Excellence in creative-technical upper secondary VET

Citation for published version (APA):

DOI:
10.5281/zenodo.3371498

Document status and date:
Published: 01/09/2019

Document Version:
Publisher’s PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:
• A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
• The final author version and the galley proof are versions of the publication after peer review.
• The final published version features the final layout of the paper including the volume, issue and page numbers.

Link to publication

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the “Taverne” license above, please follow below link for the End User Agreement:
www.tue.nl/taverne

Take down policy
If you believe that this document breaches copyright please contact us at:
openaccess@tue.nl
providing details and we will investigate your claim.

Download date: 23. Apr. 2020
Excellence in Creative-Technical Upper Secondary VET: Characteristics of Excelling Students

Ketelaar, Evelien*
Eindhoven University of Technology, e.ketelaar@tue.nl

Smulders, Hester
Centre of expertise in VET, hester.smulders@ecbo.nl

Wagemakers, Sandra
Centre of expertise in VET, sandra.wagemakers@ecbo.nl

Abstract
This paper reports on a study into the characteristics of excelling students in creative-technical upper secondary VET. Excellence is defined as dynamic and continuously under development. Excelling students in upper secondary VET are a diverse and heterogeneous group. Yet these excelling students have some things in common. Using literature and a multiple case study (N=4), a framework was developed containing five overarching characteristics of excelling students in creative-technical upper secondary VET: drive, agency, collaboration, craftsmanship, and innovation. Students who participated in the four excellence programmes central in this study, possessed these characteristics to a lesser or greater extent. These characteristics should always be seen in interaction between the students and their excellence programme. The different programmes require different aspects from students. Using these characteristics of excelling students can help in developing programs tailored to the needs of students.

Keywords
excellence; VET; excellence program; creative-technical; excelling students

1 Context and research questions: Excellence in creative-technical VET
In 2014, the Dutch Ministry of Education stimulated the development of excellence programmes in upper secondary vocational education (VET). The aim was to increase the attractiveness of vocational education, by providing ambitious courses for gifted students and paying more attention to top performances and role models. As excellence in VET was a rather new phenomenon, extra funds were made available a) to support VET-colleges in developing and experimenting with excellence programmes and b) for research on excellence in VET.

* Corresponding author
Four VET-colleges with creative-technical courses (such as: ships) furniture maker/interior builder, decoration and restoration painter, multimedia designer, game artist, game developer, EQF 4 level) started a joined pilot to experiment with excellence programmes. From a collectively formulated framework, each of the four VET-colleges developed its own programme, executed during a pilot period of three years (2015-2018). This research project followed these four cases during a four-year period. The main research question leading this research was:

*What characterises excellence programmes in creative-technical upper secondary VET that successfully support students in their excellence development?*

To answer the main research question three sub-questions were formulated:

1. What characterises excelling students in creative-technical VET?
2. Which elements can be distinguished that the excellence programmes are made up of?
3. Which specific elements can be distinguished that contribute to the development of excelling students?

The study described in this paper is focused on sub-question 1.

2 Literature review: Positioning the concept of ‘excellence’ in this study

A literature research on excellence in the specific context of VET produced little results. As a consequence, a broader perspective was taken in order to gain insights into the concept of ‘excellence’ and characteristics of excellent performing students. Therefore, the literature study was focused on the concepts of excellence and giftedness in general, excelling students in higher education and excelling professionals. Included in the literature study were sources that seemed relevant in the specific context of (creative-technical) VET.

2.1 Beyond craftmanship

While intellectual abilities or abilities within a specific domain (craftsmanship) is often named as characteristics of excelling students (e.g. Coppoolse et al., 2013; Matthews & Dai, 2014; Wolfensberger, 2011), in general it is also acknowledged that excellence and giftedness go beyond intelligence or craftsmanship: it is not enough to be smart or to be skilled. Giftedness is often perceived as a multidimensional construct in which different characteristics, competences and/or capacities manifest itself in different ways (Reis & Renzulli, 2010). Renzulli developed the three-ring conception of giftedness that clarifies this point. He argues giftedness arises through three different clusters of traits and the interaction between them: above average ability, task commitment, and creativity. The interaction between these three different clusters of traits “creates the conditions for the creative productive process to commence.” (Renzulli, 2012, p. 153).

