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The attitudes of student-teachers to the perceived usefulness of CALL in initial teacher education

Louise Hanna¹ and David Barr²

Abstract. The attitudes of student-teachers to Computer Assisted Language Learning (CALL) remains an under-explored topic in research literature. This mixed-methods study engaged student-teachers in focus group discussions at commencement and completion of Initial Teacher Education (ITE). These student-teachers were situated across England, Scotland, Wales, and Northern Ireland. Student-teachers' beliefs regarding the perceived value of CALL experienced a considerable transformation between initial and follow-up focus group interactions. Beginning student-teachers collectively portrayed CALL in a complimentary light, with 67.5% of participant dialogue positively coded via thematic analysis. This contrasts with follow-up student-teacher discourse, where only 38.55% of nodes in NVivo were positively coded. Overall, belief changes were most marked for positive categories of CALL. Thus, maintaining optimistic opinions to CALL could be a worthwhile endeavour to promote student-teacher acceptance of digital technologies in language learning.

Keywords: CALL, student-teachers, attitudes, perceived usefulness.

1. Introduction

The primary aim of this research was to investigate student-teachers' attitudes to CALL. Researchers have stipulated the need for supplementary studies on this population's multidimensional relationship with CALL (Brun & Hinojroza, 2014, p. 236). This study details the cognitions of student-teachers to CALL over the duration of teacher education. This was from commencement to completion of their one-year Modern Language (ML) ITE programme. This research spanned across the four nations of the UK (England, Scotland, Wales, and Northern Ireland).

1. Ulster University, Coleraine, Northern Ireland; hanna-118@ulster.ac.uk; <https://orcid.org/0000-0001-8383-8164>

2. Ulster University, Coleraine, Northern Ireland; jd.barr@ulster.ac.uk; <https://orcid.org/0000-0003-1421-319X>

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2. Method

The geographical distribution of ITE establishments was an instrumental consideration in this study. It was vital to represent the UK and its regional diversity. Universities were initially targeted by disseminating an electronic questionnaire to teacher educators at every ML ITE institution in the UK. Responding teacher educators opted in/out of the research project. A focus group methodology was engaged in this investigation to understand student-teachers' views on CALL from September 2020 to June 2021. These focus groups were conducted with 60 student-teachers enrolled in seven ITE programmes. All focus groups occurred in the virtual environment due to COVID-19 restrictions. Thematic analysis ensued in the aftermath of focus group transcriptions. This analysis focused on meaning, patterns, and themes within the research data (Nastasi & Borja, 2017, p. 64). The six stages of Braun and Clarke's (2006) thematic analysis enriched knowledge and understanding of CALL phenomena for the target population (Guest, Macqueen, & Namey, 2012, p. 161).

3. Results and discussion

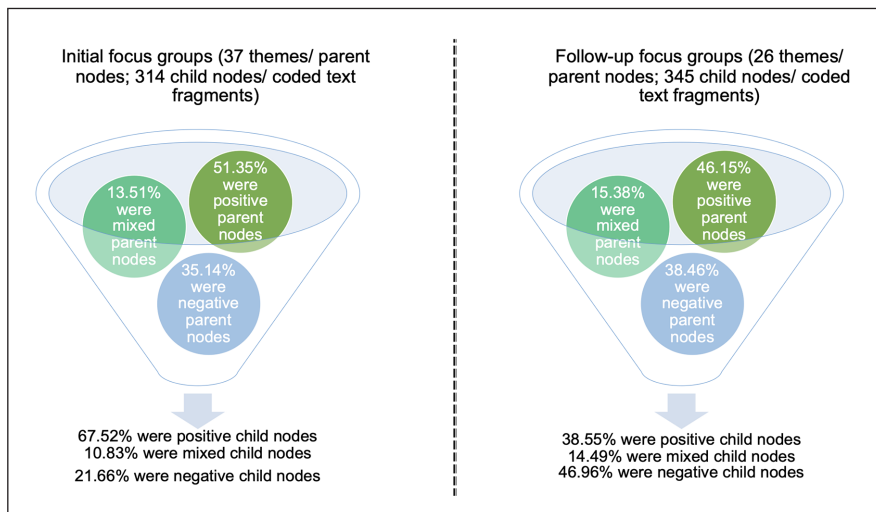
Thematic analysis exhibited many forms of CALL usefulness for student-teachers enrolled on Postgraduate Certificate or Diploma in Education (PGCE/PGDE) courses. A total of 314 (initial) and 345 (follow-up) views of CALL usefulness were individually captured in the NVivo software. There were 345 positive (52.35%), 84 mixed (12.75%), and 230 negative (34.90%) direct quotations and interjections of CALL worth from participants across both focus group stages. Student-teachers' words, phrases, and language were conceptually categorised into 37 corresponding parent nodes of CALL value. The prevalence of these themes of CALL usefulness changed between focus group sessions. This is briefly summarised in Table 1.

