

# The Quality of the Swiss Initial Vocational Education and Training System through Apprentices' Perception of the Connections between School and Training Company

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**Summary:** Dual Systems like the Swiss initial vocational education and training (IVET) entail both a school- and a workplace-based learning. The connections between these two learning locations in terms of transfer of knowledge can contribute to IVET quality. This study focused on how these connections are perceived by retail and technical apprentices (N=320). Their answers to six open-ended questions about their perception of quality at school and at the training company were analyzed in an inductive and a deductive way. Results show that, overall, apprentices perceived the connections between learning at school and at the training company as good and effective. However, some apprentices—especially from the technical occupations—perceived that what they learned at school is not useful and aligned with their learning at the training company. The results are interpreted as reflecting a superficial and utilitarian conception of knowledge acquisition.

**Keywords:** Connections between school and training company, Swiss IVET, Knowledge transfer, apprentices' perceptions

## Introduction

*The focus on training quality in the context of Swiss dual initial vocational education and training*

In the Swiss context, the past decades have been characterized by an increased attention on the quality of initial vocational education and training (IVET) from several points of view (Gonon, 2017). At the governmental level, since 2004, the Vocational and Professional Education and Training Act officially supports quality development by law. To some extent, the quality of the Swiss IVET depends on the so-called Dual System, which is internationally recognized as a “success model” facilitating access to the job market and limiting youth unemployment rates. The Dual System is characterized by an organization of teaching and learning across two main learning locations: school (one to two days per week) and training company (between three and four days per week). While this multiplication of contexts enriches the learners' experiences, it also leads to some challenges concerning the transfer of learned knowledge between contexts (Gurtner, Furlan, & Cattaneo, 2018). The two learning locations are perceived by the apprentices as largely disconnected.

The quality of the Swiss IVET through the connection between learning locations

The concept of *connectivity* (Griffith & Guile, 2004) focuses on how the (lack of) connections between different learning locations can affect the teaching and learning processes while considering the influence of the context on apprentices' learning.

Notably, learning across different locations is interpreted in a dialogical perspective, where learners, knowledge, and the context intertwine. A key aspect of connectivity is that the work experience should help learners “mediate between theoretical and everyday knowledge to create new knowledge and new practices” (Griffith & Guile, 2004, p. 17). Thus, the connection between learning locations constitutes a pedagogical challenge for both apprentices and teachers and trainers. In the IVET context, research has examined stakeholders’ conceptions concerning teaching and learning across school and training company as well as the factors supporting these connections (Sappa, Aprea, & Vogt, 2018). Four conceptions were identified, going from a superficial to a deeper integration and connection across learning locations (i.e., from a more detached view to a more connected one). Moreover, multiple factors related to three different categories are considered important in fostering connections between learning at school and at the workplace: (a) collaboration and communication disposals (e.g., teachers’ and trainers’ experiences across the different locations), (b) curriculum development (e.g., parallelism/alignment between content), and (c) instructional factors (e.g., connected training at the workplace). This study aimed at investigating how these connections contribute to the quality of IVET from the apprentices’ point of view. The research question was: How do Swiss IVET apprentices in the technical and retail fields describe the quality of their training in terms of the connection between school and training company?

## Methods and research design

The sample consisted of 320 apprentices enrolled in a Swiss dual IVET program ( $M_{age}=18.8$ ;  $SD=3.15$ ) in two occupational fields: technical ( $n=188$ , 10.5% women) and retail ( $n=132$ , 64.1% women). As part of a larger questionnaire administered during class-time, the apprentices answered six open-ended questions assessing their perceptions of their quality of education and training at school and at the training company. For each learning location, the questions were: (a) “What do you like in your education at school/the training company?”, (b) “What are the positive aspects of your education at school/the training company?”, and (c) “What could be improved in your education at school/the training company?”

