al., 2017; Virtanen et al., 2014). Teachers and workplace supervisors should also treat their students *equally* and give recognition for students' effort and accomplishments and not for their personalities; thus, teachers and workplace supervisors may contribute to student motivation (Forster-Heinzer, 2020; Toom et al., 2017; Virtanen et al., 2014). Last, teachers should pay attention to a positive *climate* for learning where joy in learning and appreciative relationships between peers are furthered; thus, students may feel that it is acceptable to aspire for learning, even through trial and error and without being afraid of getting embarrassed by peers or teachers (Hurskainen et al., 2023; Karkkulainen et al., 2025; Toom et al., 2017).

As the teachers and workplace supervisors pursue to offer social support, recognition, equal treatment and a positive climate for learning to the students, they may greatly contribute not only to student learning but also to students' well-being, self-directed learning and professional identity (Forster-Heinzer, 2020; Hurskainen et al., 2023; Upola et al., 2023). A socio-emotionally advanced learning environment alone may help students to overcome individual adversities in learning or keep up with the motivation to finish studies (Hurskainen et al., 2023; Virtanen et al., 2014).

2.4 Aim of the Study and Research Questions

This study explores TVET teachers' and workplace supervisors' professional identity views in terms of their perceived educational aims and seeks to examine whether they can be classified into pedagogues and craftspersons according to their educational aims. We also aim to investigate how the classes are associated with socio-emotional support for students: Social support, recognition, equal treatment and a positive climate for learning when controlled for such identity-related covariates as pedagogical qualification, level of education, length of occupational work experience (Bükki & Fehérvári, 2024), age and length of teaching experience (Berger & Lê Van, 2019). Figure 1 visualises the theoretical model.

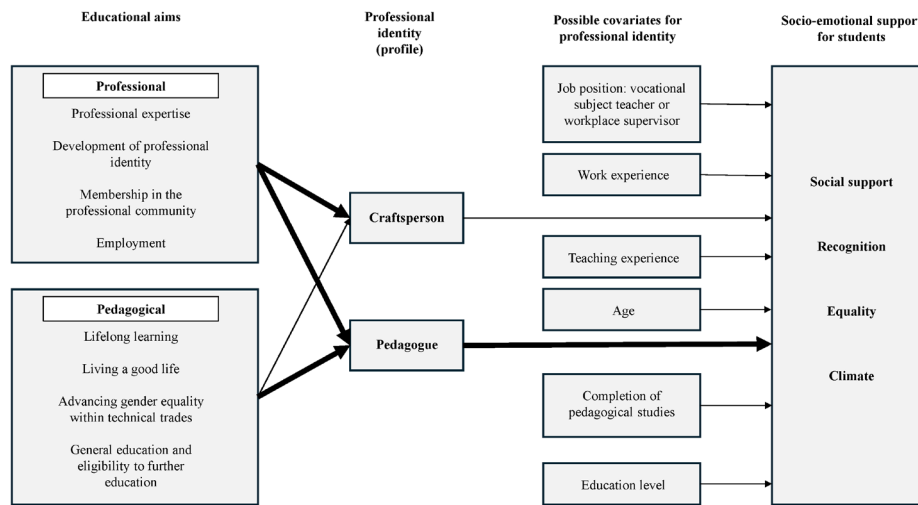


Figure 1: Visualisation of the Theoretical Model of the Study

In this study, we address the following research questions and hypotheses:

RQ1) How can TVET teachers and workplace supervisors be classified according to their aims for teaching and guidance?

H1. TVET teachers and workplace supervisors can be classified as either a pedagogue or a craftsperson.

H2. It is probable that TVET teachers and workplace supervisors are classified as craftspersons.

RQ2) How are profile classes associated with TVET teachers' and workplace supervisors' perceptions of themselves as advancers of a socio-emotionally supportive learning environment?

H3. Being classified as a pedagogue is associated with higher provision of social support, recognition, equality and positive climate than being classified as a craftsperson.

3 Methods

This study employs a quantitative research design which we explain in the following.

3.1 Research Context and Sample

Finnish vocational education and training is principally funded by the government. The Ministry of Education mandates education providers and expects them to follow the vocational curricula explicated in the National Qualifications Framework (Cedefop & EDUFI, 2023). Workplace learning is an essential part of the Finnish vocational education and training system. Already initial vocational education and training students spend some 30–80% of their overall study time (which covers 180 competence points or approximately three years) in workplace-learning activities (Organisation for Economic Co-operation and Development [OECD], 2020). Workplace learning has expanded since the 2000s as politicians have considered it to increase vocational graduate employability and economic growth (Cedefop & EDUFI, 2023; Suhonen et al., 2024). Consequently, both vocational teachers and workplace supervisors shape students' vocational learning environment and affect their learning.

This cross-sectional study was carried out as a part of the Pedaknow research project (2022-2023) coordinated by the University of Helsinki, Finland. The project aimed to examine Finnish TVET teachers' and workplace supervisors' pedagogical competency, understanding of working-life competency needs as well as participants' continuous professional development needs. From each Finnish province, at least one vocational education institution acted as a research cooperation partner. There were TVET teacher participants from each vocational institution. In addition, the participating schools recruited local workplace supervisors to participate in the study. According to the latest official statistics (EDUFI, 2019), the entire Finnish population consists of some 3,300 TVET teachers; however, the total number of workplace supervisors is unknown.

