Lecturer's Conceptions of Student Creativity in Higher Vocational Teacher Education

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Abstract

Context: This research was conducted in the context of Swiss vocational education and training (VET) teacher training. Lecturers from all institutions in the German-speaking part of Switzerland that train vocational teachers were surveyed.

Approach: The overall objective of this study was to find out how university lecturers conceptualise students' creativity. Overall, 19 university lecturers from five universities of teacher education in German-speaking Switzerland participated in our study. The data were analysed via qualitative content analysis and open coding.

Findings: From the lecturer's perspective, student creativity is categorised into a 5-category model in which lecturers *'see'* student creativity represented by (1) student self-reflection, (2) independent decision-making, (3) curiosity and motivation, (4) producing something and (5) developing original, new solutions. Additionally, a creative achievement according to their opinion in the profession of a lecturer is the creation of a new, innovative teaching/learning arrangement within university teaching.

Conclusion: The findings show that the understanding of student creativity is very complex as a common understanding of student creativity in higher teacher education does not exist. The categories identified in our study could be used not only to 'see' student creativity but also to promote and even evaluate it in higher education.

Keywords: creativity, higher vocational teacher education, data-grounded framework, empirical study

1 Introduction

Today creativity is a critical requirement for success and is even regarded as an *"indispensable prerequisite"* for innovative ability (Schubert, 2009, p.1). Creative minds are important for companies because they contribute to innovative products and processes and make strategic decisions that enable competitive advantage. Along with critical thinking, cooperation and communication, creativity is considered one of the most important skills of the 21st-century (Lai et al., 2018) and, therefore central to higher vocational teacher education. Creativity is understood as a transversal skill *"which everyone can develop"* (Cachia et al., 2010, p. 9), and thus the creative potential of all students should be promoted interdisciplinarily by all university lecturers equally.

Although scientific interest in creativity has risen greatly in recent years, it is still difficult to define the complex phenomenon of creativity. Various studies about creativity in higher

education illustrate that basic agreements about a common definition of creativity are lacking and that even contradictory understandings are available (cf. Amabile, Hadley, & Kramer, 2002; Beghetto & Kaufman, 2007). In psychology, there is a standard definition of creativity that consists of two criteria: *'Creativity requires (a) novelty or originality and (b) utility or usefulness'* (Simonton 2012, 97). Furthermore, creativity must always be seen in the context of an area or domain, and creative work must be recognised by others as creative (Glăveanu & Lahlou, 2012). However, in higher education, it proves difficult to capture students' creativity according to the standard definition, as students are not entrepreneurs and therefore do not produce new and useful products for a market (Cropley & Cropley, 2010). The European report on *"Creative Learning and Innovative Teaching"* (Cachia et al., 2010) also shows that many lecturers are unclear about how creativity should be integrated didactically into lectures, especially in terms of learning and assessment. Overall, it is, therefore difficult for lecturers to recognise a creative performance of students or even to assess it.

This paper aims to contribute to the understanding of the conceptualisation of student creativity. For this purpose, the overall objective of this study was to find out how university lecturers conceptualise students' creativity.

2   Challenges of Creativity in Higher Education

Despite the recognition of the benefits of creativity for the individual and for society, the promotion of creativity is anything but a priority in (higher) education. Various studies show that the creativity of students tends to decline in the formal educational system (Csikszentmihalyi, 2007; Pfeiffer & Wechsler, 2013). Csikszentmihalyi (2007) describes the knowledge transfer in the formal educational system as follows: *"Schools teach how to answer, not to question"* (p. xix). The formal education system discourages students from taking intellectual risks, which in turn are essential for creative performance (Kettler et al., 2018). This is due in part to the fact that most of today's teaching still takes place in repetitive frontal instruction settings that predominantly promote convergent thinking processes in which students pursue only one, the best solution, at a time. In order to think out-of-the-box and to perform creatively, however, divergent thinking processes in which several and, if possible, different solutions are generated are particularly important. Conventional instruction favours students who are strong analytical thinkers but disadvantages students who have creative abilities (Sternberg, 2006). In addition, the purely functional orientation of the educational system, which educates students primarily to *"teach to the test"*, is also criticised in this context (Klieme et al., 2007, p. 229; Robinson, 2011). Common assessments and testing procedures lack the dimensionality needed to identify students' creative abilities (Sternberg, 2006). The creative contributions and abilities of students are even often perceived as disruptive, and distracting from learning objectives. Teachers seem to be afraid of losing control in the classroom due to the creative contributions of students. Chan and Chan (1999) even demonstrated in their study that teachers often associate students' non-conforming, disruptive behaviour with creativity. Creativity is therefore frequently even sanctioned in the context of classroom management. For this reason, creative contributions are often repressed in educational settings, including higher education (Gibson, 2010; Hosseini, 2011; Robinson, 2011).

