Can we research students' sense of belonging without affecting it? A process evaluation exploring online diaries as a student voice activity

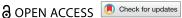David Gilani & Liz Thomas

Published online: 07 Apr 2025.

Submit your article to this journal ↗

View related articles ↗

View Crossmark data ↗

Routledge
Taylor & Francis Group

Can we research students' sense of belonging without affecting it? A process evaluation exploring online diaries as a student voice activity

David Gilani [a] and Liz Thomas [b]

aMiddlesex University, London, United Kingdom; bUniversity of York, York, United Kingdom

ABSTRACT

Due to its clear links with student success outcomes, many universities are now invested in researching and monitoring their students' sense of belonging. This article provides a case study of implementing a research project at two English universities using the online diaries research method with 65 first-year undergraduate students. A large majority of participants (83%) felt that the process of reflecting on their sense of belonging had itself positively contributed to their sense of belonging. Students reported that the online diaries helped them find acceptance when experiencing challenges to their sense of belonging, as well as reminders of positive experiences of belonging. These findings suggest an 'observer effect': that asking students about their sense of belonging is likely to affect it. This article concludes with a discussion on implications for the design of our student voice approaches, as well as challenges towards the external validity of research around student belonging.

Introduction

Students' sense of belonging is an increasingly-discussed topic within higher education research (Allen et al. 2024; Gilani 2023), due to its close connections to various aspects of student success; such as student satisfaction, retention, wellbeing and academic performance (Gillen-O'Neel 2021; Murphy et al. 2020; Sotardi 2022; Veldman, Meeussen, and van Laar 2023). Given the dynamic, messy and personal nature of belonging as a concept (Allen et al. 2024; Gravett et al. 2023), there is increasing interest amongst researchers and university practitioners to use innovative qualitative methodologies when trying to capture the student voice around this topic (Connor et al. 2024; Napper, Munley Stone, and Neely 2023; Parkin and Heron 2023).

This article explores the use of another innovative qualitative methodology: the online diaries research method. As part of a larger study, first-year undergraduate students at two English universities were invited to contribute to a series of online diaries around their experiences of belonging. 65 students took part in the longitudinal online diaries aspect of the project, regularly reflecting on and sharing reflections on their sense of belonging.

This article does not explore the results of those online diaries, but instead utilises a process evaluation approach to explore students' reflections on their use of online diaries to answer the following research question: To what extent do students perceive that regular reflection through online diaries impacts their sense of belonging at university?

As part of an end-of-project evaluation, participants in the wider research study were surveyed about their reflections on their participation in the project. 52 Responses to open questions within this questionnaire were summarised using sentiment analysis. These analyses show that 83% of participants said that the process of reflection through the online diaries was itself helpful towards developing a positive sense of belonging at university.

The article ends with a discussion around how different research methods and student voice approaches may themselves affect students' sense of belonging. This discussion borrows a concept from quantum physics known as the 'observer effect' or 'Heisenberg principle' (Heisenberg 1949), where observing a phenomenon leads to it changing, connecting this to the well-explored concept of reflective practice. Practical recommendations are included around how online diaries method and other qualitative methods could be utilised in more contexts to complement existing student voice mechanisms in universities.

Literature review

The concept and importance of student belonging

When asked about defining belonging, students often talk about feelings and perception: 'Perception is at the

heart of belonging' (Cook-Sather and Seay 2021, 740). This is often described metaphorically as feeling at home (Ahn and Davis 2022) or a feeling of being part of a community (Peacock et al. 2020). The feeling of comfort is also prevalent (Vaccaro and Newman 2016) and of being able to be one's true, authentic self (Picton, Kahu, and Nelson 2017). Numerous studies have conceptualised this personal and subjective nature of belonging through an ecological theoretical framework, such as the Bronfenbrenner Ecological Model of Human Development (Bronfenbrenner 1994). This framework recognises the various spheres of influence that we all have as potential places to build relationships and identities, and how these all interact (Buckley 2022; Mendoza, Suarez, and Bustamante 2016; Vaccaro and Newman 2016). It is this conceptualisation and theoretical framing of belonging that it utilised within this study, due to its comprehensive appreciation of the micro factors – such as relationships with teachers and peers – and macro factors – such as institutional culture and customs – which can influence students' sense of belonging at university.