In this study, every TVET teacher and workplace supervisor of the minimum age of 18 could voluntarily participate in the survey. Altogether $n = 387$ teachers of professional subjects and $n = 250$ workplace supervisors took the survey which made a total sample of $N = 637$ participants. All observations were complete; there were no missing data. Descriptive statistics are reported in Table 1.

Table 1: Participant Descriptive Statistics

	<i>Teachers</i>		<i>Workplace supervisors</i>		<i>TOTAL</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Participants	387	60.8	250	39.2	637	100.0
Gender						
male	285	73.6	194	77.6	479	75.2
female	76	19.6	50	20.0	126	19.8
other	3	0.8	1	0.4	4	0.6
not willing to tell	23	5.9	5	2.0	28	4.4

Completion of pedagogical studies (60 ECTS)									
no	33	8.5		244	97.6		277	43.5	
yes	354	91.5		6	2.4		360	56.5	
Level of education									
upper secondary	82	21.2		166	66.4		248	38.9	
lower tertiary	160	41.3		60	24.0		220	34.5	
upper tertiary	145	37.5		24	9.6		169	26.5	
	<i>M</i>	<i>SD</i>	<i>Min–Max</i>	<i>M</i>	<i>SD</i>	<i>Min–Max</i>	<i>M</i>	<i>SD</i>	<i>Min–Max</i>
Age	54.0	9.2	24–76	47.6	10.3	23–76	51.5	10.1	23–76
Occupational work experience	27.5	10.3	1–46	23.3	10.4	3–49	25.8	10.5	1–49
Teaching experience	15.2	9.00	1–37	7.5	7.1	1–35	12.2	9.1	1–37

3.2 Measures and Data Collection

The data were collected between August 2022 and June 2023 with an online survey. First, in the survey participants' educational aims were measured with one multiple choice question: 'What do you aim to achieve in your teaching or guidance? You may choose up to 4 options'. Every participant could choose one to four educational aims from eight options which included four professional and four pedagogical aims. We developed the eight options ourselves based on earlier research (e.g., Löfgren et al., 2022; Nylund & Gudmundson, 2017) and pursued to formulate them in an unequivocal and unbiased way so that socially desirable answers could have been avoided (see Braun et al., 2012). The professional aims were 'professional expertise', 'development of professional identity', 'membership in the professional community' and 'employment'. Pedagogical aims were 'lifelong learning', 'living a good life', 'advancing gender equality within technical trades' and 'general education and eligibility to further education'. Afterwards, participants' choices were rated as either 0 'not selected' or 1 'selected' resulting in eight separate dichotomous variables. We named the instrument explained above as 'TVET Teacher and Workplace Supervisor Identity Measure'.

Second, the survey covered participants' perceptions of themselves as advancers of a socio-emotionally supportive learning environment. To measure these, we adopted four scales from The Student Teachers' Sense of Professional Agency questionnaire (Soini et al., 2015; Toom et al., 2017). The scales were originally developed and validated by Soini et al. (2015) in the context of Finnish university-based teacher education. The validation was conducted with samples of first-year Finnish primary school student teachers, using a two-phase pilot process (face validity check with $N = 23$ students; pilot survey with $N = 113$ students),

followed by exploratory and confirmatory factor analyses with a separate dataset ($N = 244$). The scales were available in Finnish (and English) and they have been used across different educational domains, also in TVET settings (Löfgren et al., 2023).

The scales were as follows: *Social support* (3 items) measured how supportive the participants perceived themselves ('I encourage and support my students', 'I deal problems concerning studying constructively with students', 'Students can discuss openly with me about problems concerning studying'), *Recognition* (2 items) explored to what extent the participants felt that they recognise their students' endeavours for learning ('I am interested about students' opinions', 'I appreciate students' efforts in studying'), *Equality* (2 items) explored how equally the participants perceived to treat their students ('I treat students respectfully', 'I treat students equally') and *Climate* (2 items) investigated to what extent the participants perceived to advance a positive climate for learning ('I aim to create a good climate for studying', 'Students can tell openly about their failures'). The scales were originally developed from a student perspective. Hence, item wordings were altered to teachers' and workplace supervisors' perspective. Items were rated on a five-point Likert scale (1 = 'completely disagree' to 5 = 'completely agree').

Third, there were ten background questions. At the beginning of the survey, participants were provided with thorough preliminary information about the study, data collection and analysis and usage of research results. Then, they were requested an informed consent to take the survey. Participants declared that they participated voluntarily and anonymously and did not receive any incentives. Further, participants declared their job position, in other words, whether they responded as vocational teachers or workplace supervisors. Teachers also declared whether they principally teach or guide students in vocational subjects or general subjects (e.g., maths, Finnish, etc.). All other background questions were placed at the end of the survey: Participants' age, gender (i.e., 'male', 'female', 'other', 'not willing to tell'), mother tongue (i.e., 'Finnish', 'Swedish', 'other'), level of education, municipality of workplace or vocational institution, programme, length of work and teaching/guiding experience and completion of pedagogical studies (60 credits). All scales and items were already available in Finnish. If necessary, survey item wording was adjusted to the participants of this study as explained in the following. Subsequently, all items were also translated into Swedish.