As excellence goes beyond intelligence and craftsmanship, several other researchers have studied the characteristics of excelling students in different context, for instance:

- during an academic honours programme (Scager et al., 2012);
- after finishing an honours program (Coppoolse et al., 2013);
- in retrospective by examining what excelling professionals characterised as students (Pyvläs & Nokelainen, 2015);
- by using characteristics of excelling professionals as a frame of reference for current students to aim for (Paans, Robbe, Wijkamp, & Wolfensberger, 2017; van Heugten, Heijne-Penninga, Robbe, Jaarsma, & Wolfensberger, 2017).
Several clusters of characteristics can be identified from this literature. Besides craftsmanship or intelligence, excelling students are often characterised by motivational aspects such as the drive to excel, perseverance, and passion (Coppoolse et al., 2013; Cross, 2004; Matthews & Dai, 2014; Pylväs & Nokelainen, 2015; Scager et al., 2012; Wolfensberger, 2011). In several excellence or honours programmes students have more autonomy than in their regular program and the programs appeal to their self-development (Coppoolse, van Eijl & De Bruijn, 2010); students are characterised by being able to cope with this autonomy (Tiesinga, 2013). Moreover, students need to possess social skills: they often work together and share their knowledge (Coppoolse et al., 2013; Matthews & Dai, 2014; Tyson, 2015). A final set consists of creative and innovative characteristics, including for example thinking outside the box, being able to look at a problem from multiple ways, and being open to new experiences (Coppoolse et al., 2013; Cross, 2004; Renzulli, 1978, 2012; Sirius Programma, 2014).

These different characteristics can change alongside the situation and should therefore not be seen as absolute. For instance, Renzulli’s theory takes into account that giftedness is contextual and situational as task commitment and creativity can change depending on context and situation (Renzulli, 2012).

2.2 A dynamic concept

This emphasis on the interaction between the different clusters of traits, which can vary throughout the time depending on context and situation, implies that excellence is dynamic and not a state of being. Excellence is a process that is continuously being developed (Matthews & Dai, 2014; Monteiro, Almeida, Vasconcelos, & Cruz, 2014). “[R]ather than a static quality or absolute state of being, giftedness involves continual doing, changing, and “becoming” toward a more advanced level” (Dai & Coleman, 2005, p.377).

Moreover, excellence is not only dynamic because of the continuous development of an individual and his/her excellence, but also because of the interaction between individuals and their surroundings. For instance, research on academic excellence illustrates that student’s active role with their family context and school context contribute to students’ excellent performance (Monteiro et al., 2014).

Perceiving excellence as a process, rather than as a state of being, and considering the interaction between context and individual leads to discussion about how to position and describe students in this perspective. Researchers such as van Veen and van der Lans (2011) and Lappia (2014) prefer talking about excellent performance rather than excellent students. Using excellent performance keeps in mind the characteristics of the student and the circumstances in which a student excels, while excellent students emphasises the characteristics of a student. Monteiro and colleagues (2014) argue that because excellence is never completed, but rather a process continuously being altered, becoming excellent rather than being excellent is more appropriate. Similarly, Renzulli (2012) prefers to use the adjective gifted, rather than the noun gifted. Also other researchers (e.g. Matthews & Dai, 2014) are strongly against labelling student as excellent, because doing so may surpass the differences between studentes and the different needs they may have. Some researchers also suggest using gifted for programmes, rather than students (Borland, 2005; Matthews & Dai, 2014). As Renzulli and Gaesser (2015) put it: “label the service rather than the student” (p. 93-94). In this light, we choose to speak of excelling students rather than excellent students.

Conclusively, we argue that excellence is dynamic and continuously evolving. This process develops through the interaction between student and environment. It includes but is not limited to the school environment. Hence, we speak of excelling students rather than excellent students. Furthermore, the excelling student does not exist, but it is a heterogeneous group (Lappia, 2014; Matthews & Dai, 2014; Monteiro et al., 2014; Renzulli, 2012). Yet, despite these differences between students, several researchers indicate that excelling students are different from other
students on specific characteristics (e.g. Scager et al., 2012). Taking these aspects into account we investigated which overall characteristics can be distinguished in excelling students in creative-technical VET.

