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## **Mathematics teacher educators as researchers: creative approaches to elicit experience narratives**

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Motivations to enter academia from professions are varied, with teaching responsibilities often prioritised initially. In education, teaching on initial teacher education (ITE) courses that are increasingly subject to regulation direct efforts towards meeting new statutory requirements, impacting time for research. In this exploratory study, we are interested in whether, if so how, teacher educators develop as researchers – and in what, if anything, is different for mathematics educators. To explore experiences, we use an embodied inquiry approach, inviting participants to share visual responses to prompts sent in advance. This enabled participants to delve into their recollections of developing their research, to elicit what often is left hidden, forgotten or lost. Participants chose a variety of approaches to share stories. This multimodal approach supports our attempt to work holistically to "make meaning" with participants, exploring shifting and evolving identities. In this workshop report, we share this work in progress and invite comments.

**Keywords:** initial teacher education; researching academic; creative methods

### **Introduction**

We (the two authors) first met ten years ago while working together on the BSRLM executive committee in 2015. We had had similar careers at that point, having previously been teachers (Gill in secondary and Gwen in primary), and were, at that time, working in ITE in higher education institutions, having recently completed our doctorates. We worked together again in 2021 as joint convenors of the BERA Mathematics Education Special Interest Group, and we are currently continuing our work in this role. Over these ten years, we have continued our shared interest in mathematics education, as well as doctoral research education as we have both taken roles in our institutions with responsibility for the PhD and EdD programmes. These common interests have been the focus of conversations about our various roles, with similarities and differences prompting reflections on how our careers have developed and drawing our attention to possibilities for continuing growth. These regular conversations increasingly focussed on exploring features that have enabled our progression, and factors that constrain the work that we would like to be involved in. This led us to question how others involved in professional contexts had been able to build a research career, prompting this study.

We are interested in how creative modes of communication, including in approaches to sharing project findings, might help to raise awareness, prompting further critical reflection on how things are/have been to inform future development and contribute to fostering more inclusive research communities.

We are at a very early stage of this small-scale, exploratory project. In the June 2025 BSRLM conference workshop (and this paper) we outline the project origins, research questions and we focus on our methodology in particular for this paper, before sharing data fragments, images and initial thoughts and invite responses. The research questions that focus this study are:

1. What helps teacher educators develop as researching academics?
2. How might this differ for mathematics teacher educators?
3. What are the affordances of creative inquiry approaches in exploring teacher educators' experiences?

## **Background**

ITE in England has been the focus of multiple policy initiatives and increasing regulation in recent years, the latest of which was the Market Review in 2021. This resulted in a requirement for ITE programmes to align with the DfE's Core Content Framework (DfE, 2021) and additional twenty days of Intensive Training and Practice (ITAP) for all students on postgraduate ITE programmes. This reduced the extent to which initial teacher educators had agency over their teaching, as there was an expectation that teaching materials would draw on a list of approved literature, which "privileges specific pedagogical approaches, including an emphasis on explicit, direct instruction, retrieval, questioning, modelling and explanations" (Glasser and Tate, 2025:406).

In addition to the DfE requirements, Ofsted published a series of subject research reports which ITE providers are expected to use on their programmes. The report for Mathematics has been carefully reviewed by Compton and Boylan (2023; 2024), who claim the review lacks transparency or rigour and they take one illustrative example (problem solving) to justify their critique of Ofsted's approach. Given these Ofsted subject research reports are published as research informed reports, Compton and Boylan (2024) urge caution for educators considering how the subject research reports might inform their practice.

## **Literature**

Previous research has explored the transition from teacher to teacher educator (Izadinia, 2014; Ellis, 2024; Wood and Quickfall, 2024; Glazzard and Tate, 2025; Quickfall and Wood, 2025). Izadinia (2014) highlights the numerous roles that those involved in ITE become involved in, including research, but found that there was often little in the way of induction into the role. Much of the research in the field has focused on identity, including the shift that takes place as teacher educators engage in research alongside their teaching (for example Murray, 2014). Izadinia's review of the literature at the time, (2014) found that new teacher educators often lacked confidence and held negative self-views, and she suggested that engagement in research and reflective inquiry was important to support teacher educators to develop the research aspect of their identity.

Quickfall and Wood's more recent study (2025) highlights that together with a lack of understanding from university managers about ITE, those involved directly in teaching on ITE programmes face significant workload pressures and receive minimal support from their institutions to develop their research. They found that there is often only "low-pressure" from managers for those involved in ITE to engage in research (2025:13). They warn that this may result in ITE educators feeling "trivialised and overlooked in their own institutions and more widely" (2025: 15). These findings

emphasise the importance of probing the experiences of ITE educators to identify factors that have supported a successful transition from teacher to researcher.

## Methodology

Drawing on philosophical groundings in phenomenology and hermeneutics, our methodological design used an embodied approach, the basis of which is that humans come to understandings through their bodies, that words are often insufficient to describe these understandings, and that metaphors may offer greater insight. Brown and Leigh's (2021) three principles of embodied inquiry guided our approach, beginning with building reflexivity into our design. This involved repeated opportunities to meet to discuss our developing ideas and responses about how the project evolved. This helped us in our aim of taking a non-judgemental awareness of our participants' experiences.

The second principle is that the body and mind are connected and that research design incorporating opportunities to bring the body into inquiry offers the potential to "reach deeper, emotional and authentic truths about lived experience than are accessed by more conventional research techniques" (Leigh and Brown, 2021: 12). This was an important aspect of our commitment to participants, as our aim was to design research that would potentially offer them a tool to aid reflection on their academic careers, perhaps supporting them in imagining future possibilities. Our previous experiences with creative, embodied approaches (e.g. Alderton et al, 2022; Taylor and Adams, 2020) had resonated, leaving strong and affective traces, adding to our desire to explore these approaches further.