Creativity is also not found in formal settings as well as in didactics of the formal educational system. To date, almost no educational institutions teach for creativity or train teachers to teach for creativity (Kaplan, 2019). Creativity is also not often found in college course curricula and is rarely stated as an explicit learning objective in courses (Jackson, 2006). According to Jackson (2006), this is because lecturers know too little about creative approaches in higher education and are also not familiar with the relevant literature on creativity promotion because it is not addressed in teacher education. Jahnke and Liebscher's (2020) study of the use of mobile devices to promote creativity in higher education shows that lecturers do not explicitly use

creativity as a didactical design element in their teaching either. However, learning with mobile devices encourages student creativity or the emergence of creativity-friendly learning environments. In this context, three types of implicitly integrated creativity that promote meaningful learning with mobile technologies were identified (cf. Jahnke & Liebscher, 2020). This implies that creativity should also be perceived by lecturers as a digital didactical design element, but this has not yet been done in teaching practice. Beyond that, in terms of 21st-century skills, higher education institutions place more importance on critical thinking, while the importance of creativity in teaching and learning processes is significantly underestimated (Jackson et al., 2007).

Another challenge of creativity in the higher education context is the perception of students' creative achievements. According to the standard definition (see 1 Introduction), however, the evaluation of the creative performance of students proves to be difficult, as they usually do not produce new and useful products for a market; they are not entrepreneurs or inventors (Jahnke et al., 2015). In a more general sense, the creative outputs produced by students are not tangible products, and the creative actions vary according to the subject. Consequently, it is difficult for lecturers to recognise the creative performance of students in the first place and to evaluate it adequately afterwards. To that date, there is no common understanding of creativity in higher education; however, some initial research has been conducted to define creativity in higher education. Jahnke et al. (2015) developed a '6-Facet-Model' that categorises student creativity through (1) student self-reflection, (2) independent decisions, (3) curiosity and motivation, (4) producing something, (5) multiperspectives and (6) when students develop original new ideas. To this point, creativity has not been studied in vocational teacher education.

These examples show that creativity has received little attention in (higher) education so far. There are many reasons for this. On the one hand, learning and testing in the educational system are geared toward achieving learning objectives as efficiently as possible and, consequently, convergent thinking processes. Creative achievements and contributions on the part of students are thus usually perceived as disruptive by lecturers. On the other hand, creativity has rarely been formally integrated into curricula, course descriptions, and learning objectives. Moreover, it is difficult to capture what creativity in higher education specifically means and whether concepts differ, if at all, across disciplines

3   Methods

For this study, an explorative approach was applied where university lecturers were requested to describe how they perceive and conceptualise student creativity. This approach has been used before by Jahnke, Haertel and Wildt (2015), who examined student creativity in a higher education context in Germany. For this purpose, the interview guideline used by Jahnke, Haertel and Wildt (2015) was adapted to the situation in the Swiss university/college context of vocational teacher training. The interviews were conducted from June to mid-October 2021 with university lecturers from all Swiss universities that train VET teachers, e.g. Swiss Federal University for Vocational Education and Training (SFUVET), Zurich University of Teacher Education, University of Zurich and the pedagogical Universities of Luzerne and St. Gallen. The participating institutions selected the respective interview partners.

