

# What Constitutes Quality in the Swiss Initial Vocational Education and Training Dual System: An Apprentice Perspective

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## Abstract

In Switzerland, the promotion of quality of Initial Vocational Education and Training (IVET) is stated in law. However, little is known about what characterizes this quality, especially from the perspective of the main stakeholders of IVET. This study investigated the perceptions of IVET quality from 320 apprentices enrolled in a dual IVET program. Two occupational fields were considered: technical and retail. A thematic analysis was performed on data collected through open-ended questions. Results revealed that the quality of IVET was multilayered and complex. Apprentices' perceptions of high and low quality were grouped into three different levels of a more comprehensive system. The levels included elements referring to 1) the learning objects, 2) the social learning environment, and 3) the IVET context. Differences in the perceptions of quality between learning sites and occupational fields were also highlighted.

## 1. Introduction

### *1.1. The relevance of quality in Initial Vocational Education and Training*

The quality of initial vocational education and training (IVET) has been acknowledged as a key factor in explaining apprentices' motivation and learning, helping them sustain their efforts and acquire the necessary skills for their future occupation (Ebbinghaus et al., 2010). Also, over the last few decades, the quality of education and training has gained a considerable role in educational policies and political discourse, as revealed by other studies in the international community (for an example, see the works of the project EQAVET funded by the European Commission; <https://www.eqavet.eu>). In Switzerland, it has been enshrined in the Federal Act on Vocational and Professional Education and Training of 13

December 2002 (= VPETA; CC<sup>1</sup> 412.10). More specifically, Article 8 on quality development states, "Education and training providers within the VPET<sup>2</sup> system shall be responsible for ensuring the constant improvement of quality" (par. 1) and that, "The Confederation shall promote quality development, establish quality standards and monitor compliance" (par. 2). In addition, in Article 24, it was specified that quality shall be formally monitored both in professional practice and in school education. Moreover, in the mission statement for Vocational and Professional Education and Training 2030 developed by the State Secretariat for Education, Research and Innovation (SERI), one of the strategic guidelines refers to the establishment of qualitative standards (SERI, n.d.). This demonstrates that maintaining and increasing quality in IVET remains a major challenge for Swiss institutions. Although the topic of quality is directly mentioned, it is not specified how to concretely develop it. This task is left to the stakeholders directly involved in the implementation of IVET, such as the vocational schools or the training companies. However, no shared understanding of what characterizes a high- or low-quality education exists (Wittekk & Kvernbekk, 2011). A better understanding of what characterizes the quality of IVET from the perspective of its main stakeholders is therefore necessary. The current study represents an effort to investigate what constitutes quality from the viewpoint of the recipients of IVET: the apprentices.

### *1.2. The Swiss dual system: different learning sites, different logics*

In Switzerland, IVET is the most prevalent educational track after compulsory school: two out of three young people follow an apprenticeship (Swiss Federal Statistical Office, 2017). The majority of IVET is organized according to a dual system, where programs alternate between two main learning sites: the professional school and the training company. Therefore, apprentices attend classes at school on a basis of one to two days per week and spend the remaining days at a training company under the supervision of a trainer. IVET is composed of certificates and qualifications obtained in a two, three, or four years education and training program. This dual training system—praised abroad and frequently used as an example of optimal IVET—allows apprentices to learn a trade by focusing on the practical aspect of it, while acquiring the necessary theoretical and general knowledge at school. To enable apprentices to learn in a dual manner, two learning sites are fundamental: the vocational school and the training company. These learning sites have, in principle, the

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<sup>1</sup> Classified compilation

