

# A Global Systematic Map of Pedagogic Action Research in Higher Education and Future Research Agenda

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# A global systematic map of Pedagogic Action Research in higher education and future research agenda

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## ABSTRACT

Pedagogic Action Research (PedAR) is an established approach to enhance teaching and learning in higher education; the global landscape of PedAR along with its methodological features, and areas of focus are poorly understood. To address this gap, this study systematically maps 1,374 peer-reviewed PedAR publications from 1989 to 2023 captured through a multi-database search and a rigorous screening process, with the aim of identifying when, where, and in what ways PedAR has been undertaken. The findings reveal a geographical concentration in the UK, USA, Australia, and South Africa, with limited cross-national collaboration and underrepresentation in some regions. Thematically, teaching and learning approaches dominate PedAR, followed by skills, and technology. Methodologically, PedAR is varied, often using mixed or multiple methods, with surveys, interviews, and appreciative inquiry also being popular. However, many studies provided no clear method in their abstracts or keywords. PedAR is most often applied in business, health, and education, suggesting discipline tradition may be a factor in uptake. Because our coding relied solely on abstracts, some nuance is inevitably lost but, the map shows that about 90% of authors publish only once, suggesting that PedAR may be more practiced than published and sets a future research agenda. We propose future priorities should include: unpacking the national and institutional factors shaping PedAR adoption; undertaking comparative country studies; assessing PedAR's long-term impact on teaching practice and practitioners' research identity. Addressing these questions will help move PedAR from the periphery towards a more connected and influential position in higher education scholarship.

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## KEYWORDS

Pedagogic action research; global review; teaching and learning approaches

## Introduction

Action research is a diverse research approach that has been applied in higher education across different national contexts. The precise descriptions of *what* is being studied through this approach are sometimes unclear; the methods used across the field are not always fully articulated; and knowledge of where and when research of this type has taken place has not been systematically mapped. Action research has been described as 'a broad church, movement or family of highly desirable activities' (McTaggart 1994, 314);

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but here we argue that what falls within this church or movement must become known, to allow researchers and commentators to critically engage with pedagogic action research.

### ***Defining pedagogic action research***

Action research has many definitions that are frequently debated (Berku 2025; Bogacz-Wojtanowska et al. 2022; Peters and Robinson 1984) resulting in confusion (Peters and Robinson 1984). Action research is sometimes deemed to be a methodology or a social theory (Peters and Robinson 1984), sometimes a method (Avison et al. 1999), or a social process (Bogacz-Wojtanowska et al. 2022). In this paper, we acknowledge but do not resolve these differences and hereafter refer to action research as an approach.

Despite different framings, action research definitions universally feature the principle of creating change (Coughlan and David 2023; Elliott 1991; Kemmis 2009; Lewin 1946; McTaggart 1994). Beyond that, other widely noted features include an emphasis on social justice and emancipation (Boog 2003; Trott, Sample McMeeking, and Weinberg 2020), focus on practical problems of concern (Avison et al. 1999; Berku 2025), meaningful participation of stakeholders in the research through collaboration (Treleaven, Sykes, and Ormiston 2012), the use of reflective practice to guide the research, the sharing of learning (Treleaven, Sykes, and Ormiston 2012) and a cyclical improvement process (Arnold and Norton 2018). Lewin's widely used model (*ibid.*) presents steps within a cycle to undertake action research, but this has been seen as reductionist because it positions the approach as a set of steps to be followed, rather than something more transformational (McTaggart 1994). McTaggart argues instead for a broader definition which 'is concerned simultaneously with changing individuals, on the one hand, and, on the other, the culture of the groups, institutions and societies to which they belong' (McTaggart 1994, 318). Kemmis (2009), who focused on action research in educational settings, emphasised the importance of action research as a practice-based-practice. Specific characteristics feature to greater or lesser extents in different branches of action research. For example, Participatory Action Research is a well-established approach which emphasises collaboration and social-justice (Cornish et al. 2023; McTaggart 1994). Another way of categorising action research is by orientations (Feldman et al. 2025). Notably, Carr and Kemmis (cited in Kemmis 2009) formulated three possible orientations of action research – practical, technical or critical, concerned, respectively, with the development of practitioners, the achievement of outcomes, addressing injustice. Noffke (1997) offered a different framework, categorising action research as personal, professional, or political. Action research is not one thing, but a collection of approaches and orientations. To add to that diversity, action research studies are often embedded in a specific context and community such as a school, a factory, or healthcare setting. Each study has a different practice architecture (Kemmis and Smith, cited in Kemmis 2009). The development of practices and generation of knowledge is embedded in each site or situation under consideration. That is not to say the learning is not to be borrowed from published work between contexts, Norton (2009) describes that findings can be brought together from different sources to create a weight of evidence.