The survey was qualitatively checked before data collection. First, researcher colleagues acquainted with the researched phenomena inspected the item formulations. Second, two vocational school leaders and one teacher representing the target population (cf. Braun et al., 2012) checked all items with the researchers. They considered that the items were clear and the survey was relatively quick to take. These assistants did not take part in the data collection.

Research permits were obtained from all participating TVET providers. School Heads and study programme managers were asked to motivate the school staff to take the survey.

School Heads also forwarded the survey online link to local workplace supervisors because the schools could not provide us researchers with the workplace supervisors' contact information due to anonymity obligations. In addition, the Finnish Association for the Development of Vocational Education and Training (AMKE) further motivated Finnish TVET teachers to take the survey by regularly sending reminder emails.

3.3 Data Analysis

Statistical analyses¹ were conducted using the *R statistical programming environment* (version 4.2.2; R Core Team, 2020) with *Rstudio* (1.2.1335) software (RStudio Team, 2016) and *R Markdown* documentation program (Allaire et al., 2022). There were no missing data. To test H1 and identify patterns of vocational teachers' and workplace supervisors' educational aims, latent class analysis (LCA; Weller et al., 2020) was performed with the *poLCA* package (Linzer & Lewis, 2011). LCA examines how participants' responses to categorical response variables interrelate; then, based on these interrelations it identifies and describes qualitatively different subgroups (i.e., latent classes) within the population (e.g., Weller et al., 2020). In total, eight different educational aims were presented to the participants. Four aims represented professional aims and four represented pedagogical aims. Participants could choose up to four educational aims and these choices were used to identify the latent classes.

Several models were estimated, beginning with a one-class model. Additional classes were added until the model did not improve anymore in statistical or conceptual terms (Weller et al., 2020). The best solution was sought by setting the maximum number of iterations to 10,000 and the values of different starting value sets to 20; thus, the model would reflect the population relatively well (Qiu, 2022). To ensure that the optimal solution was found, LCA models with different numbers of latent classes were compared primarily with the help of various statistical fit indices and secondarily with classification diagnostics; in conclusion, the selection of the final model was confirmed with background theory (cf. Nylund et al., 2007; Weller et al., 2020). The following statistical information criteria (IC) were utilised: Log-likelihood (LL); Bayesian information criterion (BIC); sample-size adjusted BIC (SABIC); consistent Akaike information criterion (CAIC) and approximate weight of evidence criterion (AWE) with lower IC scores (especially BIC) implying better fit (Nylund et al., 2007; Qiu, 2022; Weller et al., 2020). Furthermore, models with an adjacent number of classes were compared with the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-LRT) which returns a statistically significant test result if an additional class would improve model fit (Weller et al., 2020).

¹ R code for the statistical analyses can be requested from the corresponding author (sami.lofgren@hamk.fi).

Classification accuracy was assessed with several classification diagnostics which provided additional information but did not determine the selection of the final model (Masyn, 2013). An entropy value close to 1 and greater than .80 supports the classification accuracy (Muthén & Muthén, 2000; Weller et al., 2020). Average posterior class probability (AvePP) values above .80 are acceptable and values above .90 are ideal to support classification accuracy (Muthén & Muthén, 2000; Weller et al., 2020). Each class should contain at least 50 cases or 5% of the sample unless the model fit or theoretical background clearly support the selected solution (Weller et al., 2020). After the examination of classification accuracy, the classes of the final, selected model were interpreted and labelled by examining the response probabilities to specific response categories of the manifest variables (i.e., the probabilities that a participant chose or did not choose a certain educational aim of the eight alternatives). Last, every participant was assigned to a specific class as indicated by their posterior class membership probabilities.

Class assignments were subsequently used to test H2 and H3. As regards H2, class assignments were cross-tabulated with participants' job positions (i.e., whether they took the survey as vocational teachers or workplace supervisors) to test if it was probable for all participants to be assigned as craftspersons. As regards H3, to examine whether professional identity profile classes were associated with the four dimensions of the learning environment, we estimated a multivariate multiple regression with MLR estimation in the structural equation modelling (SEM) framework using the *lavaan* package in R (Rosseel, 2012). Four continuous learning-environment outcomes – socio-emotional support, recognition, equal treatment, and positive climate – were simultaneously regressed on profile membership (1 = pedagogue, 2 = craftsperson) and covariates: Job position (Berner, 2010; 1 = teacher, 0 = workplace supervisor), pedagogical qualification of 60 ECTS studies (Bükki & Fehérvári, 2024; 1 = completed, 0 = not), level of education (Bükki & Fehérvári, 2024; dummy coded with lower tertiary and upper tertiary education; reference = upper secondary education), length of occupational work experience (Bükki & Fehérvári, 2024) as well as age and length of teaching experience (Berger & Lê Van, 2019). Contrary to Bükki and Fehérvári (2024), gender was not used as a covariate due to the very high proportion of males (75.2%) in relation to other gender groups. Given the model's specification (multiple outcomes regressed on observed predictors; $df = 0$), global fit indices are not informative (just-identified) and not explained; therefore, inference focuses on the regression parameters and explained variance (Kline, 2023). To report results, scale means, standard deviations, Cronbach's alphas and McDonald's omegas were also computed.