3 Methods

The study was descriptive and cyclic; each data collection built upon on the previous, ultimately answering the research question. As four excellence programmes from four different VET-colleges were included in the research project, it can be considered a multiple case study. To answer the research question, a number of sources per case were included:

- Documentation from the schools regarding the excellence programmes (curriculum descriptions, policy documents);
- All students who participated in the excellence programmes and started in school year 2015-2016 (cohort 1) or school year 2016-2017 (cohort 2). The exact number differed per school (5-15 per school each year);
- Developers and teachers (D&T-group): the group responsible for the development and implementation of the excellence programmes within their VET-college. These groups consisted of, for example, the project manager, teachers, management, policy advisors and external experts.

Data were collected for each case separately. Focus group interviews were used for the D&T-groups (two times). A mix of focus group interviews and semi-structured individual interviews were used for the students (two to three times). The interviews were focussed on, among others, characteristics of excelling students and their motives for participation in excellence programmes.

4 Results: What characterises excelling students?

The combined results of both the literature study and the field study revealed five overarching characteristics of excelling VET-students in the creative-technical domain, namely: drive, agency, collaboration, craftsmanship, and innovation. Furthermore, the results of the field study revealed five motives for participation in excellence programmes.

4.1 Drive

An important characteristic of the excelling students at all four VET-colleges is the ultimate drive they have: they are motivated, ambitious, perseverant, and full of passion for the creative-technical domain. Students often mentioned motivation as one of the first aspect when they were asked what excelling students in VET-colleges characterises. They are hard-working, studious, and interested. Students argued excelling students are more motivated than the majority of the regular students.

As students we are excellent because we’re almost always motivated, do everything we can and help each other. That’s what makes us different from the other classmates in the regular program. (Student, case 2).

Not just the students recognised this drive to excel. The D&T-groups mentioned this will to achieve among the students in the excellence programmes as well. They said students want to take the extra mile, work extra hard and continue where others would stop. In doing so, they show perseverance and motivation.
4.2 Agency

Students in the excellence programmes need to experience or develop a sense of agency: the students are in control of their own choices, form their choices on personal aims, interests and motives, and act upon them. This means both self-direction and a pro-active attitude are important. These students are often able to formulate their own learning goals and they continuously develop themselves, reflect on their own work, and work independently. Being able to reflect on yourself and your work is an integral aspect of most excellence programmes.

The excellence programmes offer a lot of freedom to the students and students are not guided every step of the way. Consequently, a certain degree of self-direction is necessary to be able to succeed in the excellence programmes. The students take this responsibility; they act more responsible, mature, and professional than their fellow classmates in the regular programme. Students need to behave proactively. For instance, they may need to establish contacts to get things done. They need to profile themselves, look for guidance, a project, or knowledge.

You are an excellent student for a reason. It goes beyond craftsmanship, it’s also your attitude. The student who is dependant, who needs lots of guidance, they won’t make it, because we call upon your independence. That is natural selection. (D&T-group, case 1).

4.3 Collaboration

Being able to collaborate with all kinds of people, inside and outside your field, and being able to establish and use contacts (‘networking’) is another important attribute of excellence.

The design of the excellence programmes called upon students’ collaboration skills. Students need to perform properly in a (multidisciplinary) team, have an open mind towards others, and often undertake activities in teams, such as intervision meetings and multidisciplinary projects.

Even for those who do not enjoy working in a group as much, it is a very important skill to be able to collaborate. (Student, case 4)

4.4 Craftsmanship

A fourth overarching characteristic is knowledge and craftsmanship in the specific field, necessary to be a good practitioner. The extent to which craftsmanship was required in the different programmes varied from the argument that students should excel on craftsmanship (technical skills) to the argument that students should at least not be too far behind in the regular curriculum.

It should not be a burden, so to say, the excellence program. So yeah, you have to be able to keep up with the class. That was a demand. (D&T-group, case 4)

Students were also modest. They did not describe themselves as ‘the best’ or as a standout. Even if they considered they have above average abilities, they believed they still have plenty to learn. Being a pro in terms of skills is not enough. So while craftsmanship was often mentioned, at the same time it was clear that the students are not necessarily the best student in there domain.

Their craft may surpass other students’ work, not necessarily because they can make better products than their classmates, but because they have a different attitude: they are more perfectionistic and they have more motivation to excel.

4.5 Innovation

Finally, being innovative and creative characterises excelling students. They develop creative or original ideas and solutions and they actually apply these ideas and solutions. Aside,
innovation is also perceived as experiment with new materials and styles. While regular students in the creative-technical sector also need to possess some form of innovation, for excelling students this was even more important.