Beyond understanding what belonging means for students, many studies have also cemented the important role that belonging plays in successful student outcomes. Research has shown that student belonging is a significant prerequisite of retention (Gilani, McArthur, and Thomas 2024; Murphy et al. 2020), both directly and in terms of improved intention to persist (Hausmann, Schofield, and Woods 2007), increased student engagement (Gillen-O'Neel 2021), improved academic performance (Sotardi 2022) and positive mental health (Veldman, Meeussen, and van Laar 2023). Given these close links to student success, more research and practical efforts at universities is being focused on trying to better understand and influence students' sense of belonging (Gilani 2023).

Researching and measuring student belonging

Given that student belonging is considered as a personal, internally defined construct (Allen et al. 2024), there is a lot of qualitative research that has provided space for students to talk about what it means for them and what helps them to feel a sense of belonging. This research has led to our understanding of student belonging conceptualised in the above section. Whilst most research uses more typical methods such as focus groups, interviews and open-text comment analysis from surveys, newly developed innovative qualitative methods have also been utilised to further explore the messy concept of belonging (Gravett et al. 2023). This includes examples such as the use of photography methodologies to capture spaces on campus that foster belonging (Napper,

Munley Stone, and Neely 2023) and the Listening Rooms methodology, where pairs of students interview each other on various topics, including what impacts their sense of belonging (Parkin and Heron 2023).

Despite belonging being recognised as fluid and transient in nature (Gravett et al. 2023), most existing research looks at belonging at a single point in time. Where longitudinal research does exist looking into students' sense of belonging it has furthered our understanding of how different factors impact on belonging across the student lifecycle (Picton, Kahu, and Nelson 2017) and thus how students' sense of belonging changes over time (Gillen-O'Neel 2021; Hausmann, Schofield, and Woods 2007).

Literature review summary

Students feel a sense of belonging when they feel safe, secure and accepted as part of their university communities (Peacock et al. 2020; Picton, Kahu, and Nelson 2017; Vaccaro and Newman 2016). A wide variety of research, including through the use of innovative qualitative methodologies, has expanded our understanding of the concept (Napper, Munley Stone, and Neely 2023; Parkin and Heron 2023). However, even though belonging is known to change over time (Gravett et al. 2023; Hausmann, Schofield, and Woods 2007), most research into belonging only captures a single snap-shot, rather than taking a longitudinal approach.

Methodological approach

Case study of using online diaries

As part of a larger study, first-year undergraduate students at two English universities were invited to contribute to a series of online diaries around their experiences of belonging. Sixty five students took part in the online diaries aspect of the project. Participants were given the choice of how they wish to provide their reflections for each of the online diary entries – which could take the form of either blogs, video diaries or audio recordings. Participants were then prompted to share their thoughts on belonging roughly every three weeks throughout their first year of study.

Online diaries were chosen as the method of data collection for three reasons. Firstly, online diaries present a way for the experiences of participants to be captured on a longitudinal basis without the need for further in-person interaction between the researcher and the participants. This distance may allow participants to disclose information that they perceive as too personal to share in interviews (Day and Thatcher 2009).

Secondly, from a practical standpoint, online diaries collect experiences from participants at a distance and

collectively – i.e. not from one participant at a time – allowing for inclusion of more participants without additional resourcing challenges. Finally, in addition to the benefit of addressing the gap in longitudinal research on the subject of student belonging, utilising online diaries throughout the academic year captures data from participants near to when events happen, thus reducing the potential for errors in recall (Cucu-Oancea 2013). The approach of using online forms for students to submit their diaries at regular intervals also helped to mitigate the risk that participants would retroactively complete multiple diary entries at the end of the research, which is a risk with some hard-copy diary research approaches (Baker 2023).

Within each online diary call-out participants were asked to reflect on a different aspect of belonging, as well as some secondary prompts which stayed constant throughout all diary entries. Participants were able to choose how much time or how many words to write on each of the various prompts. This additional layer of self-direction is more likely to allow participants to share information about what was most important to them (Baker 2021). A full schedule of prompts from the online diaries is presented in Table 1.

The study was designed so that students did not have to complete all diary entries to be able to participate. Students were given a £5 voucher for each diary entry completed, recognising that students would have different time commitments. Two hundred and seven online diary entries were submitted in total, for an average of 3.2 submissions per participant.

