

# Hermeneutic phenomenology for computing education research (workshop)

Sue Sentance

sue@raspberrypi.org

Raspberry Pi Computing Education Research Centre,  
University of Cambridge  
Cambridge, UK

Jane Waite

jane.waite@raspberrypi.org

Raspberry Pi Computing Education Research Centre,  
University of Cambridge  
Cambridge, UK

## ABSTRACT

There are many different approaches to qualitative research which can be used in empirical studies, but often in computing education research we do not specify exactly the approach we are using. A phenomenological approach, which can be descriptive or hermeneutic (interpretive), involves investigating the 'lived experience' of research participants. It relates to the whole research process, not just to how we analyse data. Hermeneutic phenomenology is one approach that has been widely used in some fields, for example, in nursing research and general education, but is rarely, if at all, used in computing education research. As research within computing education may benefit from hermeneutic phenomenology, the purpose of this workshop is to introduce this methodology and offer participants some first-hand experience of approaching a study through a phenomenological lens.

## CCS CONCEPTS

• **Social and professional topics** → **Computing education**; • **General and reference** → *Design*; *Empirical studies*.

## KEYWORDS

hermeneutic phenomenology, qualitative research

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## 1 HERMENEUTIC PHENOMENOLOGY

Most researchers are aware that qualitative research can be a useful tool to provide the richness and detail needed to answer some research questions [8]. In particular, phenomenological research seeks to reveal and describe 'lived experiences' and to achieve a deeper understanding of the meaning of experience, generating an in-depth and comprehensive description of the phenomenon [10]. Phenomenological research can be descriptive or interpretive (hermeneutic), with a hermeneutic phenomenological approach involving interpreting and making meaning out of participants'

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'lived experiences'. Hermeneutic phenomenology emerged from the work of hermeneutic philosophers, including Heidegger, Gadamer, and Ricoeur, who argue for our embeddedness in the world of language and social relationships, and the inescapable historicity of all understanding [3].

When using hermeneutic (interpretive) phenomenology as a methodology, it is not just the analysis and interpretation of data that draws on the phenomenological principles. The recruitment of participants, sampling, data collection and interview structure should also reflect an interpretive approach [4]. Hermeneutic phenomenological research necessitates a homogenous group of individuals; participants should demonstrate experience of the same phenomenon [2] but be diverse enough to enhance possibilities of "rich and unique stories" [9, p. 29]. Purposive sampling is often used.

When analysing data in a phenomenological way, we can adopt reflexivity to help interpret the meanings discovered [13]. Reflexivity involves intensive scrutiny about how something is known and/or understood [7] and involves researchers being conscious of, and reflective of, how their questions, methods and subject position might impact the data [13].

Identifying themes is an iterative and recursive process and starts with the researcher's engagement with the data during data collection and the early stages of reading and re-reading the data. Memos are used extensively to record the thoughts of the researcher and to inform reflection. Themes can be viewed as written interpretations of 'lived experiences' [13].

## 2 COMPUTING EDUCATION AND PHENOMENOLOGY

Although much computing education research benefits from qualitative data collection and analysis, little has previously adopted a hermeneutic phenomenological approach. Sloan and Bowe [14] used this approach to conduct a study of computer science lecturers' experience of curriculum design, and described the use of the hermeneutic circle in developing a set of themes around the perspectives of the 12 lecturers in the study. Other studies have looked at experiences of students and educators using this methodology [1, 5, 12], and there are a small number of studies with a specific focus on the stories of underrepresented groups and their relationship with computing [6, 11, 15] which use this methodology. It is clear that hermeneutic phenomenology facilitates in-depth interviews with participants, iterative and detailed identification of themes, and an awareness of the researcher's role and perspective as a co-participant in the research.

### 3 STRUCTURE OF THE WORKSHOP

This workshop will be relevant to those interested in qualitative research who have not previously come across hermeneutic phenomenology. In particular we anticipate that two groups of researchers would benefit from this workshop: those working in qualitative research who would like to look more deeply at their participants' experiences; and those who may be required to review the work of others using this approach.

An experiential approach will be used to give some first-hand experience of working with the 'lived experiences' of research participants and the role of the researcher in the process. The workshop will involve a range of activities, starting with a presentation, and then including a number of short paired and small group activities for participants on the topics of interviews, data analysis, and planning a hermeneutic phenomenological study. At the end of the workshop, participants will be provided with a reading list on hermeneutic phenomenology, guidelines and hints and tips on using the approach and resources to help participants share the methodology with others.

A key objective of the session is to encourage participants to connect with other researchers interested in hermeneutic phenomenology in computing education and energize an ongoing community to support those interested in this approach.

Although this workshop has not been run before, the team designing and delivering the session has extensive experience running educator professional development, including for initial teacher training and early career computer science academics. Having published numerous qualitative papers in journals and conferences, including using hermeneutic phenomenology, the team has practical, real-world knowledge of the difficulties that researchers can face as they transition to a more interpretive and in-depth approach

to qualitative research. The team is keen to share this experience and help others consider and make the same transition.

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