<sup>2</sup> Vocational and Professional Education and Training

same general goal: training apprentices in a trade. However, they differ in their methods to attain it: vocational schools offer vocational and general knowledge, whereas training companies provide the opportunity to develop professional skills. Hence, even though vocational schools and training companies are formally connected and cooperate in the IVET system, specific and distinct logics exist within each learning site (Prenzel & Drechsel, 1996). In fact, at vocational schools, apprentices evolve a learning logic, whereas at training companies, a production logic is prevalent. Teachers at the vocational school and trainers at the company have different profiles and pedagogical preparation. They also have separate and distinctive visions of apprentices, with teachers seeing them as pupils at school and trainers seeing them more as workers at the training company. These two logics lead apprentices to experience two different forms of training in the two learning sites (Alves, Gosse, & Sprimont, 2010; Gurtner, Gulfi, Genoud, de Rocha Trindade, & Schumacher, 2012; Tynjälä, 2008). First, even if there are specific aims at the training company, the level of formality is much lower as the curriculum is less detailed and formalized than at the vocational school. Problems are real at the training company, whereas they are artificial or created at the vocational school. Regarding the knowledge produced, it is implicit, tacit, and situation specific at the training company, whereas it is explicit and generalized at the vocational school (Tynjälä, 2008). Different methods are used to demonstrate the knowledge acquired from the two learning sites: at school, vocational knowledge is assessed by tests or exams, whereas procedural knowledge acquired at training companies is assessed in practical situations “in action” (Gurtner, Furlan, & Cattaneo, 2018). Moreover, apprentices view the utility and the attractiveness of their training at the vocational schools more skeptically than at the training company (Gurtner et al., 2012). Often, a reason to choose IVET is to start working and leave the school; for instance, because of negative school experiences. Due to organizational conditions, teaching at vocational schools cannot provide individualized feedback to the same extent as the training company (Prenzel & Drechsel, 1996). These differences lead to learning processes, notably motivations, which are specific to each learning site. In other words, apprentices attribute different values and expectations to the two sites and are differently motivated in the two learning sites during their training (Gurtner et al., 2012; Krapp & Lewalter, 2001). Based on these observations, this study focused on the apprentices’ perceptions of quality of their training at school and at the training company across two occupational fields—retail and technical occupations.

## **2. Prior research related to IVET quality**

### *2.1. What is quality in education?*

Despite an explicit willingness of the authorities to guarantee a certain level of quality in IVET, no shared understanding of what characterizes a high or low quality exists. In the scientific literature related to quality in education, the term is under debate, and it is considered to be multidimensional (Behrens, 2007; Griffin, 2017). Quality can be seen as an ideal towards which every actor should aspire to but which is not known in advance (Bouchard & Plante, 2002). Quality is also seen as “fitness for purpose” and “fitness of purpose” (Wittek & Kvernbekk, 2011). Quality as fitness for purpose is defined through its adequacy to an objective. For example, “Does the education match the requirements of the occupation?”. Quality as fitness of purpose refers to the adequacy of the objective. For example, “Do the objectives match with the requirements of the profession?”. Additionally, quality can be considered either in an objective or in a subjective manner or, according to Stake and Schwandt (2006), as “Quality-as-Measured” and “Quality-as-Experienced”. When quality is treated in an objective manner, it can be decomposed in specific and measurable parts called “indicators” (Bouchard & Plante, 2002). Indicators are used in a comparative way to verify whether predefined standards are attained; for instance, by a training program (Wittek & Kvernbekk, 2011). According to objective approaches, quality can be measured, for instance, through students’ performances (e.g., using the Programme for International Student Assessment—PISA), teaching or teacher effectiveness (Gates Foundation, 2013), or the attainment of certain standards by an educational organization (e.g., based on Quality Management Systems; Moreland & Clark, 1998). The appeal of such approaches lies in their apparent objectivity given that the indicators are measurable. However, the objective approaches tend to vanish the subjective perceptions of some key stakeholders involved in the educational system, such as the students and the teachers (Behrens, 2007). In addition, the increasing emergence in the past few decades of standardized measures of quality and of international comparisons has led to a shift in the way quality is defined: quality has become primarily defined by its results (e.g., students’ test scores), rather than by the elements that determine it (e.g., the teaching practices). It is thus relevant to consider the notion of quality in education as subjective and based on stakeholders’ perceptions. Based on the literature reviewed, we offer the following definition of IVET quality:

The quality of initial vocational education and training is the subjective conception of an ideal towards which training should aim. This ideal may differ according to the stakeholders of the training and according to the professional field concerned. The notion of quality is based in particular on judgments of fitness for purpose and fitness of purpose in relation to personal expectations and needs. Quality has many aspects related to the places of training and the levels of the ecosystem in which the apprentice operates. If quality is not directly measurable, perceptions of quality are; these perceptions play a major role in learning processes, motivational beliefs and well-being.