Context and sample

As part of the final online diary entry invitation, students were informed that they would be given the opportunity to answer some additional questions about their experiences of taking part in this aspect of the research

project. Participants provided their responses to these questions via the Qualtrics platform where they submitted their online diaries, to prevent students needing to complete a separate form. Students who completed these additional questions were provided with an additional £5 voucher for their participation. 35 students completed these additional process evaluation questions, representing 54% of those who took part in the online diaries research.

Instruments and measures

Whilst impact evaluation deals with the assessing the effectiveness of interventions, implementation and process evaluation helps to assess whether interventions are being implemented as intended and provides useful learnings to revise and improve activities in the future (TASO 2023). Process evaluations are incredibly flexible in their application (Grant, Bugge, and Wells 2020), which means the approach can be used in a wide variety of contexts, but also poses a risk that it is used in an unstructured way.

Within the context of this article, a bespoke question set was developed to explore students' experiences of all aspects of the online diaries method (Table 2). These questions explored participants' reflections on frequency, mediums, and incentivisation around the diaries, as well as more detailed questions about how they approached submitting their reflections. Most items in the process evaluation instrument were closed-question, however the final question, which is the focus of this article, was open-text: 'Did the process of reflecting on your feelings of belonging feel helpful in itself?'

Data analysis

Whilst reflective thematic analysis was utilised for the analysis of the online diaries themselves (Braun and

Table 1. Prompts used within online diaries.

Overarching prompt questions (present in all diary entry requests)			
What are some of the areas where you have felt a sense of belonging at university over the last few weeks?	Are there any areas where you have felt more isolated, excluded or alienated?	Have you taken any steps to build your sense of belonging?	What barriers have you faced in your attempts to build your sense of belonging?
Additional, timely prompts			
Oct / Nov	Nov / Dec	Dec / Jan	Jan / Feb
What spaces at university (both online and in person) do you feel a positive sense of belonging? Are there any spaces where you don't feel welcome?	To what extent do you feel like you belong in your classes (lectures and seminars)? What are the positives and negatives?	Have you been able to find groups of students to make friends where you feel like you belong?	What are your relationships like with academic staff on your course? Do you feel respected and a sense of belonging with your lecturers?
Feb / Mar	Mar / Apr	Apr / May	
How has your belonging changed at university since you started back in September? What feels different now compared to six months ago? Have your priorities changed in terms of areas where you wanted to belong?	What challenges are you still facing in terms of feeling a sense of belonging? Is there anything that you've tried to do to overcome barriers that still hasn't worked?	As we're now coming towards the end of the academic year, what lessons have you learned about building belonging? What do you wish you could have known when you started?	

Table 2. Process evaluation results from online diaries participants.

Question	Options	Count	Percentage
It was easy to submit via the online diary platform	Strongly agree	25	71%
	Agree	3	9%
	Neither agree nor disagree	2	6%
	Disagree	3	9%
	Strongly disagree	2	6%
Being able to choose which medium (written, audio or video) was helpful	Strongly agree	31	89%
	Agree	3	9%
	Neither agree nor disagree	1	3%
	Disagree	0	0%
	Strongly disagree	0	0%
I wish I had other options of how to submit my diary entries	Strongly agree	1	3%
	Agree	1	3%
	Neither agree nor disagree	8	25%
	Disagree	9	28%
	Strongly disagree	13	41%
There were seven diary entry requests throughout the year – about every three weeks – what did you think about this frequency?	There should have been fewer diary entry requests (less frequent)	3	9%
	The number of diary entry requests was about right	26	74%
	There should have been more diary entry requests (more frequent)	6	17%
If you missed any of the online diary requests, what were the main reasons for this?	Not seeing emails / reminders about the diaries	11	31%
	Not having enough time	13	37%
	Other (please add comments)	10	29%
	The incentive (Amazon vouchers) wasn't worth it	1	3%
Were they any topics / examples that you felt were too personal / private to share in your online diaries?	I felt that I could share everything	27	77%
	There were a few things that I chose not to share	7	20%
	There were many things that I chose not to share	1	3%
How did you approach completing the online diaries?	I only reflected on belonging when producing each diary entry	12	39%
	I reflected on belonging between diary entries, but made no notes	9	29%
	I made notes (written, audio, video or otherwise) on belonging between diary entries, which I then used for my submissions	10	32%
Did the process of reflecting on your feelings of belonging feel helpful in itself? (open text question, which was processed through sentiment analysis)	Positive sentiment (yes)	25	83%
	Mixed sentiment (a bit)	2	7%
	No sentiment (No difference)	3	10%
	Negative sentiment (Worse)	0	0%