4 Results

As indicated by Table 2, 89.6% of all participants (i.e., regardless of their position or gender) reported that their primary educational aim is to develop vocational students' professional expertise. The second highest aim was employment (78.2%). The place of the third highest aim was shared by professional identity development (49.3%) and lifelong learning (49.3%). The least chosen aim (8.5%) was gender equality. Descriptive statistics signal that most participants chose at least 2–3 professional aims and pedagogical aims were less often chosen than the professional ones.

Table 2: Participants' Educational Aims Allocated by Position and Gender

(n)	Teachers					Workplace supervisors					TOTAL (637)
	Male (285)	Female (76)	Other (3)	N/A (23)	All (387)	Male (194)	Female (50)	Other (1)	N/A (5)	All (250)	
Aim	n / %	n / %	n / %	n / %	n / %	n / %	n / %	n / %	n / %	n / %	n / %
<i>Professional</i>											
Professional expertise	259 / 90.9%	62 / 81.6%	2 / 66.7%	22 / 95.7%	345 / 89.1%	175 / 90.2%	46 / 92%	1 / 100%	4 / 80%	226 / 90.4%	571 / 89.6%
Development of professional identity	148 / 51.9%	51 / 67.1%	1 / 33.3%	14 / 60.9%	214 / 55.3%	73 / 37.6%	24 / 48%	1 / 100%	2 / 40%	100 / 40%	314 / 49.3%
Membership in the professional community	57 / 20%	15 / 19.7%	1 / 33.3%	4 / 17.4%	77 / 19.9%	59 / 30.4%	18 / 36%	1 / 100%	2 / 40%	80 / 32%	157 / 24.6%
Employment	239 / 83.9%	56 / 73.7%	2 / 66.7%	20 / 87%	317 / 81.9%	141 / 72.7%	36 / 72%	1 / 100%	3 / 60%	181 / 72.4%	498 / 78.2%
<i>Pedagogical</i>											
Lifelong learning	164 / 57.5%	37 / 48.7%	2 / 66.7%	9 / 39.1%	212 / 54.8%	76 / 39.2%	23 / 46%	0	3 / 60%	102 / 40.8%	314 / 49.3%
Living a good life	109 / 38.2%	31 / 40.8%	1 / 33.3%	10 / 43.5%	151 / 39%	51 / 26.3%	6 / 12%	0	2 / 40%	59 / 23.6%	210 / 33%
Advancing gender equality within technical trades	22 / 7.7%	11 / 14.5%	0	2 / 8.7%	35 / 9%	15 / 7.7%	4 / 8%	0	0	19 / 7.6%	54 / 8.5%
General education and eligibility to further education	60 / 21.1%	20 / 26.3%	0	5 / 21.7%	85 / 22%	31 / 16%	11 / 22%	0	2 / 40%	44 / 17.6%	129 / 20.3%

Note. N/A = Information is not available because the participants chose not to declare their gender.

4.1 Vocational Teachers' and Workplace Supervisors' Classification According to Their Aims for Teaching and Guidance

The first RQ of this study was to examine whether TVET teachers and workplace supervisors can be classified according to their aims for teaching and guidance. Latent class models based on eight vocational aims were first estimated by increasing the numbers of classes (1 to 5) until the model did not improve statistically or theoretically (see Table 3). Fit indices indicated that the two-class model would have the lowest BIC which Nylund et al. (2007) deem the most reliable indicator. However, its smallest average posterior probability (AvePP) remained only .71 which is lower than the minimum level of .80; thus, AvePP indicated that the hypothesised model did not accurately classify participants (Muthén & Muthén, 2000; Weller et al., 2020). While a small AvePP does not affect the selection of the final model (Masyn, 2013), it should be considered in the model composition and iteration.

Table 3: Evaluation of the Hypothesised Class Solutions

Models	Model fit criteria					
	Npar	LL	BIC	SABIC	CAIC	AWE
1 Class	8	-2694.623	5440.900	5415.501	5448.900	5516.554
2 Class	17	-2664.362	5438.488	5384.515	5455.488	5599.253
3 Class	26	-2640.795	5449.466	5366.918	5475.466	5695.342
4 Class	35	-2614.185	5454.356	5343.234	5489.356	5785.343
5 Class	44	-2585.796	5455.689	5315.992	5499.689	5871.787
Models	Diagnostic criteria					
	Smallest class count (<i>n</i>)	Smallest class size (%)	Entropy	Smallest AvePP	LMR-LRT (<i>p</i>)	
1 Class	637	100	–	–	–	–
2 Class	112	18	.841	.71	< .001	
3 Class	77	12	.960	.86	< .001	
4 Class	56	9	.972	.95	< .001	
5 Class	59	9	.924	.83	< .001	

Note. *N* = 637. LL = log-likelihood; BIC = Bayesian information criterion; SABIC = sample-size adjusted BIC; CAIC = consistent Akaike information criterion; AWE = approximate weight of evidence criterion; AvePP = average latent class posterior probability; LMR-LRT = Lo-Mendell-Rubin adjusted likelihood ratio test.