## 2.2. *Some Empirical Evidence about Quality in Initial Vocational Education and Training*

Some studies have indicated the necessity of considering the perceptions of the multiple stakeholders acting at different levels of the educational system, such as apprentices, teachers, in-company trainers, and professional associations (Griffin, 2017; Sappa & Aprea, 2014; Tremblay, 2012). According to these studies, quality is context- and purpose-specific (Griffin, 2017). Other studies conducted in the German IVET dual system—which is largely similar to the Swiss one—attempted to identify what characterized quality (Ebbinghaus et al., 2010; Velten & Schnitzler, 2012). In the study of Ebbinghaus et al. (2010), a large group of apprentices in several occupations was asked to assess a predefined set of quality criteria. The criteria considered the most important by the apprentices were the following: a) contents, methods, and training environment at the training company (e.g., diversity of the tasks and apprentices' autonomy) and b) eligibility and behavior of trainers and teachers (e.g., trade-specific and pedagogical skills of trainers, willingness to supervise, recognition of apprentices' work, feedback, etc.). Similarly, Velten and Schnitzler (2012) developed the instrument *Inventar zur betrieblichen Ausbildungsqualität* (IBAQ, Inventory of in-company training quality) to study quality at the training company from the apprentices' perspective. Eight dimensions of quality were stressed: diversity and demand of the work tasks, task importance for the company, autonomy/flexibility, trainer assistance, trainer professional skills, feedback, time overload, good relationship and integration with colleagues. This framework did not consider elements referring to the institutional context in which the IVET occurred or concerning the organization of IVET. Quality was therefore mainly linked to the apprentices' tasks, interpersonal and relational aspects, and the trainers' skills.

In the Swiss context, studies have approached the topic of IVET quality from a macro perspective. For example, some studies have analyzed how the IVET's quality can be related to major reforms in the apprenticeship system (Gonon, 2017) or highlighted some success factors of the Swiss IVET dual system (Wettstein, Schmid & Gonon, 2018). Taking a more micro perspective, Stalder and Carigiet Reinhard (2014) focused on the quality of Swiss IVET from the apprentices' perspective. Drawing on organizational psychology literature, they identified certain elements that might constitute a framework for the quality of IVET. These elements included the following: a) education and training conditions, b) learning possibilities and teachers and trainers skills, c) education and training satisfaction, d) premature contract termination and nonlinear training histories, and e) completion of training. This framework shared some similarities with the quality aspects found in the German literature (Ebbinghaus et al., 2010; Velten & Schnitzler, 2012).

The studies by Sappa and colleagues conducted in the Swiss IVET context focused on the connections between learning sites from different stakeholders' perspectives including apprentices (Sappa & Aprea, 2014; Sappa, Aprea & Vogt, 2018). Even though the studies did not focus directly on quality, they might indirectly inform regarding conceptions and success factors in fostering the connections between learning sites, which are considered as crucial components of IVET quality (Mulder, Messmann, & König, 2015). Four conceptions, from a superficial to a deeper connection across learning sites, were identified: a) separate learning experiences, b) complementary learning experiences, c) mediation by an intercompany center, d) school-centered integration (Sappa & Aprea, 2014). Three factors that foster the connections between learning at school and at the workplace were uncovered: (a) collaboration and communication disposals (e.g., teachers' and trainers' experiences across the different sites), (b) curriculum development (e.g., parallelism/alignment between content), and (c) instructional factors (e.g., connected training at the workplace) (Sappa, Aprea, & Vogt, 2018). These conceptions might be reflective of the quality of the connections between learning sites and the factors fostering such connections as diverse levers to act on this aspect of quality.

In the case of apprentices in the retail field (i.e., one of the populations considered in the current study), the quality of social relationships within the training company and with customers appears crucial in helping apprentices face highly demanding working conditions

(Duemmler & Caprani, 2017). This brief overview on the literature reveals that a multitude of factors can play a role in the definition of IVET quality.

### 2.3. *Research questions*

Based on prior research, three research questions were investigated by this study:

- (a) According to apprentices, which elements characterize, both positively and negatively, IVET quality at school and at the training company?
- (b) To what extent do the connections between the school and training company play a role in IVET quality?
- (c) Do the apprentices' perceptions of quality differ between the two occupational fields considered (i.e., technical and retail fields)?

