



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

Hanna, L., & Barr, D. (2022). The attitudes of student-teachers to the perceived usefulness of CALL in initial teacher education. In *Intelligent CALL, granular systems and learner data: short papers from EUROCALL 2022* (pp. 141-146) <https://doi.org/10.14705/rpnet.2022.61.1449>

[Link to publication record in Ulster University Research Portal](#)

### Published in:

Intelligent CALL, granular systems and learner data: short papers from EUROCALL 2022

### Publication Status:

Published online: 12/12/2022

### DOI:

[10.14705/rpnet.2022.61.1449](https://doi.org/10.14705/rpnet.2022.61.1449)

### Document Version

Publisher's PDF, also known as Version of record

### General rights

Copyright for the publications made accessible via Ulster University's Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

### Take down policy

The Research Portal is Ulster University's institutional repository that provides access to Ulster's research outputs. Every effort has been made to ensure that content in the Research Portal does not infringe any person's rights, or applicable UK laws. If you discover content in the Research Portal that you believe breaches copyright or violates any law, please contact [pure-support@ulster.ac.uk](mailto:pure-support@ulster.ac.uk).



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

Louise Hanna<sup>1</sup> and David Barr<sup>2</sup>

**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>

**How to cite this article:** Hanna, L., & Barr, D. (2022). The attitudes of student-teachers to the perceived usefulness of CALL in initial teacher education. In B. Arnbjörnsdóttir, B. Bédi, L. Bradley, K. Friðriksdóttir, H. Garðarsdóttir, S. Thouéšny, & M. J. Whelpton (Eds), *Intelligent CALL, granular systems, and learner data: short papers from EUROCALL 2022* (pp. 141-146). Research-publishing.net. <https://doi.org/10.14705/rpnet.2022.61.1449>

## 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.

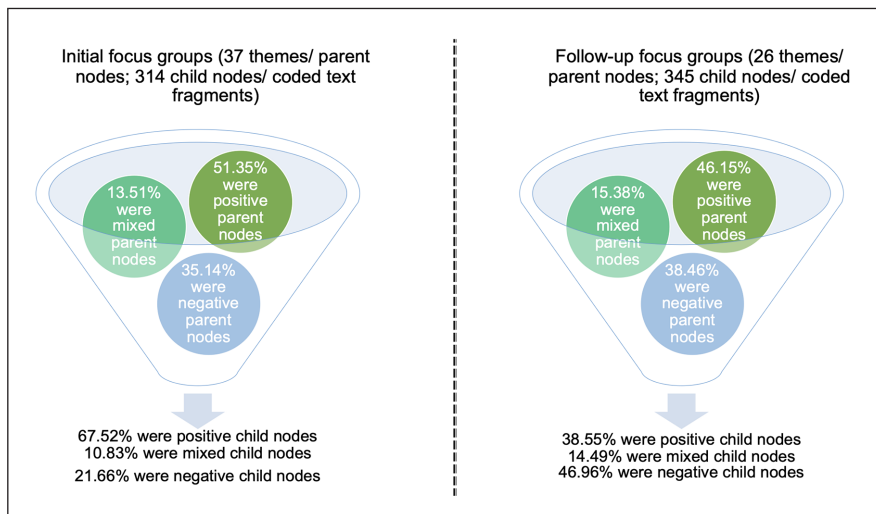
Table 1. The total number of positive, negative, and mixed themes to CALL usefulness

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 unfixed. 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.

## 5. Acknowledgements

We would like to thank Ulster University and the participation of student-teachers in this research project.