Clarke 2006, 2019), this was not required for the process evaluation, given the more structured set of questions. For the open-text question around whether students felt that the process of participating in the diaries was beneficial to their sense of belonging, sentiment analysis was utilised to determine a positivity score for each participants' submission. Sentiment analysis, most commonly used in computer sciences, provides a method for attributing positivity scores through the categorisation of opinions expressed in a piece of text (Devika, Sunitha, and Ganesh 2016; Mao, Liu, and Zhang 2024). Participants' responses to this question were categorised as either 'positive', 'mixed', 'neutral' or 'negative', however quotes from the responses have also been included in the subsequent section.

Results – process evaluation of online diaries research

Within the last diary entry, participants were asked to answer some questions reflecting on their experience taking part in the online diaries aspect of the research project (Table 2). These results show that most participants found it easy to submit via the online diary platform, found it helpful to be able to choose which medium they wanted to submit their answers through (e.g. written, audio or video) and did not wish they had other options of how to submit their online diaries. 74% of respondents felt that the number of opportunities to submit online diaries was about right and the reasons that participants sometimes missed diary entry requests was split evenly between not seeing the email requests and not having enough time. The Amazon voucher incentives was an option that participants could have selected as a reason for missing online diaries, but only one participant did so, suggesting that the vast majority were satisfied with this approach. 77% of respondents felt that they could share everything that they wanted, but 20% said that there were a few things they chose not to share due to it being too personal. Participants were split evenly between whether they only reflected on belonging when producing their diary entry vs. those who did some reflecting beforehand, but made no notes and those who did make notes between diary entry completions. This means that over 60% of respondents did do some reflecting on belonging between when writing or recording their diary entries.

Participants were also asked whether the process of reflecting on their belonging was helpful in itself and 83% responded positively. Some students appreciated the encouragement to reflect, which seemed to have

an inherent feeling of usefulness: 'It allowed me to put in words certain things that I have not necessarily voiced out loud to other people which, although providing no concrete changes to my problems, still felt beneficial' (P33 – participant numbers are included within Table 3, which also lists demographic details). The process of reflecting seemed to help validate students' feelings, or as one participant put it, 'it helped me to accept how I truly feel' (P4). This led to students feeling a sense of enjoyment, as the diaries provided them with a 'nice reminder' (P30) of what was currently supporting their sense of belonging. Multiple students commented on how this process of reflection allowed them to better appreciate the journey that they had

Table 3. Participant ID and demographic details. For institution, WP refers to those studying at the widening participation university, whilst Selective refers to those from the more selective-recruiting university.

Participant ID	Institution	Fee status	# Diaries completed
P1	WP	UK	1
P2	WP	International	1
P3	WP	International	1
P4	WP	UK	6
P5	WP	UK	2
P6	WP	UK	7
P7	WP	UK	1
P8	Selective	UK	4
P9	WP	International	2
P10	WP	UK	5
P11	WP	International	1
P12	WP	UK	4
P13	WP	UK	1
P14	WP	International	4
P15	WP	International	7
P16	Selective	UK	7
P17	Selective	UK	7
P18	WP	UK	7
P19	WP	UK	5
P20	WP	UK	7
P21	WP	UK	2
P22	WP	UK	2
P23	WP	Prefer not to say	3
P24	Selective	UK	6
P25	WP	UK	3
P26	WP	UK	2
P27	WP	International	1
P28	WP	International	4
P29	Selective	UK	7
P30	WP	UK	7
P31	Selective	International	2
P32	WP	Prefer not to say	6
P33	Selective	UK	4
P34	Selective	International	5
P35	Selective	UK	2
P36	Selective	UK	1
P37	WP	International	1
P38	Southampton	International	7
P39	WP	UK	1
P40	Selective	International	2
P41	Selective	UK	4
P42	Selective	UK	5
P43	WP	Prefer not to say	3
P44	Selective	UK	6
P45	Selective	International	4
P46	WP	UK	7
P47	WP	International	2
P48	WP	International	6
P49	Selective	Prefer not to say	7
P50	WP	International	2
P51	Selective	UK	6
P52	WP	UK	7

been on across the academic year: 'It has been helpful to keep a record of my sense of belonging as I can see how much has changed since the beginning and how I have grown more confident' (P42).

