

VAKSCHOOL 2.0: SUSTAINABLE AND QUALITY VOCATIONAL TRAINING

Zeeuw, E.R.C. de, Vries, S.A. de

University of Twente

Kokkeler, B., Ringersma, D., Groot, W., Schilperoort, W.

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ABSTRACT

Lower vocational-oriented education is under pressure in the Netherlands. Small educational institutions are looking for sustainable quality solutions for offering high quality curricula. Cloud computing and social media may be one part of the solution. This research contributes to develop a sustainable quality vocational education 2.0 concept that can be used in small vocational oriented education. Different experts contributed to a concept, called Vakschool¹ 2.0, in three different sessions. The concept can be applied within small vocational oriented education in the Netherlands.

KEYWORDS

Vakschool 2.0, Vocational training 2.0 concept, Small craftsmanship, characteristics

1. INTRODUCTION

The small scale of vocational training, the need for mutual cooperation to survive and innovate, but also the willingness to dig deep for offering a leading study program ensure that there is a need of developing a sustainable quality concept for vocationally oriented education. In short there is a need for sustainable quality, in which we mean effective, efficient and innovative education. This concept should contribute to an appropriate and comprehensive study program for their students.

ICT can play an important role in organizing education. In particular, modern media like social media (Schoondorp, 2010) and Cloud Computing (SURFnet and Kennisnet, 2010) are useful for educational institutions by organizing educational programs effectively and efficiently. But the general experience with application of ICT innovation in education is as known quite variable. Often, successful pilots stabbing when it comes to interdisciplinary application usage (Geerligs, Mittendorff & Nieuwenhuis, 2005; van 't Riet, 2008). The bottleneck is not a lack of initiatives, or the poor quality of the initiatives, but the core of the problem is the limited durability of these initiatives for renewal (Geerligs et al., 2005). So a sustainable quality concept that provides long-term benefits is desirable.

This research provides a description of a sustainable quality concept in vocational education based on modern media like Cloud Computing and social media. The concept has been developed from the perspective of dedicated craftsmanship. The research question in this study is: *“What are the characteristics of a sustainable quality vocational training 2.0 concept described from the perspective of small craftsmanship?”*

The concept, called Vakschool 2.0, has been developed² in order to give educational institutions a solution to offer high quality study programs for their students. Through intensive collaboration in the craft an increase from the innovative capacity in the craftsmanship is pursued as well.

¹ Vakschool is the equivalent of an institute for lower vocational training

² Kennisnet funded the research.

2. CONTEXT

Higher Secondary Vocational Education (in Dutch called MBO) has the largest population of talent for craftwork in the Netherlands. These craft study programs are mainly provided in small educational institutions with a small number of students (van der Linden, van Oort & van der Neut, 2006). Because the industries are small, everyone knows each other and there is a sense of togetherness. Passion for the craft is what participants bind in the industry (Paige and Littrell, 2002).

Moreover, craftwork has a great social and economic significance. Craftwork is an important engine of the Dutch economy according to a report of EIM and Hoofdbedrijfschap Ambachten [HBA] (2009). Typical of most small professions is their highly distinctive ability. These small professions are characterized by specialized craftsmanship. Most people can imagine the daily activities within those professions. The society needs craftwork, so craftwork should not be lost.

These small craftwork study programs are under pressure however. These study programs are no longer affordable and therefore profitable through the small number of students. As a result these small educational institutions will be integrated in the larger-scale Regional Training Centres (ROCs) or even disappear. Dutch senior secondary vocational education institutions are looking for solutions in the region to provide an appropriate and comprehensive supply for their students. Cooperation within the craft industry is important hereby (Glaudé and Karsten, 2007). Within craftwork, there is a need for cooperation and innovation. We identified some reasons for the rise of these needs.

First, many of the smaller occupations are professions with a long history of craftsmanship, in which skills are important. Next to a focus on skills, the current state of the art knowledge is also central to craft study programs. These study programs are strongly focused on content, they prepare students to be a specialist in a particular field. The focus will be on specialist knowledge rather than general skills. Information sharing is very important here, not only for students but also for teachers and suppliers.