Pedagogic Action Research (PedAR) may be seen as a branch or sub-type of action research to address challenges related to learning and teaching. Arnold and Norton (2021)

apply the term to a higher education context, though it is also used in other educational settings (Niemi 2018). PedAR is not defined by the balance of component characteristics, it is instead shaped by the context (in education) and the focus (teaching and learning), and as Norton (2014) adds, by the researcher being the educator practitioner. Feldman et al. (2025) note that PedAR spans the technical, practical and critical categories. Within PedAR, there are various motivators for engagement, for example, developing policy (Lindsay, Breen, and Jenkins 2002), driving quality enhancement (Kember et al. 2019), developing personal practice in teaching and assessment (Norton 2014), developing living-theories (Huxtable and Whitehead 2021), developing educational leadership (Cardno and Piggot-Irvine 1996) and driving staff development (Feldman et al. 2025). Feldman et al. (2025) question the extent to which practitioner research in the pedagogic space is published and visible.

PedAR was not *introduced* as an approach, rather it evolved into being with practice preceding its formal naming. Action research was undertaken by educators in higher education (as encouraged by, for example, Kember and Gow 1992), then there is evidence of the phrase ‘pedagogic action research’ appearing to describe this type of work (see Lindsay, Breen, and Jenkins 2002). The approach became more explicitly defined through Norton’s (2009) seminal work where PedAR is described as the process of ‘systematically investigate one’s own teaching/learning facilitation practice, with the dual aim of improving that practice and contributing to theoretical knowledge in order to benefit student learning’ (p.73). We adopt this definition, which is broad enough to respect some of the differences of approach noted, but specific enough to be clear that PedAR is about improving practice for the good of students. PedAR is the object of this systematic mapping. After this short review, with so many variables revealed, we simply ask: What does the PedAR field really consist of?

### ***Context for studies – temporal and geographic perspectives***

Historic accounts of action research are often provided to provide context for studies of this type as a way of introducing the approach (Norton 2009). However, there is a tendency for the history to be oversimplified (Whitehead and McNiff 2006). Widely cited points include action research being initially established in industrial and organisational settings with attribution to Lewin, then reaching school-based education by the 1940s and teacher education by the 1970s, after advocacy from Lawrence Stenhouse (Elliott 2024) who encouraged the idea of teacher as researcher; by the 1980s, action research was found in university teacher training programmes, and by the early 1990s its potential for faculty use was recognised (Kember and Gow 1992). Later, links between the Scholarship of Learning and Teaching (SoTL) movement in higher education and action research are evident; although action research and SoTL are not synonymous (Kember et al. 2019; Ryan 2013).

Amongst descriptions of action research’s evolution, it is important to recognise the existence of geographic and cultural variations. Li et al. (1999) show that practitioners in Hong Kong, at the time of their writing, experienced culturally rooted inhibitors to conducting this type of research, while in Taiwan action research was not in use in higher education until 2018 (Chen 2025). Trust and autonomy are necessary conditions for teacher research, and these are not always present (Niemi 2018). Action research does

not have a single history, it is political and serves as a way of challenging the status quo (Whitehead and McNiff 2006), hence, we may infer that its take-up and application could reflect politics, policy and context (it's use even subsided in Europe when it became associated with 'Marxist militants' (Boog 2003, 430)). There is limited understanding of how action research has emerged and evolved geographically in higher education over time. Our first two research questions are therefore:

*RQ1: When has PedAR been undertaken?*

*RQ2: Where has PedAR been undertaken?*

Action research has different histories in different disciplines. From its foundations in industry (Adelman 1993), there is a longstanding history of the approach being utilised in businesses, addressing a broad spectrum of organisational challenges (Shani and Coghlan 2021). While Holloway and Galvin (2023) underscore the significance of action research in healthcare and nursing, they acknowledge that it has experienced a decline compared to the 1990s and 2000s, implying a peak in growth. Whether PedAR histories are correlated with the broader integration of action research within a profession or discipline remains uncertain. Gibbs et al. identified that the 'intricacies of the relationship between pedagogic AR in higher education are impacted upon by the disciplines involved' (2017, p14); they go on to suggest that the usage of PedAR is *likely* to be linked to the profession of discipline valuing the approach. To ascertain the current state of PedAR, it is important to establish the disciplines who have engaged in its implementation.