In this study, almost 90% of all participants chose the professional aim of development of students' 'professional expertise' (see Table 2). It was evident that this aim separated participants relatively poorly into different latent classes. To improve classification accuracy, the educational aim of 'professional expertise' was omitted and the analyses (from a 1-class to 5-class model) were rerun with the remaining seven educational aims. Again, the BIC value of the two-class model was the lowest (cf. Nylund et al., 2007; Weller et al., 2020). Based on the BIC and theoretical interpretation of the classes, the two-class model was selected for

further scrutiny. Classification diagnostics signalled excellent classification accuracy for the two-class model: AvePP was '.1' and entropy was .999. There were also enough participants in the two-class but also in the one-, three- and four-class models. The final statistical fit indices and diagnostic criteria for the LCA models are presented in Table 4.

Table 4: Evaluation of the Final Class Solutions

	Model fit criteria					
Models	Npar	LL	BIC	SABIC	CAIC	AWE
1 Class	7	-2482.537	5010.272	4988.047	5017.272	5076.469
2 Class	15	-2452.745	5002.341	4954.717	5017.341	5144.193
3 Class	23	-2430.673	5009.852	4936.829	5032.852	5227.358
4 Class	31	-2405.858	5011.876	4913.453	5042.876	5305.036
5 Class	39	-2380.109	5012.032	4888.210	5051.032	5380.846
	Diagnostic criteria					
Models		Smallest class count (<i>n</i>)	Smallest class size (%)	Entropy	Smallest AvePP	LMR-LRT (<i>p</i>)
1 Class		637	100	–	–	–
2 Class		157	25	.999	1	< .001
3 Class		137	22	.868	.86	< .001
4 Class		59	9	.983	.98	< .001
5 Class		66	1	.972	.89	< .001

Note. *N* = 637. Italicised text indicates the selected model. LL = log-likelihood; BIC = Bayesian information criterion; SABIC = sample-size adjusted BIC; CAIC = consistent Akaike information criterion; AWE = approximate weight of evidence criterion; AvePP = average latent class posterior probability; LMR-LRT = Lo-Mendell-Rubin adjusted likelihood ratio test.

Next, both latent classes of the two-class model were interpreted and labelled by analysing the conditional item-response probabilities (see Figure 2). The first class, labelled *pedagogues* (*n* = 480, 75% of the total sample) comprised participants who had relatively high probabilities of most professional (i.e., 'development of professional identity' and 'employment') and pedagogical educational aims (i.e., 'lifelong learning', 'living a good life', 'advancing gender equality within technical trades' and 'general education and eligibility to further education'). The second class, labelled *craftspersons* (*n* = 157, 25% of the total sample) consisted of participants who had relatively high probabilities of professional educational aims and moderate or relatively low probabilities of pedagogical educational aims. The clearest distinction was the professional educational aim of 'membership in the professional community', which was likely to be chosen by (almost) all craftspersons and no pedagogues. In conclusion, the conducted LCA supported H1 indicating that the participating TVET teachers and workplace supervisors can be classified into latent classes of pedagogues and craftspersons.

Further, H2 was examined by cross-tabulating the latent class assignments with participants' job positions. Although class proportions already showed that 75% of the participants

were classified as pedagogues, cross-tabulation was necessary because vocational teachers and workplace supervisors may differ. Cross-tabulation showed that of the 250 workplace supervisors participating in this study, 170 (68%) were classified as pedagogues and 80 (32%) as craftspersons. Regarding the 387 teachers, 310 (80%) were classified as pedagogues and 77 (20%) as craftspersons. A Chi square test indicated that it was more probable for the teachers to be classified as pedagogues than it was for the workplace supervisors ($\chi^2(1) = 11.98, p < .001$) to be so classified. However, there were more pedagogues than craftspersons both among the teachers and among workplace supervisors; thus, H2 was rejected.

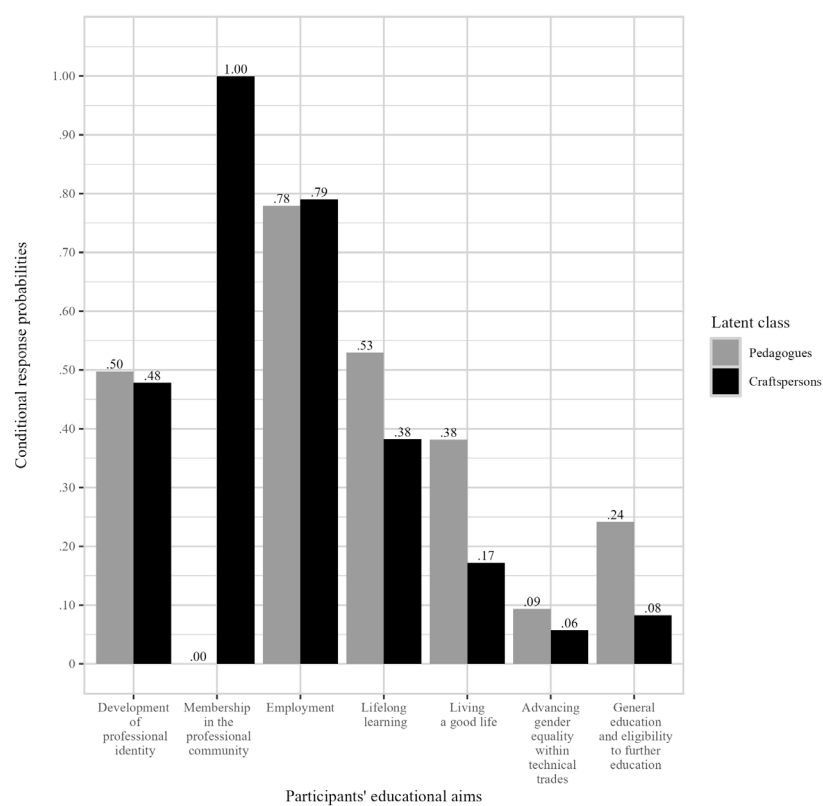


Figure 2: Conditional Probabilities for the Profiles of Pedagogues and Craftspersons (Values Rounded to Two Decimals)