The interview guideline was partly structured. The lecturers were asked to describe in detail the course in which they teach the most, for example, learning objectives, learning activities, content, assessments etc. They were also asked, *"What characterises a creative course for you?", "What do you consider a creative performance/effort of your students?", "How can you 'see' if/when a student is creative?"* The interviews were done via MS Teams and transcribed. Afterwards, they were analysed with MAXQDA by means of qualitative content analysis (Mayring & Frenzl, 2019) as well as open coding (Brymann, 2008). First, each interview was analysed in detail in order to understand the participants' perceptions of creativity and to match

the material with the identified categories of Jahnke, Haertel and Wildt (2015) (structured content analysis). Subsequently, all interviews were compared, analysed and summarized on a higher level. Finally, a theoretical model was derived from the interview data.

4 Findings

4.1 Demographics

A total of 19 interviews (N=19) were conducted with lecturers from five universities of teacher education in German-speaking Switzerland. The average interview duration was around 58 minutes. 10 participants (53 %) were female, and 9 participants (47 %) were male. At the time of the interview, the participants were on average 48 years old, the youngest participant was 36 years old, and the oldest participant was 60 years old. The teaching experience of the participants at the university level averaged 11 years. 14 subjects had an average teaching experience of 11 years at a vocational school, whereas 5 subjects had no teaching experience at a vocational school at all. 6 subjects held a leadership position, e.g. program director, at the time of the interview.

4.2 Conceptualisations of Creativity in Higher Teacher Education

Creativity in the Job as a Lecturer. The findings for the following questions are presented below: 'What does creativity mean to you in your job as a lecturer? Under which conditions are you (particularly) creative?/In which situations are you (particularly) creative? What stimulates your creativity?' From the interviewee's perspective, creativity in their job as a lecturer means creating something new. The new can also result from the combination of what is already known. A creative achievement in the profession of a lecturer is thus the creation of a new, innovative teaching/learning arrangement within university teaching, e.g. by embedding innovative methods and challenging discussions as well as creating a good learning atmosphere and open, self-regulated learning arrangements etc. The interviewees found a certain openness (with regard to the result and the approach to the solution), freedom, team exchange and time pressure, but not excessive, to be conducive to creativity. Accordingly, answers like the following were given: 'Free spaces with few defined specifications that can be filled individually, taking into account the current situation', 'if the external framework allows me a relatively large amount of self-organization and self-direction and I am also allowed to decide for myself how I shape it' and 'when a little pressure forces you to be creative or find solutions that aren't quite conventional, then that's certainly beneficial'.

Student Creativity. The findings show the interviewees' responses to the following questions 'How can you 'see' if/when a student is creative? How do you know that your students are creative?' The following answers were frequently given: 'Understand own learning itself', 'representing the own further development', 'analysing the own learning output'. These answers have in common that the own learning process is reflected on a meta-level. However, self-reflected learning also includes reflection in relation to one's own learning product so that a meaningful new arrangement can be created. This also includes the transformation of reflection processes into knowledge. Both aspects – self-reflection on a meta-level and the production of a meaningful composition (or learning product) – are represented in this cluster, which we, therefore, named self-reflective learning.

Another cluster that could be identified from the interviewees' response behaviour relates to self-organised or independent learning. This involves expanding knowledge independently and dealing with new aspects of a topic on one's own in- and outside the courses. It also implicates thinking further about the topic beyond the existing literature. Respectively, answers such as 'creative is just when an own contribution comes', ' going beyond the arguments of the literature' and 'in the sense of transfer performance, where a person has made very exciting

connections' were assigned to this cluster. The interviewed lecturers also linked the students' interest and engagement in a topic with creativity. Therefore, the third category was named showing curiosity and motivation. The following statements were summarised under this heading ' it takes enthusiasm to be creative', 'interest, engagement and participation in class', 'students who think actively, question things, get involved in discussions', 'when you link the theory with your own ideas or experiences' as wells as 'question things critically'.

A fourth cluster combined responses that were output-oriented and included examples and descriptions of learning products. Some of these responses were very specific. Typical responses assigned to this cluster were 'creating a role play in computer science class for the installation of a router' and 'designing own learning works'.