*RQ3: Which disciplines are represented in PedAR?*

### **Quality debates**

Action research has long faced questions and challenges regarding its quality and validity. As early as the 1950s, it was critiqued in education for insufficient rigour and criticality with concerns also raised about the inadequate skills of those undertaking such work (Hodgkinson 1957). Quality concerns are evident in different application contexts (Casey et al. 2022; Shani and Coghlan 2021). Markers of quality in action research have been proposed, including the extent to which objectives are achieved (Bradbury et al. 2019), the quality of collaboration or partnership, the presence of reflexivity (Bradbury et al. 2025), rigour (Lederman and Lederman 2015), clear methods (Bradbury et al. 2019) and, the value of outcomes (Piggot-Irvine et al. 2021).

Studies within PedAR have shown some shortcomings. First, there is often limited student participation as research partners (Feldman et al. 2025; Jensen and Dikilitas 2025), even though such participation is a core feature of this research approach in a higher education (Arnold and Norton 2018). Second, there is often a constrained ambition regarding the political or emancipatory aims of action research in education, showing a tendency to focus more on practical or technical elements (Feldman et al. 2025). Such an approach is seen by some as weaker (Peters and Robinson 1984). Explanation for this is offered by Trott, Sample McMeeking, and Weinberg (2020), noting that educational

participatory action research work often takes the form of a project rather than a deep long-term commitment, which in turn can limit emancipatory impact and social-justice outcomes. This raises questions about who benefits from PedAR, and whose needs it serves. Third, PedAR studies sometimes lack clarity regarding the research methods used, with accounts often prioritising reflection over research (Gibbs et al. 2017). While a critical appraisal of action research quality is beyond the scope of this review, we suggest that discussions about quality will be developed by a better understanding of the field, and particularly the types of methods in-use and clarifying in whose interests PedAR studies are undertaken.

*RQ4: Which methods does PedAR use?*

*RQ5: Who is PedAR for?*

### **Visibility of topics**

The final motivator for this mapping is to identify the issues PedAR addresses. Despite extensive debates around action research and PedAR, there is little work that shows the current landscape. Gibbs et al.'s (2017) literature review shows that academic teaching practice and student engagement as major areas of focus for action research in higher education and provides valuable insights into topics studied. This study builds on their work to consider the themes in conjunction with factors such as publication year of study and place of study.

*RQ6: What issues are addressed through PedAR?*

### **Material and methods**

This review followed the procedure of systematic mapping method described by James, Randall, and Haddaway (2016) to capture and screen the literature relevant to PedAR in higher education. A protocol setting out a rigorous, objective and comprehensive procedure was developed by the review team to guide the identification and selection of relevant studies.

### **Search strategy**

A comprehensive, structured search was undertaken to systematically retrieve peer-reviewed journal articles addressing pedagogical action research in higher education contexts. To maximise coverage of peer-reviewed literature, the search was executed across four multidisciplinary academic databases accessible to the team<sup>1</sup>: Web of Science (Core Collection) (WoS), ProQuest (including Wiley Online and Taylor & Francis), EbscoHost, and ScienceDirect.

The following Boolean string was tailored to each database's syntax, truncation and wildcard operators were used to capture spelling variants and word stems:

'Action research' AND (pedagog\* OR teaching OR learning OR student OR curriculum OR technology OR 'staff development' OR assessment) AND ('higher education' OR universit\* OR college\* OR post?secondary).

This search string used the combination of the broad term 'Action research' and the specific variations of 'pedagogic' given that 'Pedagogic Action Research' or PedAR is not consistently labelled as such. The search string was applied to 'title-abstract-keyword' field in WoS and ScienceDirect and to 'abstract' field in ProQuest and EbscoHost. Searches were limited to articles published in English. No date restrictions were applied. This search string was finalised after a series of scoping searches to test the sensitivity and specificity as well as the scope and scale of the literature.

The results were exported as RIS files and then directly imported into Eppi Reviewer 6: a web-based software for systematic reviews, systematic maps and meta-analysis.