### 3. Methods

#### 3.1. Participants

Participants included 320 apprentices enrolled in a Swiss dual IVET program ( $M_{\text{age}} = 18.70$ ;  $SD = 3.15$ ; see Table 1 for more details). Two occupational fields, each of them in a different school, were considered: technical (e.g., IT technicians and electronic engineers) and retail. Apprentices were spread across different training years: over three years for retail (1<sup>st</sup> year = 34.8%; 2<sup>nd</sup> = 32.6%; 3<sup>rd</sup> year = 32.6%) and over four years in the technical occupations (1<sup>st</sup> year = 20.7%; 2<sup>nd</sup> = 25.5%; 3<sup>rd</sup> year = 31.4%; 4<sup>th</sup> year = 22.3%). The company size, as reported by apprentices, varied from small (up to 49 employees, 45%) to medium (from 50 to 249 employees, 15%) and large companies (more than 250 employees, 36%). Four percent of the respondents did not note their company size.

Table 1. Sample features.

	Retail	Technical
Number of apprentices	132	188
Mean age	18.65	18.76
% Females	64.1%	10.5%
Training year	1 <sup>st</sup> -3 <sup>rd</sup>	1 <sup>st</sup> -4 <sup>th</sup>
% Apprentices who completed compulsory education in a section allowing access to high school <sup>3</sup>	32.1%	54.8%
% Apprentices who started or completed another training or school before their apprenticeship <sup>4</sup>	20.4%	33.5%

#### 3.2. Procedure

Participants were invited to complete a questionnaire, including both closed and open-ended questions during 20 to 30 min of class time. The survey was administered by the research team in ten retail classes and fourteen technical classes. In this study, only the open-ended questions were considered when collecting the apprentices' perceptions of quality of education and training at school and at the training company. More specifically, apprentices were asked to provide, for each of the two learning sites, at least three answers about the

<sup>3</sup> 3 apprentices out of 320 did not answer the question.

<sup>4</sup> 18 apprentices out of 320 did not answer the question.



following: a) what they like (“What do you like in your education at school/the training company?”) b) the positive aspects of their training (“What are the positive aspects of your education at school/the training company?”), and c) the aspects they would like to see improved (“What could be improved in your education at school/the training company?”).

The answers to the open-ended questions were transcribed and imported in the Nvivo 11 software for coding. For the data analysis, the answers to the three questions related to the vocational school were analyzed separately from the answers to the three questions related to the training company. Moreover, for the coding procedure, no difference was made between the positive and the negative aspects.

In the first stage, the corpus of data was analyzed using an inductive approach, which involved not imposing predefined theoretical constructs unto the data but rather allowing the data to reveal new insights and conceptual directions. A list of meaning units—defined as a data segment that contains one idea that is comprehensible when read outside its context (Tesch, 1992)—was generated and it constituted the basis for code generation. Each sentence was used to segment the data into coding units. This segmentation criteria was chosen due to the nature of the data (short, structured sentences). Among all meaning units, thematic similarities were identified in order to identify a preliminary set of codes, one referring to the school and another referring to the training company. The different codes were then discussed within the research team in order to reduce interpretation bias and to establish links with theories in education and psychology. This approach resulted in a preliminary workable coding scheme. In the second stage, the data were analyzed both in an inductive manner (keeping in mind the codes found in the previous step) and in a deductive manner (considering the existing theories discussed among the research team; Saldaña, 2013). The coding scheme was refined over several rounds and the overlap between the codes were reduced. Each code was assigned a clear label with a definition, a description that explained when it was likely to occur in the data, inclusion and exclusion criteria, and coding examples, following the example of Saldaña (2013).

Eventually, a total of 3,713 coding units were coded: 1,872 referred to quality at school (using 17 codes) and 1,841 at the training company (using 18 codes). Intercoder agreement based on 5% of the statements was satisfying (school: Cohen’s  $\kappa = .782$ , company:  $\kappa = .735$ ), which allowed us to proceed to analyses.

## 4. Results and discussion

### 4.1. What characterizes IVET quality according to apprentices

For most of the codes, similar themes reflecting the perceived quality at school and at the training company were found (see the Appendix for the complete list). Inspired by Bronfenbrenner's (1977) *Ecological systems theory*, which distinguishes several nested environmental systems that individuals interact with, all codes were further categorized according to their level in the system: a) *micro-level* ("learning object") codes, referring to the main activities realized at school (classes) or at the training company (tasks) (e.g., diversity of the classes/tasks); b) *meso-level* ("social learning environment") codes, referring to the direct or indirect involvement of persons influencing the perceptions of IVET quality (e.g., the pedagogical skills of teachers or trainers); and c) *exo-level* ("IVET context") codes, referring to the organization of the IVET and the educational programs (i.e., the institutional and decisional levels) (see Figure 1).