Some participants also felt that there were other tangible benefits that they acquired through the reflection process. A couple of students noted how reflecting on their sense of belonging encouraged them to 'move forward in a purposeful and positive manner' (P46). Whilst some students felt that the process allowed them to develop skills around introspection and how they articulated themselves. One participant suggested that they had elements of their course that required reflection and they could apply skills that they had gained through the diaries towards that assessment.

Not all participants added much detail when reflecting on the process of taking part in the diaries. This was especially true for participants who left comments suggesting that the process was not helpful. One participant explained their mixed sentiment, suggesting that they enjoyed being asked for their opinions, but found the concept of belonging too 'vague' to be able to know what to really talk about in their diaries (P12). No participants said that the reflection led them to feeling a lower or worse sense of belonging, however 7% gave mixed sentiment responses and 10% left short comments suggesting that the process had made no difference to their sense of belonging.

Discussion

After sharing their perspectives through the online diaries, the majority of students reported the benefits of reflecting on their own sense of belonging (Cook-Sather and Seay 2021). This suggests that research or student voice activities around student belonging may have their own 'observer effect' (Heisenberg 1949), where observing the phenomenon leads to it changing. This is perhaps unsurprising given the previous positive connections drawn between self-reflective activities and student belonging (Murphy et al. 2020). Reflective practice, where students take time to consider and make sense of their experiences, is well-documented as being a beneficial activity for students' learning (Dewey 1933; Moon 1999; Schön 1983). We do not learn from experience … we learn from reflecting on experience (Dewey 1933, 78). In this case, the online diaries provided students with a regular opportunity to engage in 'reflection-on-action'; exploring their recent experiences, why they acted as they did, and what could be done differently in the future (Schön 1983). In addition, some students may have participated in 'reflection-in-action', as they commented on how they reflected on what they would include in their online diaries ahead of time.

Crucially, the online diaries provided students with structure to help guide their reflections to the issues

of most importance for each participant (Moon 1999). Whilst Moon argued for the benefits of reflection primarily in the form of writing (Moon 2004), many of the benefits could also be attributed to reflective story telling in the form of voice notes or video recordings, utilised by some of the participants for their online diaries.

The process of reflecting on belonging seemed to both improve belonging directly – through validation of students' beliefs and recognition of progress made in belonging up to that point – and indirectly – through development of skills and plans, which allowed them to better build belonging subsequently. This suggests that institutions should think carefully when building strategies around student voice activities and student belonging. Many institutions prioritise sending surveys and questionnaires to maximise the number of students who they can gather responses from, whilst minimising time to analyse the results (Grebennikov and Shah 2013). However, inviting students to take part in richer, qualitative self-reflection may have more immediate benefits for students. Although, it must be recognised that analysing these submissions from students would likely be more resource intensive. Taking this approach could be reflected in changes to institutional student voice approaches or through greater involvement of students in institutional research practices (Austen 2020).

Whilst it may be seen as beneficial that students reported positive effects of participating in the online diaries study, this also suggests potential risks to the external validity of student belonging research. External validity concerns whether a study's findings can be generalised to wider populations and contexts (Ross and Bibler Zaidi 2019). If the process of being a participant in student belonging research affects one's sense of belonging, then this suggests an unavoidable disconnect between belonging research participants and the broader experiences of student populations. Given that students' sense of belonging at university is fundamentally about perceptions and feelings (Cook-Sather and Seay 2021; Peacock et al. 2020), all methods to research it must involve some aspect of self-reflection amongst students. Whilst not all methods will involve the extent or depth of self-reflection that is achieved through the online diaries approach, this does suggest that, in answering the question in the title of this article, all attempts to research student belonging pose a risk of affecting it to at least some extent.

Implications for practice

This section summarises implications for a variety of audiences, based on the results and discussion of this article.

Teaching staff and practitioners designing approaches and interventions to enhance students' sense of belonging should consider how providing spaces and opportunities for students to regularly reflect on changes in their sense of belonging might in itself contribute to positive changes in belonging. This could be embedded within reflective practices as part of assessment design, student feedback practices or personal tutoring conversations.

For researchers, student voice practitioners, and evaluation professionals, when designing student voice approaches or research projects related to the topic of student belonging, consider how participation in such opportunities may impact students' sense of belonging. This may affect external validity of research projects, if those who participate have their sense of belonging affected just through the participation process. This could be potentially addressed or mitigated through the use of experimental or quasi-experimental research designs, where all participants – even those not receiving a particular belonging intervention – are utilising the same reflective method to provide their feedback on any changes in their sense of belonging.