### ***Screening captured literature for inclusion in the systematic map***

All retrieved studies (n = 5948) were subjected to duplicate checks and duplicates (n = 2293) were removed before screening by title & abstract. A further 176 duplicates were manually identified during the screening process. Studies that were exclusively desk-based or non-empirical in nature were also excluded.

Studies were included if they met all the following criteria:

- Clearly identify their methodology in title or abstract as action research or a recognised variant, such as PedAR or participatory action research
- Conducted in a higher education setting
- The research focus was on teaching, learning or the wider student experience – including specialism e.g. clinical education, English as a foreign language (EFL), or learning technology
- The researcher should be an educator involved in student learning
- Empirical research article published in a peer-reviewed journal
- Published in English.

An iterative double screening procedure was adopted to ensure consistency of criteria application by the team members. Initially, 5% of all the articles after first round of duplicates deletions (n = 3655) were double screened by two reviewers at title and abstract. This was followed by double screening a further 10% of the remaining records. A comparative analysis was performed to ensure that bias was reduced, and inclusion criteria were being applied consistently. Where there was uncertainty, both reviewers examined the abstract and a consensus agreement was made. A Cohen's Kappa statistic of 0.6 or higher was considered acceptable indicating substantial agreement between reviewers (Landis and Gary 1977). The Cohen's Kappa statistic for screening on title and abstract at 2nd stage of double screening was: 0.84316. After the consensus was reached, the remaining titles and abstracts were divided among the three reviewers for single screening, supported by priority screening function integrated within Eppi Reviewer. This function uses machine learning to learn from the manual decisions completed and prioritise

potentially includable titles to the front of the queue so that eligible records can be identified more efficiently. Uncertainties were discussed collectively and resolved by consensus. Following this three-stage screening process, 1,374 records were retained for data extraction.

### ***Data extraction for thematic mapping***

A data extraction criteria structure was created in EPPI-Reviewer. The data extraction (coding) was completed on title and abstract only within EPPI-Reviewer. Each study was coded for:

- When – Year of publication
- Where? – Country of study
- For Whom – Level and discipline of the student beneficiaries
- About what? – Focus of the PedAR (e.g. assessment, curriculum, technology use)
- How – Primary data collection methods and methodological approaches

Publication year was taken from bibliographic information. Country of study was extracted from the title and abstract. If no such information was provided, the country of the corresponding author's affiliation was used as a proxy for country of study (Zahn et al. 2024). All other information was coded from title and/or abstract if available. Where any data item was missing, the code 'information not provided' was applied. Thematic coding on 'about what' and 'how' was adopted. Open coding and categorization were applied sequentially.

Structured topic modelling for data extraction was evaluated on two software for efficiency but deemed unreliable. Therefore, all coding were performed manually by the reviewers to ensure better reliability and accuracy. As in screening, coding was piloted by all team members, double checked by at least one other reviewer and any uncertainties were coded to 'for 2nd opinion' which were resolved through group discussion.

Consistent with systematic mapping methodology, no formal quality appraisal was conducted as the objective was to map the scope and nature of PedAR rather than assessing the quality and outcomes of AR. Descriptive statistics were used. Where appropriate, intersections of themes were presented.

### ***Identifying authors***

AI (Chat GPT 4o) was used to count the number of authors and to locate repeat entries. RIS files were extracted from EPPI reviewer and the number of unique authors, and duplicate entries were established by country, for the top 10 producing countries. About 10% data was manually checked for accuracy and refinements were made to the prompts to achieve accuracy.

### ***Methodological limitations***

Restricting the search to English-language publications and the unavailability of Scopus may bias coverage, particularly of research published in Latin-American, Chinese and

continental-European journals. Coding at abstract level may under-represent methodological nuance. We recognise that some papers may exist that use action research but it is not signposted at the level of the abstract. These limitations are considered when interpreting findings and shaping the future research agenda.

## Mapping results

### ***RQ1: When has PedAR been undertaken?***

The timeline of publications in action research from 1989 to 2023 (Figure 1) reveals an increase in the volume of studies. Between 1989 and 2004, outputs are low but relatively steady. From 2005, there is a clear upward trend, particularly in 2010. There are occasional years that show a contraction from the previous year, but the overall trajectory is one of growth.

### ***RQ2: Where has PedAR been undertaken?***

The 1374 studies from 34 years span 91 countries worldwide, reflecting global interest in PedAR. The UK, USA and Australia were the top three countries engaging in AR (Figures 2 and 3).