Particularly striving for new and better designs I think. To be innovative time and again, make better furniture. (Student, case 2)

### 4.6 Motives

Five overall motives for participation in excellence programmes came to the fore. Closely related to the aspect of ‘drive’, students who participated in the excellence programmes were often looking for more challenge than what they were offered in the regular program. They had ‘spare time’ and liked to learn more. Aside from the challenge, students were looking forward to learn from and collaborate with other students. In the regular classes these students were – according to themselves - often among unmotivated students. In group work in the regular programme they often had to take the lead and drag the others with them. For them, it was very motivating to be among like-minded other students who want to go the extra mile as well. Students in the excellence programmes were also pleased with the recognition they received by being able to participate in an excellence programme. First, because of the negative image of VET in the Netherlands. Secondly, because energy is usually spend on students with difficulties rather than on students who excel. Moreover, the excellence programme could possibly contribute to the students’ future perspectives, in their future studies in higher education or in their career path. Finally, students enjoyed experiencing more autonomy: working from their personal learning goals and being able to co-create the programme.

### 5 Conclusions

Using literature and a multiple case study we developed a framework with five overarching characteristics of excelling students in creative-technical VET schools: drive, agency, cooperation, craftsmanship, and innovation. Both participating students and the developers and teachers recognized these characteristics in their students at their programmes. However, as also articulated by the students in the focus groups, not every student is the same. Excelling students are a diverse and heterogeneous group (for example Castejón, Gilar, Miñano, & González, 2016; Reis & Renzulli, 2010) and there is not one type of excelling student.

Furthermore, what an excelling student entails also depends upon the programme characteristics and needs. The design and focus of the programme affects how excellence is perceived. For example, in describing what excelling students are, students in our study mostly reflected upon themselves, what they saw in their fellow-students and what was emphasised in the programme (e.g. more emphasis on craftsmanship would lead to craftsmanship being an important characteristic according to the students). Moreover, students do not passively consume excellence programmes, but rather actively engage with them (Monteiro et al., 2014; Renzulli & Gaesser, 2015). They make the excellence programme their own, and in doing so, give shape to how they perceive excellence. Excellence is dynamic and continuously being developed, and interacts with the students’ surroundings. Hence, the characteristics of excelling students differed among the four cases and for each case the set of characteristics and the importance awarded to each characteristic, was slightly different.

Several studies have shown that excelling students are more intrinsically motivated than other students (e.g. Kazemier, Offringa, Eggen, & Wolfensberger, 2014; Stamm, Niederhauser, & Kost., 2010). To become and especially stay motivated, it is, according to the Self-Determination Theory, important to fulfil three basic needs: competence, relatedness, and autonomy (Ryan & Deci, 2000). This corresponds with the motives of the participating students. They were looking for more challenge, working together with like-minded students.
and wished for more autonomy and control. Motivation can be further stimulated by being surrounded by like-minded others (Lappia, 2014; Tiesinga, 2013). For participating students following an excellence programme is thus a way to remain motivated. Furthermore, it creates the opportunity to gain recognition for their effort and could possibly help them in their future, either in their career or in their continued studies.

6 Implications

For developers of excellence programmes the overarching characteristics formulated in this study can be useful as inspiration. However, they should not be taken as static traits, but seen in the light of context and development. Thereby it is advisable to take into account for whom the programme is developed and what the aim of the programme is. In the end, there should be coherence in students’ motives, selection criteria for the programme, characteristics students should have after finishing the programme, and the characteristics that will be developed during the programme.

References


Biographical notes

**Dr. Evelien Ketelaar** is a researcher at Eindhoven University of Technology and a policy advisor at SintLucas VET-college (the Netherlands). Her interests are in educational innovations, VET, excellence, teacher development, innovative learning environments and the future of education.

**Hester Smulders** is a researcher at ecbo – the Centre for Expertise in Vocational Education and Training in the Netherlands. Her expertise lies in the field of regional and sectoral partnerships between vocational education, business communities and other regional stakeholders. Recent research subjects also include excellence in VET, craftsmanship and responsiveness of VET to the labour market. She is a member of the European network Refernet, part of CEDEFOP. Her work also includes knowledge dissemination in and about VET by organising debates, lectures and courses on VET for different stakeholders.

Dr. Sandra Wagemakers is a researcher at ecbo – the Centre for Expertise in Vocational Education and Training in the Netherlands. Her interest are in the use of media and technology in education, excellence, and cultural aspects within the field of education.