4.2 Associations Between Class Membership and Self-Reported Provision of the Features of a Socio-Emotionally Supportive Learning Environment

The second RQ of this study was to investigate how profile classes are associated with TVET teachers' and workplace supervisors' perceptions of themselves as advancers of a socio-emotionally supportive learning environment. Learning environment scales (see Table 5) had acceptable alpha and omega values reaching or exceeding the limit of .60 (cf. Hair et al., 2014). A multivariate multiple regression model was estimated in which socio-emotional support, recognition, equal treatment and positive climate were regressed on professional identity profile and background variables. After controlling for job position (workplace supervisor vs. teacher), pedagogical qualification of 60 ECTS (not completed / completed), level of education (upper secondary, lower tertiary, upper tertiary), length of occupational work experience, age and length of teaching experience, belonging to the pedagogical profile was associated with higher levels of socio-emotional support ($b = .152$; $\beta = .147$, $p = .001$), equal treatment ($b = .119$; $\beta = .122$, $p = .007$) and positive climate ($b = .110$; $\beta = .108$, $p = .019$) but not with recognition ($b = .076$; $\beta = .081$, $p = .096$). Holding an upper tertiary degree was associated with more equal treatment of students ($b = .103$; $\beta = .108$, $p = .031$). All other covariates were not statistically significant. The model explained 5.1% of the variance in socio-emotional support ($R^2 = .051$), 1.6% of the variance in recognition ($R^2 = .016$), 2.4% of the variance in equal treatment ($R^2 = .024$) and 3.7% of the variance in positive climate ($R^2 = .037$). In conclusion, the regression analysis partly supported H3: Pedagogues were perceived to provide their students with more social support, recognition, equality and positive climate than craftspersons but in terms of recognition the association was not significant.

Table 5: Cronbach's Alphas, McDonald's Omegas, Means and Standard Deviations for the Learning Environment Scales

Scale	α	ω_t	Classes M (SD)	
			Pedagogues ($n = 480$)	Craftspersons ($n = 157$)
Social support	.76	.77	4.74 (0.40)	4.56 (0.54)
Recognition	.60	.62	4.81 (0.35)	4.73 (0.53)
Equality	.75	.75	4.82 (0.39)	4.70 (0.50)
Climate	.66	.66	4.81 (0.40)	4.68 (0.55)

5 Discussion

Firstly, the results of this study strongly implicate that TVET teachers and workplace supervisors can be classified according to their preferred educational aims into pedagogues (75% of the sample) and craftspersons (25%). This result corroborates the results of some earlier studies (e.g., Berner, 2010; Bükki & Fehérvári, 2024; Köpsén, 2014; Nylund & Gudmundson, 2017). Especially, Nylund and Gudmundson (2017) found that 55% of Swedish TVET teachers labelled themselves as pedagogues when they were posed a direct question. Bükki and Fehérvári (2024) similarly found that 66.9% of Hungarian vocational teachers across different trades identified themselves as 'both a teacher and a professional' when posed a direct question. However, the specific contribution and key novelty of this study is that the identity classifications were based on participant answers to a set of *indirect* questions about the participants' preferred educational aims (i.e., task perception). Thus, this study revealed more nuanced, concealed aspects between vocational teachers' self-image and task perception as suggested by Bükki and Fehérvári (2024). Therefore, the results of this study enrich the existing literature on vocational teachers' professional identity (e.g., Bükki & Fehérvári, 2024; Kelchtermans, 2009; Vähäsantanen & Hämäläinen, 2019).

In turn, the results of this study conflict with some earlier studies (e.g., Berner, 2010; Goodson & Ümarik, 2019; Löfgren et al., 2022) by indicating that there were fewer craftsperson-oriented (25%) than pedagogically oriented (75%) participants in the sample. It is even more interesting that there were more pedagogues not only among the TVET teachers (80% of their sub-sample) but also among workplace supervisors (68% of their sub-sample). Thus, having a job in the industry is not necessarily 'a barrier to developing a teacher identity' (cf. Bükki & Fehérvári, 2024, p. 423). In fact, our results imply in line with a previous study (Forster-Heinzer, 2020) that most TVET workplace supervisors seem to engage in teaching and guidance voluntarily due to a relatively strong pedagogical ethos and dedication.