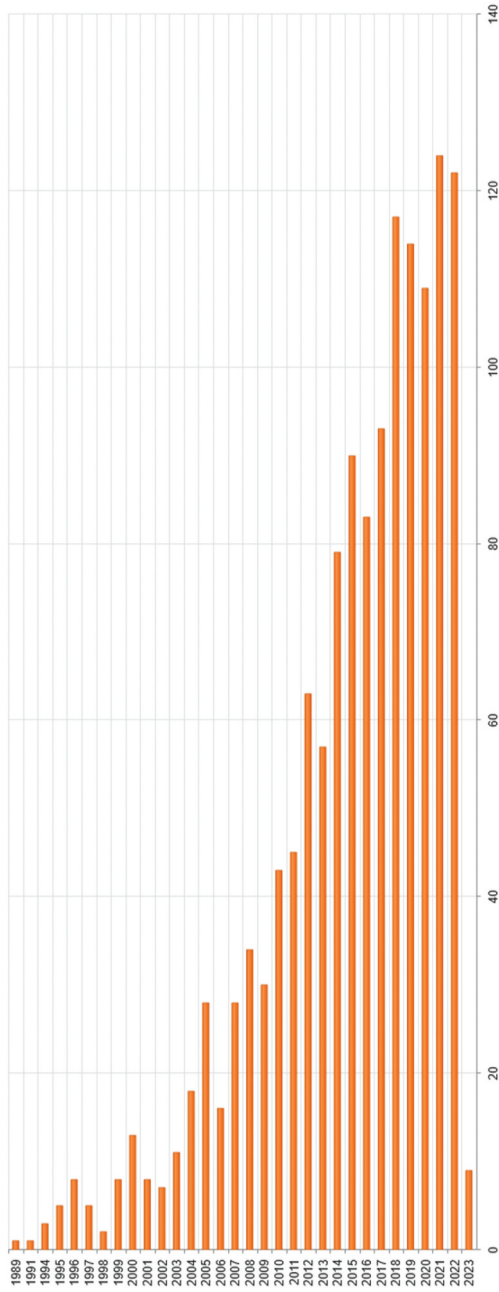
In absolute terms, of the top 10 countries (Table 1) with each producing more than 30 articles, UK (225), USA (223), Australia (133) and South Africa (97) dominate the number of action research publications, followed by Indonesia (66), Turkey (60), Spain (44), China (39), Colombia (35), and Canada (32).

The top four producing countries showed PedAR by the mid-1990s, when occasional work was published. A more consistent, growth pattern occurs for UK and USA at the start of the millennium, and for Australia and South Africa, later, from 2008. Looking at the top producers, it appears as if there is a turning point for PedAR establishment after an intermittent start.

Like the top four, Indonesia, Turkey, Spain and China all experienced occasional occurrences of PedAR until their own moments of momentum were reached, shown by few or no years of absence and a tendency to growth. The time taken to move to this state varies. Indonesia had a relatively quick move into consistent production after the first paper in our sample was published 2009, by 2014 it had momentum. China had the presence of PedAR in 1996, still it did not reach a point of consistent momentum until 2015.

Lower producing countries remain characterised by an inconsistent and occasional occurrence of PedAR. There are 36 countries which have one (23) or two studies (13), and the timing of these varied. Kenya, for example, saw just one study in 2014, with nothing after; South Korea has one in 2012 and another in 2022. When literature describes growth in PedAR, we should be cognisant that there are substantial differences in the geographies of this approach.

One of the lines of inquiry from this data was to see whether the top producing countries had prolific writers, perhaps contributing to embedding the approach. Among the 10 top PedAR producing nations evidence of this was limited. Some authors do produce two or more papers. Notable exceptions, with five papers each within our