In Figure 1, the left side of the schema refers to the elements of quality at school, whereas the right side, to the elements of quality at the training company. The majority of elements were found both for the school and for the training company, even if the labels given to the codes sometimes slightly differed (e.g., "Autonomy support" and "Apprentices' autonomy"). Four elements, indicated in italic in the schema, applied only to the training company: skills acquisition, contacts with customers, salary and training management.

Table 2 summarizes the most cited aspects related to high and low quality at school and at the training company according to apprentices' perceptions. The elements mentioned constitute approximately 50% of all codes for each location. *Social relationships and links between school and training company* were considered as aspects of high quality both for the school and the training company. A detailed analysis of the links between school and training company follow in the next section. *Time management* and the *pedagogical skills of the teachers and trainers* appeared to reflect both the positive and negative aspects of quality. The pedagogical skills were the most frequently indicated among all the teacher and/or trainer skills<sup>5</sup>: they represented two-third of these codes for the teachers and three-fourths for the trainers. These results confirm the importance, for the apprentices, of their

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<sup>5</sup> Teachers' and trainers' skills include the following codes: "Pedagogical skills", "Trade-specific skills", "Social skills and intrinsic motivation of teachers and trainers", and "Teachers (not specified)."

teachers' and trainers' pedagogical skills and their central place in perceived IVET quality (Stalder & Carigiet Reinhard, 2014). Hence, a pedagogical preparation of teachers and trainers can be beneficial to assure quality training.

Figure 1. Elements of quality at school and at the training company according to apprentices.