Table 1. The total number of positive, negative, and mixed themes to CALL usefulness

Number of Parent Nodes/Themes Corresponding to CALL Usefulness				
	Positive	Mixed	Negative	Total
Initial focus groups	19	5	13	37
Follow-up focus groups	12	4	10	26

This thematic coding of CALL usefulness in NVivo is presented simply in Figure 1. This qualitative data analysis methodology facilitated a strategic and systematic approach to understand the attitudes of student-teachers to CALL.

Figure 1. The process of qualitative thematic analysis in NVivo



Empirical data emerged from student-teacher dialogue by converting positive, negative, and mixed thematic codes of CALL into percentage occurrences within focus groups. The transformation of qualitative transcripts into quantitative data allowed the researcher to compare student-teachers' responses across distinct regions meaningfully. In addition, the researcher observed belief variations to CALL usefulness between teacher education start and end. There was a statistically significant reduction of 28.97% in positive viewpoints of CALL usefulness from 67.52% to 38.55%. Negative perceptions of CALL also increased by a quarter (25.30%) in final discussions from 21.66% to 46.96%. This compares to mixed perceptions to CALL value which remained remarkably consistent with only a 3.66% increase between focus group interactions. This displays that student-teachers' positive and negative perceptions of CALL do not remain uniform. Instead, they are subject to considerable fluctuation throughout ITE.

Student-teachers' perceptions regarding the perceived value of CALL experienced a considerable transformation between initial and follow-up focus group interactions. Thematic analysis of focus group data identified 19 positive themes in initial discussions and 12 in follow-up conversations. This decline in positivity to CALL has been supported in literature as constructive perceptions are more susceptible to change (Zhelezovskaia, 2016, p. 48). This reinforces the role of systematic technology preparation for student-teachers to sustain positive perceptions to CALL. Negative opinions of CALL were higher at ITE finish as a point of comparison to complementary views. This has been evidenced in

similar investigations, which correlate increased teaching experience with negative perceptions about CALL (Gjelaj, Buza, Shatri, & Zabeli, 2020, p. 179). This finding has practical ramifications, as higher negativity correlates to lower CALL usage. Such attitudinal shifts highlight that this population's perceptions about CALL are highly changeable, dynamic, and unfixated. Hence, student-teachers are likelier to display favourable yet fragile perceptions of CALL (Breiteig, Grevholm, & Kislenko, 2005, p. 4) Apart from these polarised categories of thinking, there were also uncertain reactions to CALL across opening and closing focus group discussions. However, thematic analysis showed that ambivalence to CALL was more consistent across the lifespan of teacher education. This is in direct contrast to approving and disapproving perceptions of CALL.

Comprehending the favourable, ambivalent, and unfavourable perceptions of this population is of critical importance in making sense of why student-teachers behave the way that they do with digital technologies. This is because their attitude to CALL depicts a student-teacher's state of readiness towards digital technology adoption. In fact, the belief systems of student-teachers are not isolated from their CALL classroom activities (Hell, Godhe, Wennås, & Brante, 2021, p. 9). This means that student-teachers' perceptions can only be understood from both their words and their actions. Thus, belief investigations within the field of teacher education are crucial as student-teachers' ways of thinking about CALL correlate with classroom usage (Vidal-Hall, Flewitt, & Wyse, 2020, p. 168). These perceptions of CALL can determine student-teacher success or failure with digital technologies.

4. Conclusions

In conclusion, participants demonstrated complimentary cognitions of CALL at PGCE/PGDE onset. These favourable mindsets to CALL have been demonstrated across similar research investigations (Lowther, Inan, Strahl, & Ross, 2012, p. 23). This is a meaningful finding as positive beliefs have been associated with a greater likelihood of CALL classroom behaviours (Wilson & Donkin, 2021, p. 51). At the same time, however, approving beliefs do not always equate to actual CALL usage for classroom practitioners. However, this was not the case at ITE conclusion. Crucially, favourable opinions of CALL decreased in follow-up discussions. Literature has confirmed that positive attitudes to digital technologies reduce throughout training programmes (Wittenberg et al., 2021, p. 4). Overall, the triangulation of focus groups with student-teachers gathered compelling evidence into the student-teacher mindset to CALL.

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