Student voice practitioners and higher education managers should consider how providing opportunities, and incentives, for students to provide richer, qualitative reflections on their experiences of belonging at university, may in itself provide benefits for students. Although organising and analysing qualitative research methods may require different resourcing approaches, this could overall be seen as an investment in student support practices (Connor et al. 2024).

The findings of this study also suggest that there are important messages that should be considered by students. Foremostly, it is completely normal for your sense of belonging at university to change over time. This may include some periods where you face great challenges and feel lonely, isolated and alienated. It is often the case that these challenges ease over time, especially if you reach out for support. Self-reflection on your sense of belonging at university can be an important first step in knowing when you might benefit from reaching out for support, or even just to put into perspective any positives or negatives that you may currently be experiencing and how they have changed over time. Give yourself that space for reflection and you'll likely see the benefits.

Limitations and opportunities for future research

One limitation of this study's approach is that it focuses purely on self-reported measures from participants on whether they found the online dairies beneficial to their sense of belonging. Such self-reported measures, whilst useful, could be built upon in future research

through the evaluation of outcome measures that may be more reliable (TASO 2020). For example, future studies could analyse participation in online belonging diaries against changes in scores from a validated belonging scale, against a comparative group not taking part in online diaries.

Future studies could also examine whether different types of reflective activities and research methods are more impactful towards building belonging than others. It is unclear whether it was the specific online diary approach that led to improvements in students belonging or if this would also be replicated through other belonging research methods. This article has only considered the results of a process evaluation from one research project, whereas a future review that considers many different process evaluations from different methods used in belonging research could confirm whether this observer effect is replicated elsewhere.

Conclusions

Qualitative research methods, such as the online diaries approach, ask participants to engage in a deep level of reflection. Whilst this approach may ask a lot from participants, this process evaluation suggests that it also enables potential benefits. The vast majority of participants in this online diary research espoused that just the process of being able to reflect was helpful in itself to developing their sense of belonging. The personal nature of students' sense of belonging, recognised through the Bronfenbrenner model of ecological development, may be especially complemented by this research method that encourages such rich personal reflection. This presents some provocations for university practices that focus solely on utilising surveys and other quantitative methods in their student voice approaches. Institutions should consider the close connection between student voice approaches and building students' sense of belonging at university.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

David Gilani works at Middlesex University as a staff governor and their Head of Student Engagement and Advocacy, leading their efforts to engage both current students and alumni. Having started his career as a students' union officer, he is a strong advocate of the student voice, and in 2012, he founded the Student Publication Association, which supports student journalists across the UK and Ireland. He believes strongly in universities working together to support student engagement efforts, so he leads AHEP's

Student Experience and Engagement Network. He has recently completed his PhD at the University of York on the topic of student belonging.

Liz Thomas is professor of higher education at the University of York and Visiting Professor at Aston University and Anglia Ruskin. Liz has been researching student diversity, experiences, and equitable outcomes in higher education for over 25 years. She is committed to using research to improve policy, practice, and equity, including the What works? Student retention and success programme (2008–2017) which focused on building student engagement and belonging. In 2024–25 she is working with the Technological Higher Education Association Ireland and other providers to explore whole provider and whole sector approaches to enabling commuter student engagement and success.

ORCID

David Gilani 🟢 http://orcid.org/0000-0003-1099-7118
Liz Thomas 🟢 http://orcid.org/0000-0003-2101-0067

References

Ahn, M. Y., and H. H. Davis. 2022. "Are Local Students Disadvantaged? Understanding Institutional, Local and National Sense of Belonging in Higher Education." *British Educational Research Journal* 49 (1): 19–34. https://doi.org/10.1002/berj.3826.

Allen, K., C. Slaten, S. Hong, M. Lan, H. Craig, F. May, and V. Counted. 2024. "Belonging in Higher Education: A Twenty Year Systematic Review." *Journal of University Teaching and Learning Practice* 21 (5): 1–55. https://doi.org/10.53761/s2he6n66.

Austen, L. 2020. "The Amplification of Student Voices Via Institutional Research and Evaluation." In *A Handbook for Student Engagement in Higher Education*, edited by T. Lowe, and Y. El Hakim, 164–176. Abingdon: Routledge. https://doi.org/10.4324/9780429023033-16.