## References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Breiteig, T., Grevholm, B., & Kislenko, K. (2005). Beliefs and attitudes in mathematics teaching and learning. In *Nordisk Konferanse I Matematikdidaktikk Ved NTNU: 15/11/2004-16/11/2004* (pp. 129-138). Department of Geography, Norwegian University of Science and Technology. <https://www.Diva-Portal.Org/Smash/Get/Diva2:1008965/FULLTEXT01.Pdf>
- Brun, M., & Hinojosa, J. E. (2014). Learning to become a teacher in the 21st century: ICT integration in initial teacher education in Chile. *Journal of Educational Technology & Society*, 17(3), 222-238. <https://www.jstor.org/stable/jeductechsoci.17.3.222>
- Gjelaj, M., Buza, K., Shatri, K., & Zabeli, N. (2020). Digital technologies in early childhood: attitudes and practices of parents and teachers in Kosovo. *International Journal of Instruction*, 13(1), 165-184. <https://doi.org/10.29333/iji.2020.13111a>
- Guest, G., Macqueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. Sage.s
- Hell, A., Godhe, A. L., & Wennås Brante, E. (2021). Young L2 learners' meaning-making in engaging in computer-assisted language learning. *The EuroCALL Review*, 29(1), 2-18. <https://doi.org/10.4995/eurocall.2021.12859>
- Lowther, D. L., Inan, F. A., Strahl, J. D., & Ross, S. M. (2012). Do one-to-one initiatives bridge the way to 21st century knowledge and skills? *Journal of Educational Computing Research*, 46(1), 1-30. <https://doi.org/10.2190/EC.46.1.a>
- Nastasi, B. K., & Borja, A. P. (2017). *International handbook of psychological well-being in children: bridging the gaps between theory, research, & practice*. Springer.
- Vidal-Hall, C., Flewitt, R., & Wyse, D. (2020). Early childhood practitioner beliefs about digital media: integrating technology into a child-centred classroom environment. *European Early Childhood Education Research Journal*, 28(2), 167-181. <https://doi.org/10.1080/1350293X.2020.1735727>
- Wilson, H., & Donkin, L. (2021). Understanding New Zealand adults attitudes towards digital interventions for health. *Psychological Applications and Trends 2021*. <https://doi.org/10.36315/2021inpact011>
- Wittenberg, E., Goldsmith, J. V., Chen, C., Prince-Paul, M., & Capper, B. (2021). COVID 19-transformed nursing education and communication competency: testing COMFORT educational resources. *Nurse Education Today*, 107, 105105. <https://doi.org/10.1016/j.nedt.2021.105105>

Zhelezovskaia, I. (2016). *A case study of the English language teachers' attitudes toward use of information and communication technology (ICT) in Finland*. <https://www.utupub.fi/handle/10024/124686>

Published by Research-publishing.net, a not-for-profit association  
Contact: [info@research-publishing.net](mailto:info@research-publishing.net)

© 2022 by Editors (collective work)  
© 2022 by Authors (individual work)

**Intelligent CALL, granular systems and learner data: short papers from EUROCALL 2022**  
Edited by Birna Arnbjörnsdóttir, Branislav Bédi, Linda Bradley, Kolbrún Friðriksdóttir, Hólmfríður Garðarsdóttir, Sylvie Thoučsny, and Matthew James Whelpton

**Publication date:** 2022/12/12

**Rights:** the whole volume is published under the Attribution-NonCommercial-NoDerivatives International (CC BY-NC-ND) licence; **individual articles may have a different licence.** Under the CC BY-NC-ND licence, the volume is freely available online (<https://doi.org/10.14705/rpnet.2022.61.9782383720157>) for anybody to read, download, copy, and redistribute provided that the author(s), editorial team, and publisher are properly cited. Commercial use and derivative works are, however, not permitted.

**Disclaimer:** Research-publishing.net does not take any responsibility for the content of the pages written by the authors of this book. The authors have recognised that the work described was not published before, or that it was not under consideration for publication elsewhere. While the information in this book is believed to be true and accurate on the date of its going to press, neither the editorial team nor the publisher can accept any legal responsibility for any errors or omissions. The publisher makes no warranty, expressed or implied, with respect to the material contained herein. While Research-publishing.net is committed to publishing works of integrity, the words are the authors' alone.

**Trademark notice:** product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

**Copyrighted material:** every effort has been made by the editorial team to trace copyright holders and to obtain their permission for the use of copyrighted material in this book. In the event of errors or omissions, please notify the publisher of any corrections that will need to be incorporated in future editions of this book.

Typeset by Research-publishing.net  
Cover photo by © 2022 Kristinn Ingvarsson (photo is taken inside Veröld – House of Vigdís)  
Cover layout by © 2022 Raphaël Savina ([raphael@savina.net](mailto:raphael@savina.net))

ISBN13: 978-2-38372-015-7 (PDF, colour)

British Library Cataloguing-in-Publication Data.  
A cataloguing record for this book is available from the British Library.

**Legal deposit, France:** Bibliothèque Nationale de France - Dépôt légal: décembre 2022.