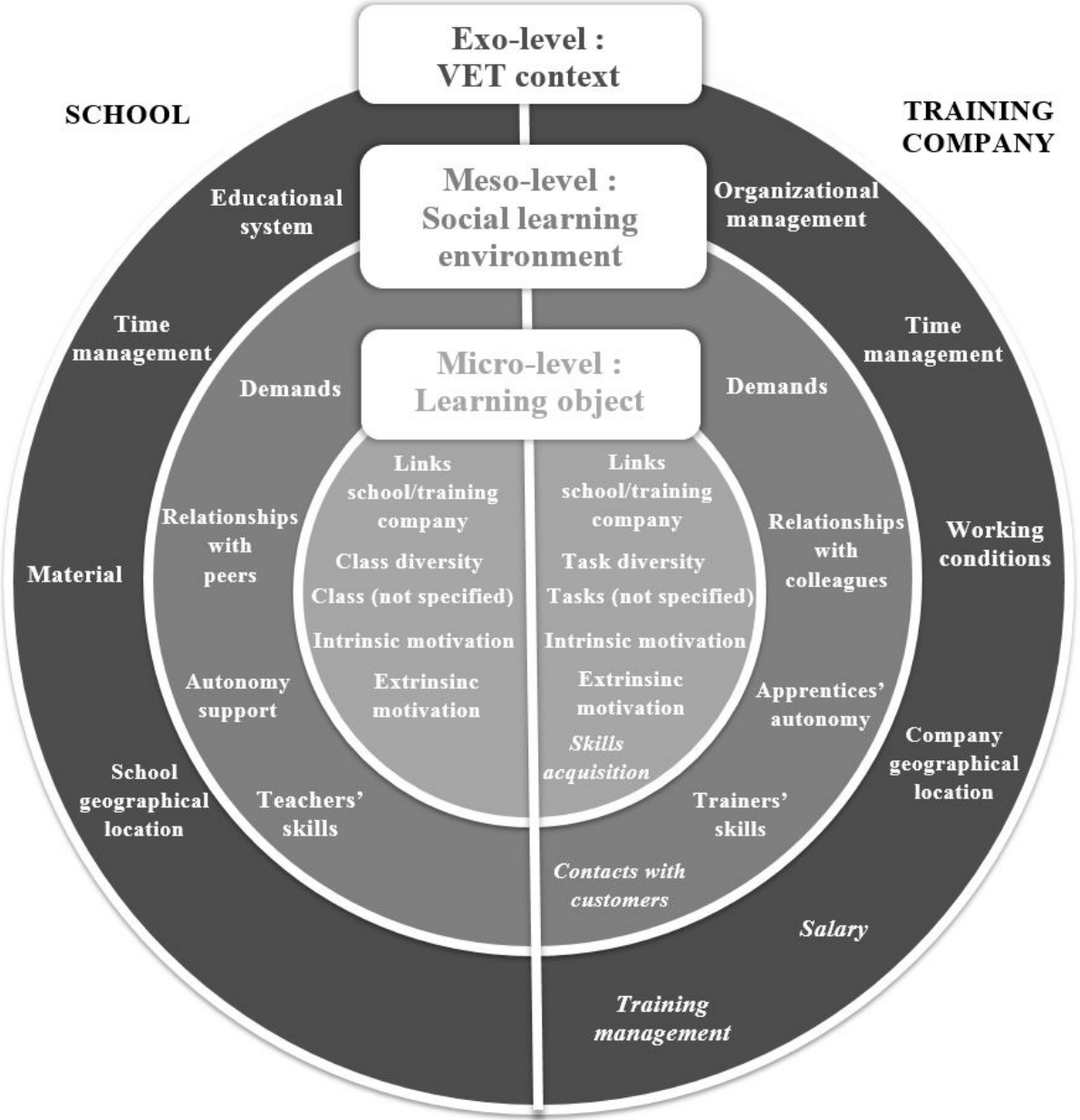


Table 2. Aspects related to high and low quality at school and at the training company according to apprentices' perceptions.

School				Training company			
Code	Example	%	Level	Code	Example	%	Level
<i>Aspects related to high quality</i>							
Intrinsically motivating classes	“The lessons are enjoyable and I like them”	14.3	Micro	Relationships with colleagues	“A very good ambiance with my colleagues”	18.6	Meso
Relationships with peers	“To exchange with classmates and to make new contacts”	12.9	Meso	Pedagogical skills of trainers	“Very well supported by the trainer”	12	Meso
Links between school and training company	“The vocational knowledge classes allow us to better understand what we experience at work”	9.0	Micro	Diversity of the tasks	“The varied work, we do not do the same task all the time”	8.8	Micro
Time management	“The school gives me a break from work”	8.3	Exo	Links between school and training company	“We can practice directly what we learn at school”	7.6	Micro
Class (non specified)	“French, German, Economy classes”	8.0	Micro	Contacts with customers	“To speak with the customers”	6.7	Meso
<i>Aspects related to low quality</i>							
Demands, pressures and sanctions	“Less tests the same day”	14.7	Micro	Pedagogical skills of trainers	“To be supported every day and to receive feedbacks about my improvement”	17.4	Meso
School geographical location	“The school is far for some students”	11.9	Exo	Time management (hours, vacations, leaves)	“The hours: we have to be at work very early, and we finish very late”	14.5	Exo
Educational system	“The number of students in a class is too big”	11.7	Exo	Organizational management and distribution of tasks	“The communication between the shop and the direction”	13.8	Exo
Time management	“The classes finish too late”	10.2	Exo	Training management	“The training company should give more time to do the homework”	10.0	Exo
Pedagogical skills of teachers	“Some teachers should change their teaching methods”	7.2	Meso	-	-	-	-

Overall, the most frequently mentioned aspects reflecting high quality referred to the learning object (micro-level) and the social learning environment (meso-level), whereas the codes associated with low quality referred mostly to the IVET context (exo-level). Results concerning the social learning environment echoed the literature relating to the need for relatedness and belonging (Baumeister & Leary, 1995; Ryan & Deci, 2017): Social interactions—in the present case with peers and teachers at school and with colleagues, customers, and trainers at the training company—played a key role in how apprentices experience IVET; notably, such interactions had strong effects on emotions and cognition.

#### 4.2. *A focus on the connections between school and training company*

Previous studies revealed that the connections between learning sites contributed significantly to the quality of IVET (Ebbinghaus et al., 2010; Mulder et al., 2015; Stalder & Carigiet Reinhard, 2014). In the current study, apprentices described these connections mainly through their perception of the contents learned at school or at the training company and the perceived links between theory and practice (e.g., “The mix between theory and practice,” “Practical courses in adequacy with the company tasks”). In fact, 74% of the 156 coding units referring to the links between school and training company were positive for the school; 90% of the 120 coding units were positive for the training company. In other words, for both the school and training company, the statements related more frequently to positive aspects than to aspects to improve<sup>6</sup>. School-related statements about aspects to improve referred mostly to a perceived gap between what is learned at school in relation to what is considered useful for the training company (e.g., “It is not possible to apply at the workplace the knowledge learned at school”). Generally, the apprentices asked for more practice at school (e.g., “To have more practice in the theoretical courses”); in contrast, they rarely asked for more theory or complained about the training at the company. Moreover, the double logic in apprentices’ perceptions of connections between the school and training company, as previously observed by Alves et al. (2010) and Gurtner et al. (2012), appeared to be confirmed. The school was seen as responsible for such links and was criticized for lacking connections with the training company. Furthermore, the training company was not questioned in terms of its links with school learning.