The last cluster we identified focuses on the achievement of original and completely new arrangements. In contrast to the category of self-reflective learning, this assignment is not only about meaningful arrangements but above all, about original and new arrangements. The following responses were assigned to this category: 'Using what you have learned in an original way in your lessons', ' search for new, unusual ways, possibilities', ' out of the box thinking', 'develop an efficient solution that is not foreseeable from the outset'. Since the courses are mostly about creating a learning product and, thus, finding their own solutions, in the name of this category, we have used the word solution (reaching for original, new solutions).

In summary, a total of five categories of lecturers' conceptualisations of creativity in higher teacher education were derived based on the data collected. These are summarised in Table 1.

Table 1
The '5-Category-Model' – how lecturers in our survey conceptualise student creativity in higher teacher education

Category	Examples given by lecturers
1. Self-reflective learning	• Understanding own learning itself/ reflection on own learning growth • Representing the own further development • Analyzing the own learning output (learning product) • Combining several concepts into a meaningful arrangement
2. Independent learning	• Dealing with new aspects • Own acquisition of knowledge • Independently conducted products/assignments • Finding arguments that go beyond the literature (rationales, arguments, connections)
3. Showing curiosity and motivation	• Enthusiasm for the topic/subject/discipline • Exchange ideas about new things that have been tried out • Lively discussions • Critical examination of the objects and topics and questions we deal with (critical thinking)
4. Producing something	• Creating a learning video about all the modules they had in the course of study • Filming a teaching sequence that they have planned independently • Creating a role play in computer science class for the installation of a router • Writing a good, perhaps unexpected, critique, e.g. of a subject being taught
. Reaching for original, new solutions	• Adapting newly acquired knowledge to their context and derive new possibilities for action for themselves • Extraordinary ideas in well-known issues • Creation of a transfer performance for your own teaching, with new, exciting links • Out of the box thinking

Note. Source: Own representation based on Jahnke et al. (2015, p. 6)

5   Discussion

The findings show that the understanding of student creativity is very complex. Our study underlines that there is no common understanding of student creativity in higher teacher education in the university context. We have therefore developed a '5-Category-Model' in accordance with the '6-Facet-Model' of Jahnke et al. (2015) by which the lecturers 'see' the creativity of the students of higher teacher education. From the lecturer's perspective, in our study, student creativity is expressed through (1) self-reflective learning, (2) independent learning, (3) showing curiosity and motivation, (4) producing something and (5) developing original, new solutions. Unlike the '6-Facet-Model' of Jahnke et al. (2015), our model does not include the category 'multiple perspectives'. This could be due to the fact that creative learning products in higher teacher education, like the design of a student-centred lesson, often incorporate learners' perspectives anyway and are therefore not perceived as multi-perspective by prospective teachers. However, this assumption would need to be verified in further studies.

In turn, the categories identified in our study could be used not only to 'see' student creativity but also to promote and even evaluate it in higher education. Through the identified categories, divergent thinking processes that lead to creative thinking and action can be promoted in higher education teaching. However, these would then have to be consciously used by lecturers to promote creativity. For example, students can be encouraged through self-reflection processes to improve their own learning product and, if necessary, to make it more creative and innovative through the use of new digital tools. Showing curiosity and motivation of students could be used, for example, to share new ideas and perspectives as well as to question existing ones. Learning products could be open-ended to some degree and could be created by using innovative methods and tools. In addition, the deliberate search for new and innovative solutions could be rewarded. Appropriate evaluation criteria would then also have to be developed to assess the creative performance achieved. These could be oriented, among other things, to the degree of innovation and the usefulness of the developed learning products for one's own learning or for one's own teaching.

Our study is limited in its representativeness due to the small size of the sample. The findings are therefore not universally valid and apply only to our survey context. In principle, it would be interesting to repeat this study with a larger sample size or to extend it to other professional groups. In this way, a generally valid definition of student creativity in higher education could possibly be generated, or student creativity could be discussed against different professional backgrounds. Furthermore, it would be interesting to validate the '5-Category-Model' we developed in school-based practice and determine if perceptions of student creativity differ between university faculty and teachers in vocational education and training.

Further, our study should help encourage discussion about the teaching of creativity and other transversal skills in higher teacher education. Against this background, the question arises whether the instruction of transversal skills for prospective teachers should be a task of higher teacher education in the future.

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