The answers were fully transcribed and analyzed using Nvivo and separated by those concerning school and those concerning the training company. First, data were analyzed in an inductive way by looking for common theme across meaning units, and two preliminary sets of codes—one for each learning location—were established. A research team discussion allowed refining the codes to reduce the interpretation bias and draw links with theoretical constructs. Second, the data were examined both in an inductive (keeping in mind the already established codes) and a deductive way (drawing on the theories discussed). With this coding scheme, a total of 3713 meaning units were coded: 1872 referred to quality at school (17 codes) and 1841 (18 codes) to the training company. Intercoder agreement based on 5% of the statements was satisfying (school: Krippendorff’s  $\kappa=.782$ , training company:  $\kappa=.736$ ). Two homonymous codes, “Connections between school and training company,” were created: the first included answers to the school-related questions ( $n=156$ ), the second to the training company ( $n=120$ ). The meaning units that present a parallel between theory and practice and/or school and training company were included in these codes. The findings in this contribution are based on the analysis of these two codes. See Table 1 for a description of the frequencies.

**Table 1: Frequencies and percentages of the code “Connections between school and training company.”**

Learning location	Nb meaning units	% of the total	% apprentices	% positive aspects	% aspects to improve
School	156	8.33%	35.63%	74%	26%
Training company	120	6.52%	25.94%	90%	10%
Total	276	7.43%	46.56%	82.18%	17.82%

Note: The positive aspects include meaning units from questions (a) and (b).

## Results

The connections between school and training company were mainly described through the contents of what is learned at school or at the training company and the links between theory and practice (e.g., “The mix between theory and practice,” “Practical courses in adequacy with the in-company’s tasks”). For both school and training company, the statements more frequently related to positive aspects than to aspects to improve (see Table 1). However, school-related statements were more about aspects to improve, usually 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”), compared to training company statements. 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. According to Sappa et al. (2018), our data show that apprentices perceive learning across multiple learning locations as complementary learning experiences: the school transmits basic knowledge and skills that will be transferred and applied at the training company. Learning at school and at the training company is seen as targeting a common objective, though some discrepancies occur. A core idea was the apprentices’ perceptions of school-taught knowledge being ready for application at their current company: “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 reveal, 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. Furthermore, the focus on what is considered useful for the present and the disregard for potentially useful distant or future knowledge suggests that the apprentices’ *future time perspective* (how far ahead one’s thoughts are projected) is rather short. The degree of high *utility value* attributed by the apprentices is strongly tied to the effort exerted and to their information processing strategies (Lens, Simons, & Dewitte, 2001). However, a limited part of the sample highlighted that what is learned at school: (a) 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) is different from what is learned at the training company (“It allows to understand the trade outside of the training company”); (c) 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”); and (d) could be useful for the future (“The courses are quite comprehensive, so that we will be able to deal with our future professional life”).

Furthermore, a substantial difference was also observable between the two professional fields: compared to retail apprentices, technical apprentices mentioned the connections between theory and practice as part of quality two times more in their answers for the school and three times more in their answers for the training company. This result is probably due to the technical occupations (e.g., electronics engineer) being largely based on manual tasks, and that technical gestures are not easily learned using a handbook. However, compared to technical occupations, retail apprentices 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 lesser importance of having theoretical and practical connections in their education and training.

## Conclusion

The results illustrate how apprentices' perceptions of how their preparation at school and at the training company are related. Such perceptions generate diverse expectations that affect apprentices' motivations to learn and the way they learn, notably at school. They interpret differently the (lack of) links between school and training company, which seems to make technical apprentices more critical of this issue than retail apprentices. Furthermore, when these connections between school and training company are considered insufficient, the former is seen as responsible: apprentices believe that school classes are too "theoretical" and do not provide enough relevance for learning at training companies. In contrast, the practical part of the training is not questioned in terms of links with school learning. These results are interesting, as they allow observing the roles that apprentices assign to the two learning locations. More specifically, the school seems to have a function of supporting and assisting the practical part of learning, which may explain why the absence of theoretical-practical connections is more often attributed to the school environment. For the actors in charge of ensuring the quality of the IVET system, these perceptions might be worth considering.

## Literature

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