Secondly, our results underline that pedagogues tend to provide their students with more socio-emotional support than those classified as craftspersons. Pedagogues especially offer social support more than craftspersons but they also pay more attention to treating students equally and establishing a positive climate for learning. In comparison to some earlier studies, some Finnish TVET students have signalled that they do not receive enough social support from their teachers or workplace supervisors (Löfgren et al., 2023; Upola et al., 2023). Considering the results of this study, the experiences of these students could be caused by their encounters with craftsperson-oriented TVET teachers or workplace supervisors who tend to question the need to take care of students' social needs (Berner, 2010; Löfgren et al., 2022; Nylund & Gudmundson, 2017).

In addition, our results indicated that pedagogues seem to recognise student endeavours for learning more than craftspersons but this association was statistically non-significant. Senior professionals traditionally socialise newcomers into the community of practice by

recognising their endeavours in learning (Forster-Heinzer, 2020; Karkkulainen et al., 2025). Therefore, the minuscule mean difference between the pedagogues and craftspersons may imply that both classes consider recognition similarly, as a mundane form of socio-emotional support for student learning (see Karkkulainen et al., 2025).

While being classified as a pedagogue or a craftsperson was associated with higher provision of socio-emotional support for students, the only significant covariate was the completion of a tertiary degree which was associated with more equal treatment of students. It is possible that this association is a consequence of participants' own experiences of equal treatment in their studies (Berger & Lê Van, 2019). Further, participants' job position (i.e., whether they took the survey as vocational teachers or workplace supervisors) was not a significant predictor for the provision of socio-emotional support for students. Completion of pedagogical studies (of 60 ECTS) was not a significant covariate either. These results underline that both TVET teachers and workplace supervisors provided socio-emotional support for students relatively equally and raise the question to what extent the provision of socio-emotional support might be a matter of personal characteristics or traits, as discussed by Antera (2022). Modelling the associations of personality traits (e.g., Big Five) with the professional identity could yield interesting information in future studies. Last, vocational teachers do not lose their previous occupational identity when they start working as teachers but build a new, augmented professional identity (Bükki & Fehérvári, 2024). In light of our results about TVET teachers, this augmentation seems relatively moderate.

5.1 Strengths, Limitations and Suggestions for Further Research

With respect to study strengths, its setting was based on a relatively coherent theoretical background regarding TVET teachers' and workplace supervisors' educational aims (e.g., Bükki & Fehérvári, 2024; Nylund & Gudmundson, 2017) as well as their socio-emotional support for student learning (e.g., Löfgren et al., 2023). Theoretical groundings to base the LCA onto the chosen seven educational aims were justified and the LCA strategy worked relatively logically and successfully. Furthermore, the scales of Toom and colleagues (2017) had already been validated and used in several earlier studies and the adopted scales worked relatively well producing alpha and omega values reaching or exceeding the minimum of .60 (cf. Hair et al., 2014).

Despite its contributions, this study inevitably faces the following limitations. First, although there were theoretical groundings to include eight educational aims in the analysis and expect a two-class model based on them, the smallest average posterior probability (AvePP) was only .71 for such a two-class model. Although classification diagnostics should not determine the selection of the final model (Masyn, 2013), the professional educational aim of development of students' 'professional expertise' was omitted from the model

to increase classification accuracy which, consequently, dramatically improved (with an AvePP value of .999, see Table 4). Future research should rerun the analysis with a more diverse sample and introduce such educational aims that would not be chosen by almost all participants.

Second, possible choices for educational aims were limited up to four (out of eight) and a participant could only either choose the aim or leave it unchosen. This strategy discouraged the participants from routinely choosing all aims and forced them to consider all the options. While the subsequent LCA was successful, it inevitably led to some loss of information and extreme differences between the class posterior probabilities (see Figure 2). Future studies could employ an alternative strategy where participants order the aims (on a Likert-scale) or rate them with a slider or track bar: For example, instead of a dichotomous choice, participants could indicate to what extent they favour an aim. Thus, a latent profile analysis strategy based on continuous variables could improve future analyses and yield more detailed results.

Third, survey validity is relatively vulnerable to socially desirable answers. Although the survey items were clearly articulated and formulated in a non-leading manner, there remains the risk for socially desirable answers. This is exceptionally evident in the case of the constituents of the socio-emotionally advanced learning environment. In general, participants gave themselves relatively high ratings in social support, equality, positive climate and recognition. The group means ranged between 4.56 and 4.82 (see Table 4). While being classified as a pedagogue was associated with higher provision of social support, equality and positive climate, the beta coefficients remained small. Regarding *Recognition*, the association was not statistically significant either. While these results confirm that being a pedagogue or a craftsperson is associated with socio-emotional support for student learning, these results should be interpreted and generalised cautiously.

All in all, the results of this study most accurately represent Finnish TVET teachers and workplace supervisors. Future research could employ the TVET Teacher and Workplace Supervisor Identity Measure developed for this study, further develop it and collect an international dataset and/or also address other vocational trades to examine whether the same classifications emerge and how teachers and workplace supervisors perceive the task to provide their students with socio-emotional support.

5.2 Practical Implications

The results of this study clearly opposed the presumptions of some earlier studies (Berner, 2010; Goodson & Ümarik, 2019; Löfgren et al., 2022; Nylund & Gudmundson, 2017) and showed that there seems to be more pedagogues than craftspersons within both TVET teachers and workplace supervisors. Some participants in this study may have chosen pedagogical educational

aims for social desirability reasons. Still, our results inspire optimism towards TVET teachers' and workplace supervisors' pedagogical attitude: The majority does not prepare their students only for the world of work but also for such general human development goals as lifelong learning and a good life.

