Attitudes and/or Experiences? Undergraduate Students' and Lecturers' Experienced Research Integration in Higher Education

Abstract

Students and lecturers share educational experiences, each in their own role: Students as part of their learning context, lecturers as part of their work-environment. But how much of their experiences are similar? A large scale questionnaire provided first insight in experiences of research integration of undergraduate students (N=2336) and lecturers (N=379). For measurements the Research Attitudes in Vocational Education Questionnaire (RAVE-Q), and Experience in Research Integration scale were applied in the student surveys. For lecturers, all items of the student surveys were rephrased into items related to lecturers' perceptions of their students' attitudes and experiences. The findings show students and lecturers having similar perceptions on the role of research in the related vocational field and the experienced research integration. However, there are important differences found between students and lecturers on the cognitive and affective aspects related to doing research. Implications for further research and educational design will be discussed.

Keywords: higher education, professional knowledge, vocational, research-teaching nexus

Vocationally oriented universities educate their students to provide them with the necessary qualifications for a specific professional field. Research education for future professionals implies students' application of research competencies in future professional practice. So gaining research experience is not an aim in itself (Ministry of Education, 2015). Students in vocationally oriented programmes are educated for a future profession, such as teaching, engineering, nursing, or physical therapy. Dutch universities of applied sciences do not have a long research traditions (Griffioen, 2013, 2018a). Often lecturers and curriculum designers find themselves in the dark about the content and educational design of research in the vocational curricula (Losse, Bouten, & Nahuis, 2017). One of the presumptions often heard from lecturers is that higher vocational students do not enjoy research very much, but so far this notion has not been systematically studied. Hence, this study aims to investigate similarities and differences between undergraduate students' and lectures' experienced research integration in higher vocational education.

To compare students' and lecturers' perceptions, this study builds on two traditions. Firstly to consider their attitudes towards research, and following from the theory of Ajzen and Fishbein (2010), it is presumed that different attitudinal elements, such as perception and self-efficacy matter for how the integration of research in education is experienced and whether students intention is to apply research in future professional practice. Based on these notions and building on the work of Van der Linden, Bakx, Ros, Beijaard, and Van den Berg (2015) the Research Acceptance in Vocational Education (RAVE-Q) was developed by Griffioen (2018b) to measure students' research attitude.

The second tradition considers the actual integration of research elements into educational programmes based for which Verburgh and Elen (2011) developed a measurement instrument based on Healey's (2005) quadrant model.

Both research attitudes and experiences of research integration can differ between students and lecturers. The setting of this study is in an applied university that systematically stratifies towards the further integration of research and education, especially within the curricula. However, it is likely that students and lecturers will experience the integration of research within education differently, as well as the student involvement in research (Brew, 2010). So far the differences between students

and lecturers are not studied. At the same time can the learning environment as designed by lecturers can have a large influence on students' learning and academic achievement (Bakhshialiabad, Bakhshi, & Hassanshahi, 2015), implying the importance of lecturers knowing students perspectives. More in general, claims that education is research-led without students knowing 'cannot be credible' (Brew, 2010).

Method

To investigate similarities and differences between undergraduate students' and lectures' experienced research integration in higher vocational education an online survey was designed based on two perspectives:

(1) The Research Acceptance in Vocational Education (RAVE-Q) model, which considers student perceptions, attitudes, self-efficacy and intention to behaviour related to research in the future profession (Griffioen, 2018b).
(2) Students' perceived research integration in education, which was previously applied in Griffioen and was originally based on Verburgh and Elen (2011), and Visser-Wijnveen, Van der Rijst, and Van Driel (2016).

The survey was filled out by 2336 undergraduate students and 379 lecturers. An factor analysis and principal component analysis resulted in similar scales for both groups of respondents. Means analysis ($p<.05$) was applied to consider the differences between students and lecturers in SPSS23, based on ANOVA SSTYPE 1 to correct for sample size differences between students and lecturers.

Findings

The findings show how students and lecturers have a similar perception of research in the vocational fields. However, the findings show significant different results on the cognitive attitude ($F(df)=23,072(1)$; $p<.000$) and the considered importance of research ($F(df)=10,484(1)$; $p<.001$), with lecturers on average scoring higher than students. Significant differences were also found on positive affection ($F(df)=80,291(1)$; $p<.000$), self-efficacy ($F(df)=45,026(1)$; $p<.000$) and intention for use of research in future profession ($F(df)=22,918(1)$; $p<.000$), where students scored higher than lecturers. A substantial difference was found on negative affection ($F(df)=217,047(1)$;$p<.000$), where students showed to have a lot less adversity against research than lecturers indicated.

Overall the scores on Experienced Research Integration are lower than all attitude scores, with most attitude scores in the bottom half of the scale. The findings show how students and lecturers significantly differ on how they perceive the interaction between students and researchers ($F(df)=32,337(1)$; $p<.000$). Lecturers especially perceive more guests who visit to lecture about their research than students do. Futhermore, students and lecturers show no significant differences in their experience of reading and using research in the classroom, as well as of students participating as researchers. However, the balance within the scale Experience Reading some item differences were found combined resulting in a similar mean score between lecturers and students. Students scored higher on 'in class we read articles of researchers we do not know in person' while lecturers scored higher on 'in class we discuss results of research with students'.

Finally students are more positive about the research culture at their university than lecturers, although both think the research culture of the university was not very influential in student study choice.

Discussion

The findings of this study open up an important new viewpoint on research in vocational programs. Students and lecturers on average show to have mostly similar experienced research integration, but their attitude to research (RAVE-Q) scores differ. The findings show how students score higher on affective attitude to research, while lecturers score higher on what they believe is the cognitive attitude to research of their students. Whist the differences are relatively small, they yield the importance of lecturers and students sharing their research attitudes as well as their research experiences. If lecturers believe students dislike research, while students simply believe research is less important for their knowledge renewal, a potential educational mismatch could be created. An exchange of research attitudes is even more important since previous research has shown how mainly students' attitude towards research correlates with their intention to use research in their future profession (Griffioen, 2018b). In the end this is the main aim of higher vocational education to begin with.

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