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<sup>6</sup> It should be noted that of the three questions answered by the apprentices, two out of three referred to positive aspects, and one to negative aspects (see Methods section).

Data from the current study revealed that apprentices perceived learning across multiple learning sites as complementary: the school transmitted basic knowledge and skills that would be transferred and applied at the training company (Sappa & Aprea, 2014). Learning at school and at the training company were seen as targeting a common objective, though some discrepancies occurred. A core idea was the apprentices' perceptions of school-taught knowledge being ready for application at their current company: for example, "To increase the number of useful courses (electronics, mathematics, etc.) and to reduce the subjects that are not specific and applicable to the occupation (materials, gym)," "To practice more the theory learned [at school]." Anything else they had to learn, such as general knowledge, was considered of little relevance. Such statements revealed, according to the concept of utility value (the conformity of a task with the future objectives of an individual; Eccles, 2005), a superficial and utilitarian conception of knowledge acquisition. Thus, the focus on what was considered useful for the present and the disregard for potentially useful distant or future knowledge suggested that the apprentices' future time perspective (how far ahead one's thoughts are projected) was rather short. The degree of high utility value attributed by the apprentices is strongly tied to the effort exerted and to their learning strategies (Lens, Simons, & Dewitte, 2001). However, a limited part of the sample highlighted a number of beliefs about what was learned at school: namely, (a) it could not be learned at the training company ("To learn and to look at specific things that could not be seen in the training company"); (b) it differed from what was learned at the training company ("It allows to understand the trade outside of the training company"); (c) it could be useful in private life ("The school allows me to learn things that could be very useful in my professional life but also in my private life"); or (d) it could be useful for the future ("The courses are quite comprehensive, so that we will be able to deal with our future professional life"; utility value).

#### 4.3. Differences between occupational fields

Regarding the third research question, the differences between the occupational fields concerning the education at school were tested using a  $\chi^2$  test. The results revealed that aspects such as the *links between theory and practice* ( $\chi^2_{(1)} = 12.69, p < .01$ ) and the *material* ( $\chi^2_{(1)} = 24.96, p < .01$ ) were more prominent in the perceptions of quality in the technical than in the retail field. For the latter, *contacts with peers* ( $\chi^2_{(1)} = 5.75, p < .05$ ) were seen as more important. Concerning the training at the workplace, it was found that the *diversity of the tasks* ( $\chi^2_{(1)} = 8.75, p < .01$ ) and the *working conditions* ( $\chi^2_{(1)} = 6.83, p < .01$ ) were more

important for the technical field, whereas *contact with customers* ( $\chi^2_{(1)} = 71.86, p < .01$ ) and *time management* ( $\chi^2_{(1)} = 5.30, p < .05$ ) were more central for retail.

The results revealed that there were differences in the apprentices' perceptions of IVET quality according to the occupational field. On the one hand, for technical occupation apprentices, quality was more strongly tied to the tasks, the materials, or the working conditions. The links between theory and practice appeared more relevant to them: compared to retail apprentices, technical apprentices mentioned connections between theory and practice as part of quality twice as frequently in their answers to the school and three times more frequently in their answers to the training company. Similar results were found by Ebbinghaus et al. (2010) with an analogous population: apprentices in IT evaluated the cooperation between learning sites as a negative element to the quality of their IVET. On the other hand, for retail apprentices, quality was more strongly associated to the social aspect, especially in terms of relationships with peers, colleagues, and customers.

These results have been interpreted in light of certain specificities of the apprenticeships and occupations. Technical occupation apprenticeships focus mainly on physical materials. The learning is largely based on manual tasks and technical gestures, which are not easily learned using a handbook. Retail apprentices, compared to technical occupations, have fewer hours of practical class and are more likely to directly educate themselves on the job. This could explain why they report perceiving a lower importance of receiving theoretical and practical connections in their education and training. Furthermore, a key skill in retail is the ability to handle people, as it constitutes the main target of this trade. Previous studies in the field of retail suggested that social relationships could help counterbalance the difficult working conditions, such as irregular working hours and stand-up work (Duemmler, Felder, & Caprani, 2018). Hence, it is not surprising that social interactions take a prominent role in the perception of quality for retail apprentices.