Baker, Z. 2021. "Young People Engaging in Event-Based Diaries: A Reflection on the Value of Diary Methods in Higher Education Decision-Making Research." *Qualitative Research* 23 (3): 686–705. https://doi.org/10.1177/14687941211048403.

Baker, Z. 2023. "Young People Engaging in Event-Based Diaries: A Reflection on the Value of Diary Methods in Higher Education Decision-Making Research." *Qualitative Research* 23 (3): 686–705. https://doi.org/10.1177/14687941211048403.

Braun, V., and V. Clarke. 2006. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3 (2): 77–101. https://doi.org/10.1191/1478088706qp063oa.

Braun, V., and V. Clarke. 2019. "Reflecting on Reflexive Thematic Analysis." *Qualitative Research in Sport, Exercise and Health* 11 (4): 589–597. https://doi.org/10.1080/2159676X.2019.1628806.

Bronfenbrenner, U. 1994. "Ecological Models of Human Development." In *International Encyclopaedia of Education, Vol. 3*, edited by P. Peterson, E. Baker, and B. McGaw. Oxford: Elsevier. Reprinted in Gauvain, M. & Cole, M. (Eds.), *Readings on the Development of Children* (1993, pp. 37–43). NY: Freeman.

Buckley, J. B. 2022. "From "Cliques" to "Common Ground": Social Class, Layered Belonging, and Characteristics of Symbolic Boundaries in the Transition From Public High Schools to a Public University." *The Journal of Higher*

Education 94 (1): 8–33. https://doi.org/10.1080/00221546. 2022.2131963.

Connor, S., D. Gilani, C. Cojocaru, E. Heron, H. Parkin, L. Thomas, M. May, and R. O'Connor. 2024. *Belonging Research Project: An Analysis of Innovative Methodologies (Version 2)*. National Teaching Repository. https://doi.org/ 10.25416/NTR.27248700.v2.

Cook-Sather, A., and K. Seay. 2021. "I was Involved as an Equal Member of the Community: How Pedagogical Partnership Can Foster a Sense of Belonging in Black, Female Students." *Cambridge Journal of Education* 51 (6): 733–750. https://doi.org/10.1080/0305764X.2021.1926926.

Cucu-Oancea, O. 2013. "Using Diaries – A Real Challenge for the Social Scientist." *Procedia – Social and Behavioral Sciences* 92:231–238. https://doi.org/10.1016/j.sbspro. 2013.08.665.

Day, M., and J. Thatcher. 2009. "I'm Really Embarrassed That You're Going to Read This … : Reflections on Using Diaries in Qualitative Research." *Qualitative Research in Psychology* 6 (4): 249–259. https://doi.org/10.1080/14780880802070583.

Devika, M. D., C. Sunitha, and A. Ganesh. 2016. "Sentiment Analysis: A Comparative Study on Different Approaches." *Procedia Computer Science* 87:44–49. https://doi.org/10. 1016/j.procs.2016.05.124.

Dewey, J. 1933. *How We Think*. Boston: D.C. Heath and company.

Gilani, D. 2023. "Building Belonging a Year On – How has Higher Education Changed?" *Wonkhe*. https://wonkhe. com/blogs/building-belonging-a-year-on-how-has-the-sector-changed/.

Gilani, D., D. McArthur, and L. Thomas. 2024. "The Promise and Limitations of Student Belonging as a Predictor of Retention." *Trends in Higher Education* 3 (4): 993–1016. https://doi.org/10.3390/higheredu3040058.

Gillen-O'Neel, C. 2021. "Sense of Belonging and Student Engagement: A Daily Study of First- and Continuing-Generation College Students." *Research in Higher Education* 62 (1): 45–71. https://doi.org/10.1007/s11162-019-09570-y.

Grant, A., C. Bugge, and M. Wells. 2020. "Designing Process Evaluations Using Case Study to Explore the Context of Complex Interventions Evaluated in Trials." *Current Controlled Trials in Cardiovascular Medicine* 21 (1): 982. https://doi.org/10.1186/s13063-020-04880-4.

Gravett, K., R. Ajjawi, M. Bearman, J. Holloway, R. Olson, and N. Winstone. 2023. "Belonging as Flickering and in Flux in Academic Work: A Collective Biography." *International Journal of Qualitative Studies in Education* 37 (7): 1–15. https://doi.org/10.1080/09518398.2023.2258095.