**Figure 1.** Annual volume of peer-reviewed PedAR publications, 1989–2023.





**Table 1.** Characteristics of the 10 most prolific countries publishing PedAR in higher education, 1989–2023.

|  | UK   | USA  | Australia | South Africa | Indonesia | Turkey | Spain | China | Colombia | Canada | Total       |
|--|------|------|-----------|--------------|-----------|--------|-------|-------|----------|--------|-------------|
| Number of papers                                 | 225  | 223  | 133       | 97           | 66        | 60     | 44    | 39    | 35       | 32     | <b>954</b>  |
| Number of named authors on all papers            | 483  | 614  | 314       | 306          | 156       | 168    | 102   | 110   | 106      | 95     | <b>2454</b> |
| Average authors per paper                        | 2.15 | 2.75 | 2.36      | 3.15         | 2.36      | 2.8    | 2.32  | 2.82  | 3.03     | 2.97   | <b>2.57</b> |
| Total Unique named authors                       | 432  | 538  | 280       | 264          | 146       | 160    | 95    | 103   | 97       | 90     | <b>2205</b> |
| Number of authors with two or more papers        | 34   | 9    | 22        | 4            | 8         | 8      | 0     | 3     | 2        | 2      | <b>92</b>   |
| Mode average of papers by top producing author   | 2    | 2    | 2         | 3            | 2         | 2      | 2     | 2     | 2        | 2      |             |
| Maximum number of papers by top producing author | 5    | 4    | 3         | 5            | 2         | 2      | 3     | 3     | 2        | 2      |             |

Note: The table lists countries that produced  $\geq 30$  PedAR articles during the period covered by this review.

dataset, are Diane Fraser (UK), Gina Wisker (UK) and, Ansurie Pillay (South Africa). Most authors (90%) only published once, often as a collaborative venture. The writers who produced multiple papers were not always first author but part of a collaboration. In-country spread appears driven by broader engagement rather than by a few highly active researchers.

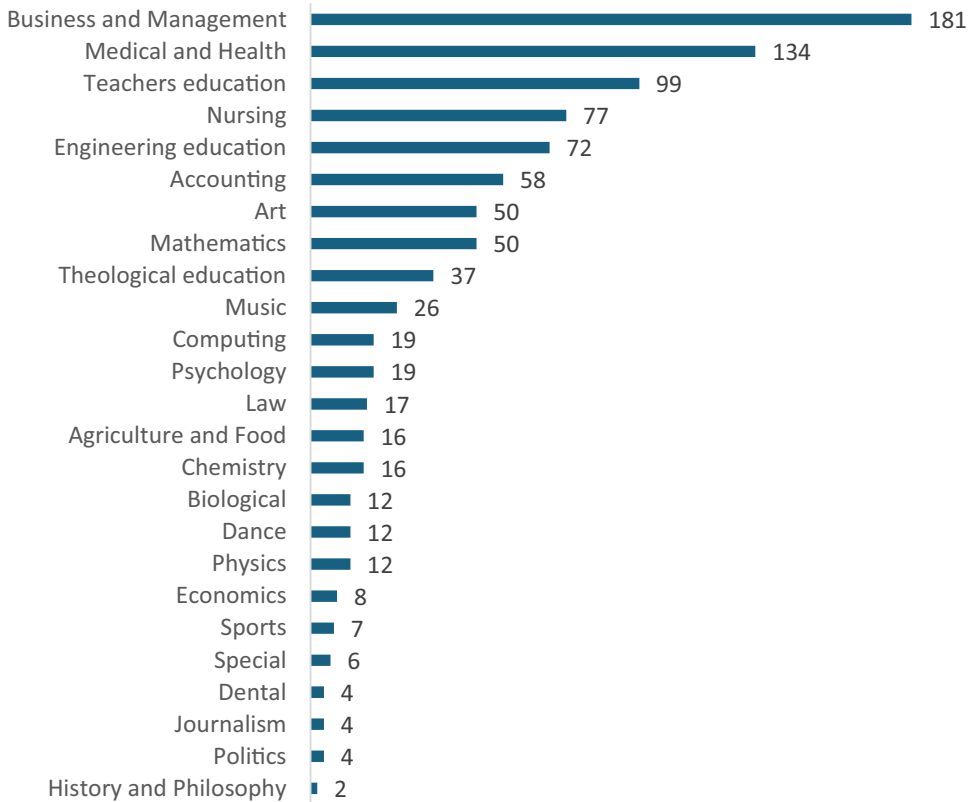
### ***RQ3: Which disciplines are represented in PedAR?***

The bar chart below (Figure 4) shows the distribution of studies in action research linked to subject areas. Six hundred and ninety-one studies did not provide information about the subject area in the abstract, title or key words.

Of the remaining 683 articles, Business and Management had the highest count ( $n = 181$ ), followed by medical and health area ( $n=134$ ), Teachers Education ( $n = 99$  courses) and Nursing ( $n = 77$ ). Less represented but still notable areas include Art (50 studies), Theological Education (37 studies), and Computing (19 studies), showing that action research is used to explore innovative teaching methods in both creative and technical disciplines. Subjects with fewer studies include History and Philosophy ( $n = 2$ ) and Journalism ( $n = 4$ ).