## **5. Conclusion**

While the quality of IVET is a major concern at the political level, little is known concerning what constitutes quality according to its main recipients: the apprentices. This study shed light on the perceptions of IVET quality for technical and retail apprentices. In this regard, some points can be highlighted.

First, high quality, both at school and at the training company, was above all related to the learning object and the social learning environment. Social relationships with classmates, teachers, trainers or colleagues, as well as the perceived skills of teachers and trainers were the main elements that influenced the quality of IVET according to the present study.

Secondly, low quality, was often linked with certain aspects of the IVET context, such as the educational system in force or the organizational management of the training company. It was a matter of external macro factors that were beyond the control of apprentices.

Third, similar elements of quality were indicated between the school and training company; however, their relevance differed according to the learning site. As stated in previous studies (Gurtner et al., 2012), this result indicates that apprentices experience their training at the vocational school or at the training company differently.

Fourth, differences were observed between the two occupational fields considered: technical occupations and retail. While apprentices from technical occupations appeared to link quality to aspects related to tasks or materials, for retail apprentices, quality was more influenced by social aspects. These differences can probably be explained by the peculiarities of these occupations and the respective apprenticeship.

Given the context of the dual IVET, a focus was put on the links between the vocational school and training company in terms of alignment of theory and practice and the adequacy of contents. These links were associated with the quality of IVET, especially for technical apprentices. What is highlighted is especially the lack of these connections, and the school is usually considered as the main responsible.

In conclusion, the results of the study mirror the complexity and the heterogeneity of the Swiss IVET and the difficulty in defining quality in education found in the literature. Both learning sites and occupational fields play a role in apprentices' perception of what constitutes "good" training, and they should, therefore, be taken into consideration in reflections pertaining to IVET quality. The conclusions of this study constitute a first step in identifying what IVET quality is from the viewpoints of apprentices. The next step will consider other occupational fields and stakeholders to enlarge our understanding of the topic. Moreover, the aspects composing the quality of IVET could be shared with policymakers and potential improvements discussed.



A limitation of the current study lies in the type of data collected and its interpretation: the answers to the open-ended questions were sometimes short and vague, reflecting the difficulty of apprentices in expressing their perceptions in a written format.

Nevertheless, this analysis allowed highlighting the complexity and relatively lack of unanimity on quality in IVET. That is why it is essential “to settle for as explicit and accurate stipulations as possible, since no universal definition is to be had.” (Wittek & Kvernbekk, 2011, p.683)

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## **Appendix: coding scheme of quality aspects**

### A. Learning site: vocational school

#### **A.1. Micro-level: learning**

- A.1.1. Extrinsically motivating classes
- A.1.2. Intrinsically motivating classes
- A.1.3. Class diversity
- A.1.4. Class (not specified)
- A.1.5. Links between school and training company

#### **A.2. Meso-level: social learning environments**

- A.2.1. Teacher general pedagogical skills
- A.2.2. Teacher structure skills
- A.2.3. Teacher occupation-specific skills
- A.2.4. Teacher social skills and intrinsic motivation
- A.2.5. Autonomy-supportive teaching
- A.2.6. Teachers (not specified)
- A.2.7. Demands (i.e., expectations, tests, exams)
- A.2.8. Relationships with peers and climate

#### **A.3. Exo-level: VET context**

- A.3.1. Time management
- A.3.2. Educational system
- A.3.3. School geographical location
- A.3.4. Material

### B. Learning site: training company

#### **B.1. Micro-level: learning**

- B.1.1. Extrinsically motivating tasks
- B.1.2. Intrinsically motivating tasks
- B.1.3. Skill acquisition
- B.1.4. Tasks diversity
- B.1.5. Links between school and training company
- B.1.6. Tasks (not specified)

#### **B.2. Meso-level: social learning environments**

- B.2.1. Trainer pedagogical skills
- B.2.2. Trainer occupation-specific and social skills
- B.2.3. Demands
- B.2.4. Apprentice's autonomy
- B.2.5. Relationships with colleagues and climate
- B.2.6. Contact with customers

#### **B.3. Exo-level: VET context**

- B.3.1. Organizational management
- B.3.2. Training management
- B.3.3. Time management
- B.3.4. Working conditions
- B.3.5. Company geographical location
- B.3.6. Salary