Grebennikov, L., and M. Shah. 2013. "Student Voice: Using Qualitative Feedback from Students to Enhance Their University Experience." *Teaching in Higher Education* 18 (6): 606–618. https://doi.org/10.1080/13562517.2013.774353.

Hausmann, L. R. M., J. W. Schofield, and R. L. Woods. 2007. "Sense of Belonging as a Predictor of Intentions to Persist Among African American and White First-Year College Students." *Research in Higher Education* 48 (7): 803–839. https://doi.org/10.1007/s11162-007-9052-9.

Heisenberg, W. 1949. *The Physical Principles of the Quantum Theory (Unabridged and Unaltered Republ. of the Work First Publ. 1930 ed.)*. Dover.

Mao, Y., Q. Liu, and Y. Zhang. 2024. "Sentiment Analysis Methods, Applications, and Challenges: A Systematic Literature Review." *Journal of King Saud University –*

Computer and Information Sciences 36 (4): 102048. https://doi.org/10.1016/j.jksuci.2024.102048.

Mendoza, P., J. D. Suarez, and E. Bustamante. 2016. "Sense of Community in Student Retention at a Tertiary Technical Institution in Bogotá." *Community College Review* 44 (4): 286–314. https://doi.org/10.1177/0091552116659538.

Moon, J. 1999. *Reflection in Learning and Professional Development*. London: Kogan Page.

Moon, J. 2004. *A Handbook of Reflective and Experiential Learning. Theory and Practice*. London: Routledge.

Murphy, M. C., M. Gopalan, E. R. Carter, K. T. U. Emerson, B. L. Bottoms, and G. M. Walton. 2020. "A Customized Belonging Intervention Improves Retention of Socially Disadvantaged Students at a Broad-Access University." *Science Advances* 6 (29): eaba4677. https://doi.org/10. 1126/sciadv.aba4677.

Napper, L. E., M. Munley Stone, and P. O. Neely. 2023. "Capturing Connections During COVID-19: Using Photography to Assess US College Students' Sense of Belonging." *Higher Education Research & Development* 42 (4): 1–17. https://doi.org/10.1080/07294360.2022. 2128074.

Parkin, H., and E. Heron. 2023. "Listening Works: Using the Listening Rooms Methodology to Explore Diversity." *Journal of Learning Development in Higher Education* 26: 1–14. https://doi.org/10.47408/jldhe.vi26.914.

Peacock, S., J. Cowan, L. Irvine, and J. Williams. 2020. "An Exploration into the Importance of a Sense of Belonging for Online Learners." *The International Review of Research in Open and Distributed Learning* 21 (2): 18–35. https:// doi.org/10.19173/irrodl.v20i5.4539.

Picton, C., E. Kahu, and K. Nelson. 2017. "Friendship Supported Learning–The Role of Friendships in First-Year Students' University Experiences." *Paper Presented at the Student Transitions Achievement Retention and Success (STARS) Conference*.

Ross, P. T., and N. L. Bibler Zaidi. 2019. "Limited by Our Limitations." *Perspectives on Medical Education* 8 (4): 261–264. https://doi.org/10.1007/s40037-019-00530-x.

Schön, D. A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.

Sotardi, V. A. 2022. "On Institutional Belongingness and Academic Performance: Mediating Effects of Social Self-Efficacy and Metacognitive Strategies." *Studies in Higher Education* 47 (12): 2444–2459. https://doi.org/10.1080/ 03075079.2022.2081678.

TASO. 2020. *Step 2: Plan. Transforming Access and Student Outcomes in Higher Education*. Accessed 17 December 2024. https://taso.org.uk/evidence/our-approach-to-evaluation/step-2-plan/.

TASO. 2023. *Our Approach to Evaluation. Transforming Access and Student Outcomes in Higher Education (TASO) Website*. Accessed 17 December 2024. https://taso.org.uk/ evidence/our-approach-to-evaluation/.

Vaccaro, A., and B. M. Newman. 2016. "Development of a Sense of Belonging for Privileged and Minoritized Students: An Emergent Model." *Journal of College Student Development* 57 (8): 925–942. https://doi.org/10.1353/csd.2016.0091.

Veldman, J., L. Meeussen, and C. van Laar. 2023. "Social Background Concealment among First-Generation Students: The Role of Social Belonging and Academic Achievement Concerns." *Group Processes & Intergroup Relations* 26 (3): 762–778. https://doi.org/10.1177/ 13684302221089116.