The final principle that influenced the design was that of "conscious awareness". Leigh and Brown (2021) describe this as the deliberate intention to use an embodied approach throughout the research process. Given our background as mathematics education professionals and our current roles in research, we have a dual role in the project, as both participants and researchers. This supported our commitment to a reflexive approach, with conscious awareness threaded through the project, and was further enhanced by us also taking roles as participants in the research conversations. For example, Gwen was the first participant to be interviewed, with Gill facilitating (reversing roles in a later conversation), which provided us with an opportunity to engage with the prompts and approaches as participants before revising prompts in preparation for working with others. As researchers, we chose to forgo anonymity in this study to maintain transparency and to acknowledge our multiple roles as researcher, interviewer and participant. We gave informed consent for our data to be attributed to us by name, recognising the personal nature of our contributions. Being aware of Ellis' (2007) notion of "relational ethics" (p.4), care was taken to ensure that other participants' confidentiality was preserved throughout, as well as the anonymity of any colleagues mentioned in each of the research conversations.

The project was open to those who having previously held professional roles in education (primary, secondary or further) had then worked in academia in roles that had some expectation of them engaging with research. We approached two organisations whose members are typically involved in initial teacher education (ITE) with an invitation for participants: The Association of Mathematics Education Teachers (AMET) whose members were had typically worked in mathematics education in a professional capacity at some point in their careers and the Universities' Council for the Education of Teachers (UCET) to broaden the project out to focus on

any subject area. We aimed to recruit around 8 participants, plus ourselves and had achieved this at the time of the workshop. In this paper our focus is on the first four participants recruited who all had an interest in mathematics education research.

Although we had initially intended to carry out research conversations in person, on reflection we, both for pragmatic reasons and to give participants a choice we offered in person and online via video conferencing. For the four conversations reported here, two conversations were held in person and two online. In advance of the research conversations, we sent participants prompts to guide prior reflection and suggested that they may like to select an object, make a drawing, a map or a representation, that represents their response. Prompts included aspects such as their motivation for building a research profile, any challenges that they encountered and any enablers, such as people or events, that supported their development. We also asked them to reflect on how they saw their research profile in the future. This multimodal approach to data generation enabled us to broaden our shared understanding of the significant aspects of each participants' story.

In the next section, we share two fragments from the data, exploring our reflections on these, on the creative approaches and some of the questions this has raised for us.

## Responses

### *What motivated me to go into education?*

Prompts for the interview conversations were sent in advance. When we met, we used these prompts as a guide, encouraging participants to lead the conversation building on their reflections and any images or other resources they had. In this first fragment, Alison starts by reflecting on the first question prompt, what motivated her to go into education. She said 'I quite liked the idea of a map. And I started to try to do that. But I'm not a very artistic person and my various attempts weren't working out very well, so I ended up doing computer things'. She shared Figure 1 and talked through her route into education, recounting that her sister had seemingly spotted her mathematical potential very early on:

'When I was in year two, apparently there was a whole school assembly. I have no actual memory of this. This is a story from my older sister who was in year eight at the time. She said that they were asking about careers. What did people want to be when they grew up? And apparently as a, you know, 6-7 year old, I said I wanted to be a mathematician and my sister thought this was sufficiently ludicrous that she remembered it and it's one of her stories about what a little freak I was.' (Alison, interview conversation)

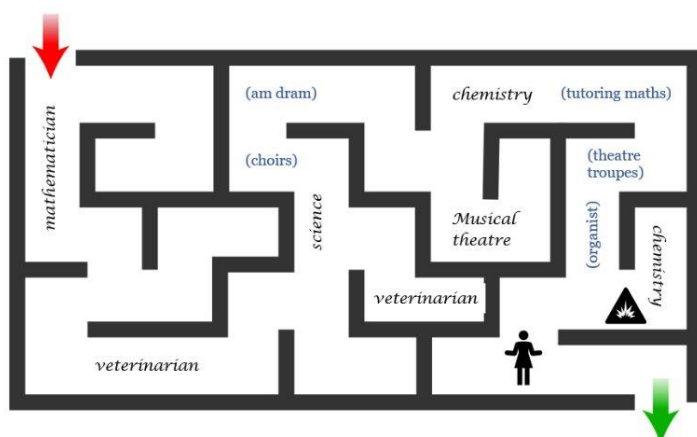


Figure1: A maze: A route into education (Image prepared by Alison and shared in her interview conversation)

### ***Starting work in a university***

Other prompts invited participants to reflect on decisions to move into careers in higher education and to explore the development of their research profiles. Gwen brought an eye mask, using it to cover her eyes to illustrate how she felt about research early in her career. This was at odds with her feelings about teaching on the PGCE programme, where her experience as a primary teacher gave her confidence.



Figure 2: Walking around in the dark (screenshot from Gwen's interview conversation)

‘And this eye mask sort of symbolises that feeling of just walking around in the dark, really not knowing what I was doing, particularly in relation to research’ (Gwen, interview conversation).

### **Concluding thoughts**

We pause here with some reflections. As might be expected, more questions are emerging as we research. As we engage with initial data, we are noticing the significance of ‘being seen’ - being recognised as a researcher. We hear teacher educators’ accounts of small acts by others that leave weighty, lengthy traces in their stories, that resonate in deeply felt ways.

Through exploring how the images/maps/objects that participants brought to the conversation enhanced the data, we are finding that the images represented by Alison’s map and Gwen’s eye mask are powerful in understanding their experiences. The sensory experience of sharing the image appears to enhance the conversation for both interviewer and interviewee, and results in a deeper awareness of the event being described.

We welcome reflections and any questions the fragments and images raise for you as we continue to analyse our data with initial teacher educators from other subjects.

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