Second, cooperation is required for the exchange of knowledge to students. For learning a craftwork it is important that both tacit knowledge and explicit knowledge will be transferred to students (Geerligs, Mittendorff & Nieuwenhuis, 2005). Explicit knowledge can be codified in documents for example, so it can be shared within the organization (Nonaka et al., 2000). Tacit knowledge is more difficult to transfer than explicit knowledge (Nonaka et al., 2000). Tacit knowledge is subjective, personal knowledge in the head of a person (Nonaka et al., 2000) and is related to use in a specific context (Nonaka, 1994). Tacit knowledge is built up with experience and would be transferred through long-term and / or very close cooperation between experienced key players and inexperienced workers, whether in teams or not (Nonaka et al., 2000). So cooperation between students and professionals for the exchange of knowledge is in terms of offering a high quality training program really desirable. Also from the perspective of the entrepreneurs there is a need for cooperation. Entrepreneurs may use knowledge of others in marketing of new products or techniques.

Furthermore it is interesting for small craft professions to bring them together, because the (big) publishers are not interested in them. Small craftwork programs will be ignored often through publishers in the provision of teaching and course materials. As a result these educational institutions develop their own teaching materials.

These context characteristics of small craftsmanship indicate the need for a sustainable quality concept in vocational oriented education. Vakschool 2.0 enables educational institutions to offer high quality study programs for their students and provides to improve the innovation level of small craftsmanship.

3. DESIGN APPROACH

Data from three sessions is used for building the concept Vakschool 2.0. Each session had a different approach. Several experts participated in the sessions. Participants were employees of: the national centre of expertise and training centre for small jobs in the Netherlands; vocational training centres; the University of Twente; consulting and management firms for the Dutch public sector; or employees of ICT companies.

In the first session the most ideal concept was drawn. The central question in the first session was: “*What is the ideal Vakschool 2.0?*” Dreams were formulated from different perspectives in this session and the context characteristics were identified.

The second session examined the availability of realistic use cases which could be used in craft industries. The dreams of the first session were turned into reality. In this session the participants were divided in three groups for developing three different use cases. The use cases were focussed on the perspective of the student, the teacher or the professional. Collaboration between stakeholders was important in each use cases. The central question in this session was: “*What is possible?*”

Finally, there was a reflection with end-users in the last session. This session contained a walkthrough analyze with respectively ten students and seven teachers of different vocational-oriented educations. The participants had to indicate what services they want and what services they don't want in a web application. Furthermore, they had to indicate the advantages and disadvantages they perceive of working with services in a concept like Vakschool 2.0. The participants could use a demonstration site to gain inspiration during the walkthrough analyze. The purpose of the walkthrough analysis was not gain insight into interface issues or technical improvements, but finding out which services are desirable and which services are not desirable in a concept like Vakschool 2.0.

4. THE CONCEPT VAKSCHOOL 2.0

Vakschool 2.0 is defined as: “*Vakschool 2.0 is a knowledge network of craft education in a profession, in close collaboration with professions, suppliers and customers. The purpose of a Vakschool 2.0 is to contribute to a sustainable high quality of craft programs in education and profession. Quality includes efficiency, effectiveness and sustainable innovation. Use of modern media, such as cloud computing and social media, is in this concept a precondition for achieving quality objectives. These modern media provide access to knowledge networks on an affordable way for students and schools.*”

In the first session, dreams were formulated from different perspectives. This means that Vakschool 2.0 takes into account different perspectives. Besides that, the context characteristics are applicable for craftwork. Vakschool 2.0 includes the next context characteristics from the perspective of small craftsmanship:

- Professions that are characterized by specialized craftsmanship;
- Small studies that have a great social and economic significance;
- Organized knowledge networks in which schools, instrument suppliers, professional practice, and clients work closely together.
- Teachers and students are intrinsically motivated;
- An education policy aimed at developing sustainable quality: effective, efficient and innovative.

The meaning of the characteristics in the reality (second) session shows that collaboration within the craft offers benefits for the perspective of teachers, students, the organization and education in terms of improvement of learning, increasing knowledge levels, opportunities for connecting in a professional network and savings in time and effort.

Students and teachers reported a variety of services in the reflection (third) session, which they would like to use. Vakschool 2.0 includes these network services such as: information sharing (such as news, events and knowledge); content management (management of information and version management); communication (social networking, news, blogs, forums, and chats); online collaboration (such as groups, calendars and task support); online learning services; online research services and online publishing services. As reported in the third session, students and teachers have both some concerns. They do not want a complete substitute for real life interaction and information overload is not desirable. These concerns should be taken into account by implementing Vakschool 2.0.