Actually, the clearest difference between the classes of pedagogues and craftspersons was that pedagogues had an extremely low (if not downright non-existent) probability to choose the professional educational aim of 'obtaining membership in the professional community' while craftspersons had an extremely high probability (see Figure 2). This indicates that pedagogues selected at least one pedagogical educational aim. It also implies that pedagogues seem to emphasise students' individual growth more than socialisation into the workplace community (Forster-Heinzer, 2020).

The above-mentioned results imply that despite the labour-market orientation of the modern Finnish vocational education policy (Cedefop & EDUFI, 2023; Suhonen et al., 2024), TVET teachers and also workplace supervisors seem to recognise the value of both professional and pedagogical aims of vocational education. However, it is questionable to what extent they prioritise pedagogical, civic or societal aims in their actual teaching and guidance (Suhonen et al., 2024).

Further, descriptive statistics on educational aims (see Table 2) also showed interesting results. As the participants could choose up to four educational aims, only some 20% of TVET teachers and workplace supervisors aimed to advance students' general education and eligibility to further education. OECD (2020) warns that especially low-skilled jobs based on upper-secondary vocational education risk becoming obsolete and emphasises that eligibility to tertiary studies is an essential 'Plan B' for workers who are dismissed and fail to find a new job. Furthermore, TVET teachers have been found to value languages and mathematics (Löfgren et al., 2022). Thus, it is possible that the participants in this study considered 'general education' too vague to draw attention.

However, it is even more striking that less than 10% of both pedagogues and craftspersons aimed to advance gender equality within technical trades. While the participants could choose only four aims from the eight possible options, it is still evident that general education and gender equality were not popular aims. This may be caused by the fact that females are usually a minority in technical trades, also in all Nordic countries and especially in Finland (Ferm & Gustavsson, 2021). Earlier studies emphasise that females commonly struggle to get accepted to the male-dominated technical-trade school and workplace communities and that females often encounter inappropriate treatment or even harassment (Ferm & Gustavsson, 2021; Nylund & Gudmundson, 2017). It is essential that different genders may consider themselves working within technical trades and that they do not have to be afraid of mistreatment or harassment. This calls for schools and workplaces as well as vocational teacher training institutions to act against discrimination and promote good manners, professionalism and equality.

5.3 Conclusions

This study contributed to the discussion about TVET teachers' and workplace supervisors' professional identity by employing latent class analysis based on their educational aims. It produced valuable information about the accuracy of identification between pedagogues and craftspersons and moved this conversation further by examining not only TVET teachers but also workplace supervisors. As vocational student school dropout intentions are currently a major challenge in many countries, it is of great importance that all vocational teachers and workplace supervisors understand their pedagogical task and create socio-emotionally sound learning environments so that students could get the social support they need to carry on with their studies and graduate.

During vocational teacher training, it is essential to help student teachers to detect their motivations to engage in the teacher profession and different kinds of educational aims. It is essential to consider students' initial aims while aligning educational aims with those of vocational education, such as advancing gender equality and facilitating progression to further education. With teacher educators' support, student teachers can familiarise themselves with the variety of professional and pedagogical educational aims and create a balanced and comprehensive teacher identity. Workplace supervisors, in turn, can develop and negotiate their identities with the assistance of vocational teachers. Thus, vocational teachers and workplace supervisors with balanced professional identities can safeguard equal learning opportunities and conditions for all vocational students.

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Ethics Statement

This study adhered to the ethical principles of the Häme University of Applied Sciences, University of Helsinki and IJRVET Review Board. Informed consent was obtained from all study participants. They took part voluntarily and did not receive any incentives for their participation.

AI Statement

The authors declare that artificial intelligence was not used in the preparation of this article.

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Biographical Notes

Sami Löfgren, PhD, is a Postdoctoral Research Scientist at the HAMK Edu Research Unit (Häme University of Applied Sciences, Finland). His research interests include vocational education and training; vocational teachers' and workplace supervisors' competence and professional identity; teaching and learning at vocational school and working life as well as competency demands of the working life. His recent publications have appeared in *Vocations and Learning* and *Nordic Journal of Vocational Education and Training*.

Katja Vähäsantanen, PhD, is a Leading Principal Research Scientist at the HAMK Edu Research Unit (Häme University of Applied Sciences, Finland), where she currently leads research projects on vocational teachers' agency, competence, and networks (Research Council of Finland) and pedagogical leadership in vocational education (Finnish Teacher Education Forum). She is an Adjunct Professor in the field of working life research and development (Tampere University), Finland. Her research and development interests include professional learning, identity, agency, well-being, emotions, and leadership in work, vocational education, and teacher education. Her recent publications have appeared in *Teaching and Teacher Education* and *Vocations and Learning*.

Kalle Virta, PhD, is a University Lecturer and an Adjunct Professor in the field of craft pedagogy especially in self-regulated learning (Åbo Akademi), Finland. His research and development interests include vocational education, sustainability transfer, biogenic dyes, metacognition, self-regulated learning, and teacher education. His recent publications have appeared in *International Journal of Learning and Teaching*, *International Journal of Technology and Design Education* and *Australasian journal of technology education*.