**Undergraduates’ Conceptions of Research Methods Learning: A Q Methodological Investigation**

**Abstract**

A range of conceptions held about research methods learning have previously been identified. The current study aimed to examine in-depth shared conceptions among groups of undergraduate students, since individual conceptions are unlikely to exist in isolation. Utilising Q methodology, which links both quantitative and qualitative methodologies to uncover the subjective viewpoints that a group of individuals hold towards a particular domain, participants ranked statements reflecting different conceptions of research methods learning. Ranks were then factor analysed and seven distinct profiles of student conceptions were identified, labelled and described in qualitative detail: *Big Picture Students (Aspiring Researchers)*, *Big Picture Students (Non-Aspiring Researchers)*, *Other-Focused and Superficial Learners*, *Calm and Dismissive Learner vs. Anxious and Concerned Learner*, *Unconvinced Students vs. Converted Student*, *Side-choosing Researchers*, and *Relaxed and Reductionist Learners*. A significant association was found between these profiles and the students’ year of study; final year students displayed more ‘big picture’ views of research, while first year students showed a more superficial understanding. There was also a significant association between profiles and performance on research assignments; students who exemplified ‘big picture’ narratives performed better than those who exhibited superficial perspectives. Findings are considered in terms of how some conceptions take longer to develop and appear to be more beneficial or problematic to hold than others.

**Extended summary**

**Aims**

Adult learners have conveyed a range of views about research methods learning (Murtonen & Lehtinen, 2005), including differing opinions on the value of undertaking research (Kawulich, Garner, & Wagner, 2009) and mixed appreciation for quantitative and qualitative methods (Murtonen, 2005). However, it is potentially more important to build up student profiles based on the conceptions of groups of students and examine differences between these groups, since conceptions are unlikely to be held in isolation. The first aim of the current study was to uncover shared conceptions or viewpoints about research methods learning among undergraduate psychology students. Next, the aims were to determine whether these viewpoints appear to change over time and finally, whether they can predict performance differences on research assignments.

**Methodology**

Q methodology was used to form holistic profiles of shared conceptions. Undergraduate students (*N* = 93) completed Q sorts, in which they sorted cards displaying statements about conceptions of research methods learning into a forced-choice distribution grid from most disagree to most agree. The rankings from these sorts were then factor analysed to form groupings (factors) of shared conceptions based on the views of the students who significantly loaded on it, and an overall viewpoint was formed for each factor.

**Findings**

Seven narrative accounts (or factors) were labelled and interpreted holistically in qualitative detail. The first factor was labelled as *Big Picture Students (Aspiring Researchers)* because there was an awareness of the ‘bigger picture’ of research and how it fits into both the study and practice of the students’ discipline, as well as a recognition of how research methods learning is related to undertaking research in the ‘real-world’. The second factor was labelled as *Big Picture Students (Non-Aspiring Researchers)* as there was also a cognizance of the ‘bigger picture’ of research, but it was not felt that students choose to study their discipline in order to do research. The third factor was labelled as *Other-Focused and Superficial Learners*,as it displayed a superficial conception of research and experience of difficulty in understanding research methods training. As a result of this difficulty, a lack of interest in undertaking research was expressed, and there was more of a focus on the other areas of the degree. The fourth factor was labelled as *Calm and Dismissive Learner vs. Anxious and Concerned Learner*.The *Calm and Dismissive Learner* view displayed confidence about research methods learning, but its difficulty and importance was dismissed. The *Anxious and Concerned Learner* view demonstrated anxiety about research methods learning as it is seen as being difficult, yet important to be good at. The fifth factor was labelled as *Unconvinced Students vs. Converted Student.* The *Unconvinced Students* view demonstrated cynicism about the value of research methods learning and undertaking research in the students’ discipline. Research methods learning was not thought to have anything to do with carrying out research in the ‘real-world’, becoming a practitioner, or examining human behaviour. Conversely, the *Converted Student* account was much more positive about research methods learning and undertaking research. The sixth factor was labelled as *Side-Choosing Researchers.* A stark contrast was seen between the uses of quantitative and qualitative methods, and it was believed that individuals should focus on mastering one approach to be successful in research. The final factor was labelled as *Relaxed and Reductionist Learners.* In this account, research methods learning was perceived to be taken in its stride, but this appeared to be due to an oversimplification of what is involved when undertaking research.

First year students loaded on all of the viewpoints fairly evenly, indicating that at this stage of their degree, there is not necessarily a predominant stable viewpoint being expressed. The highest number of first year students loaded on the *Other-Focused and Superficial Learners* viewpoint, implying that students are not necessarily aware of the worth of undertaking research or learning about research methods at this point of their degree. The majority of second year students loaded on the ‘big picture’ viewpoints, suggesting that students have started to see the point of research being part of their education at this stage. All final year students (except one) loaded on the two ‘big picture’ viewpoints, indicating that most final year students are aware of the ‘big picture’ of research, but they are roughly split into those who are interested in research and those who are not. Therefore, understanding of the ‘big picture’ of research is likely to be due to the length of training received and the experience of the student.

Of the students who loaded on the two ‘big picture’ viewpoints, a higher proportion of them received marks on research methods assignments that were above the median than below. It appears that regardless of whether students aspire to undertake research, ‘big picture’ views are related to better performance in research activities. Conversely, the majority of the students with superficial views, as well as the majority of the students who believe researchers should focus on only one methodological approach, received marks below the median on their assignments. This indicates that narrow attitudes to research methods learning are potentially problematic.

**Educational Significance**

It appears that stronger students are able to see the ‘bigger picture’ of research methods learning, and these findings demonstrate the importance of being able to recognise the links between research methods and the ‘real-world’. Students are also likely to change their conceptions over time, resulting in more beneficial conceptions that may also link with better performance on research methods courses. Conceptual change seems to naturally occur among students over time, but intervention may be fundamental to modifying problematic conceptions at an earlier stage of their learning.

**References**

Kawulich, B., Garner, M., & Wagner, C. (2009). Students’ Conceptions—and Misconceptions—of Social Research. *Qualitative Sociology Review*, *5*(3), 5–25.

Murtonen, M. (2005). University Students’ Research Orientations: Do negative attitudes exist toward quantitative methods? *Scandinavian Journal of Educational Research*, *49*(3), 263–280.

Murtonen, M., & Lehtinen, E. (2005). Conceptions of Research and Methodology Learning. *Scandinavian Journal of Educational Research*, *49*(3), 217–224.