5. CONCLUSION & DISCUSSION

This paper describes the characteristics of Vakschool 2.0. Craftsmanship was the starting point for developing the concept Vakschool 2.0. So the concept includes a number of specific characteristics that may be less applicable to other sectors. Using modern media, such as cloud computing and social media, is in this

concept a precondition for achieving quality objectives. The final concept is both efficient and effective. First, will be discussed why the concept is efficient.

As noted before, the final concept is based on modern media like Cloud Computing and social media. Cloud computing seems to be a solution to offer low cost features, which are not typically affordable and which are flexible in use. In addition, cloud computing is based on the principle that the location where the services is managed is irrelevant. In fact, users get the same service everywhere. Furthermore social media helps to quickly connect people. It saves time and money.

Implementing such a concept involves a number of costs. Next to a possibly subscription fee to use software from the cloud, some investments are needed for implementing Vakschool 2.0. Setting up Vakschool 2.0 will request a contribution of those involved. Initially this is in the form of hours of teachers to change their methods and investing in computer skills of teachers. In addition, Vakschool 2.0 requires an investment in man-hours to search for relevant sources, and bring this together. This requires a moderator as well who ensures that the knowledge place is managed. This may be an employee within a school.

Besides these investments, implementing Vakschool 2.0 delivers savings. The concept leads to a decrease of contact between student and teacher at school, because education will be more time and location independent. There is less contact time with physical presence, lessons can also be remotely provided. This saves on the number of classrooms, which should be available. Teachers and students have more time for personal study and for career guidance. Because of the decrease in travel time, the study will probably be more attractive for students. Yet such a platform will not replace all face-to-face contact. Furthermore, no software needs to be purchased and content can be reused.

Vakschool 2.0 is a platform for an industry to increase cooperation between education and other stakeholders. For entrepreneurs in the industry, the efficiency can increase for guidance of trainees. Teachers in senior secondary vocational education remains intensive involved in the practice albeit at a distance. Alternatively, the institutions of senior secondary vocational education can invoke companies in the industry, and this is essentially a part of shifting the support costs to the industry.

Besides the efficiency of the concept, Vakschool 2.0 is also effective. The craft industries are often organized in a knowledge network in which training, instrument suppliers, professional practice and clients work closely together (Gibb, 1997). Vakschool 2.0 makes this collaboration more intensive, because such a platform provides sharing knowledge more easily and they can quickly interact with others.

Vakschool 2.0 includes several services. Schools and businesses need these services, because it helps to create individual learning paths for students. They can determine their own learning pace and their study choices may be best suited to their interests. This will make the study program more attractive for students.

Vakschool 2.0 provides benefits for various parties. The intensive cooperation can increase the innovative capacity of both educational institutions and businesses, because participant can use quickly the knowledge of others in the knowledge network. Experts can refer to educational institutions and suppliers in the marketing of products. Educational institutions can use the expertise of professionals in the provision of study programs. Perhaps, students can gain experience in the craft professions by using professionals who are participating in Vakschool 2.0.

Vakschool 2.0 offers integration between the informal and formal learning. With Vakschool 2.0 the student gets an opportunity to make results of informal learning visible for teachers and mentors. So informal learning can be made to a certain point formally in a portfolio, competence profile etc. Vakschool 2.0 contribute on this way to achieving learning profits, to a successful completion of the study, i.e. the prevention of delays and cancellations, and the efficient use of study facilities.

Smaller vocational training can only make limited use of educational content from publishers. Content is relatively expensive or unavailable. Cloud computing is an opportunity to use digital (learning) resources from equipment suppliers, other educational institutions or from experts of companies.

Vakschool 2.0 creates a central knowledge place, which can help the participants to continuously develop themselves. The fact that participants will develop implies that the innovative capacity of industry will increase. This can be a viable way for smaller entrepreneurs in the industry for innovation in a network around an educational institution to participate.

With Vakschool 2.0 participants can expand their repertoire of knowledge processes and so working towards personal repertoire both horizontally (on branch around) and vertical (educational levels).

In summary, our concept Vakschool 2.0 ensures sustainable quality of education and innovation of small craftsmanship.

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