### ***RQ4: Which methods does PedAR use?***

Our synthesis of methods relies on information stated in the abstracts without judging distinctions between methodologies and methods. Three hundred and seventy studies have not mentioned specific research methods, beyond noting that the study was ‘action research’. As shown in Table 2, 424 studies reported a single research method or methodology. The most prevalent as single methods were appreciative inquiry, survey, case study, experiment and interview. A total of 580 studies were identified as using mixed or



**Figure 4.** Distribution of academic disciplines of PedAR studies in HE.

**Table 2.** Frequencies of single and mixed research methods mentioned in abstract.

|  |             |
|--|-------------|
| Appreciative enquiry   | 80          |
| Survey   | 61          |
| Case-study   | 55          |
| Experiment   | 53          |
| Interview  | 37          |
| Reflection   | 35          |
| Observation  | 31          |
| Journal/Diary  | 20          |
| Focus group  | 12          |
| Pre- / post-test   | 10          |
| Documentary analysis   | 9           |
| Longitudinal   | 7           |
| Ethnography  | 5           |
| Narrative self-study   | 4           |
| Grounded theory  | 2           |
| Fieldnotes   | 2           |
| Photovoice   | 1           |
| <b>Subtotal of number of studies with single methods mentioned</b> | <b>424</b>  |
| <b>Mixed methods (single flag)</b>                                 | <b>34</b>   |
| <b>Mixed methods claimed with one or more methods specified</b>    | <b>64</b>   |
| <b>Mixed or multi methods with 2 or more methods mentioned</b>     | <b>482</b>  |
| <b>No specific methods mentioned</b>                               | <b>370</b>  |
| <b>Grand Total</b>   | <b>1374</b> |

multiple methods. This total comprises two mutually distinct groups. The first group consists of 98 studies that explicitly labelled their methodology as 'mixed methods' in their abstract. Of these 98, 34 of these abstracts did not specify any concrete methods. The second group includes 482 studies that did not self-identify as mixed or multiple methods but mentioned 2 or more distinct methods in their abstract.

Excluding those which had no stated methods ( $n = 370$ ), surveys (296), interviews (266), appreciative (245) and experiments (217) are the most common methods. Case studies and journals or diaries are also frequently used, indicated by their counts of 140 and 112.

The visualization in [Figure 5](#) shows the top 50 intersections of methods stated within abstracts out of 270 different combinations in total. Five hundred and eighty studies reported using more than one method. The plot highlights the complexity and overlaps of research methodologies used in PedAR. Notable intersections include combinations of surveys and experiment or interviews, interviews and observations.

### ***RQ5: Who is PedAR for?***

The visualization below ([Figure 6](#)) depicts the intersections of studies aimed at serving students across different educational levels. Notably, 564 studies do not identify any specific student level, constituting the largest set (not shown in the chart below). Excluding this, the largest single-level sets are for bachelor's students ( $n = 173$ ) and students in transition ( $n = 123$ ). 'Pre-service' and 'Transition' frequently intersect with other educational levels.

The horizontal bars illustrate the total size of each set, indicating the number of studies targeting each educational level individually. 'Postgraduate' ( $n = 404$ ) is the most prevalent, underscoring its prominence in the dataset. Significant counts are also observed in the 'Transition' and 'Bachelor' categories. In contrast, the smallest set pertains to PhD students, with only 30 studies.

The matrix visualizes the number of studies within individual sets (indicated by horizontal bars) and the number of studies intersecting with other sets (shown by vertical bars). Coloured dots connected by lines illustrate which educational levels are included in each intersection. We identified 25 combinations in addition to studies which focus on one level only. This matrix reveals considerable overlap among various educational levels, particularly among pre-service and foundation stages, which intersect with multiple other levels.

### ***RQ6: What issues are addressed through PedAR?***

The horizontal bar chart in [Figure 7](#) shows the distribution of studies focusing on various educational themes or domains. The horizontal bars represent the total count of studies for each theme. 'Teaching and Learning Approach' emerges as the most common focus, with 602 studies. Other frequently addressed themes include 'Skills' and 'Technology,' with 419 and 380 studies, respectively. Less frequently covered areas include 'Staff development' and 'Achievement and attainment,' with only 36 and 76 studies. This distribution highlights the prominence of certain educational themes in research, with a significant emphasis on teaching strategies and skill development.

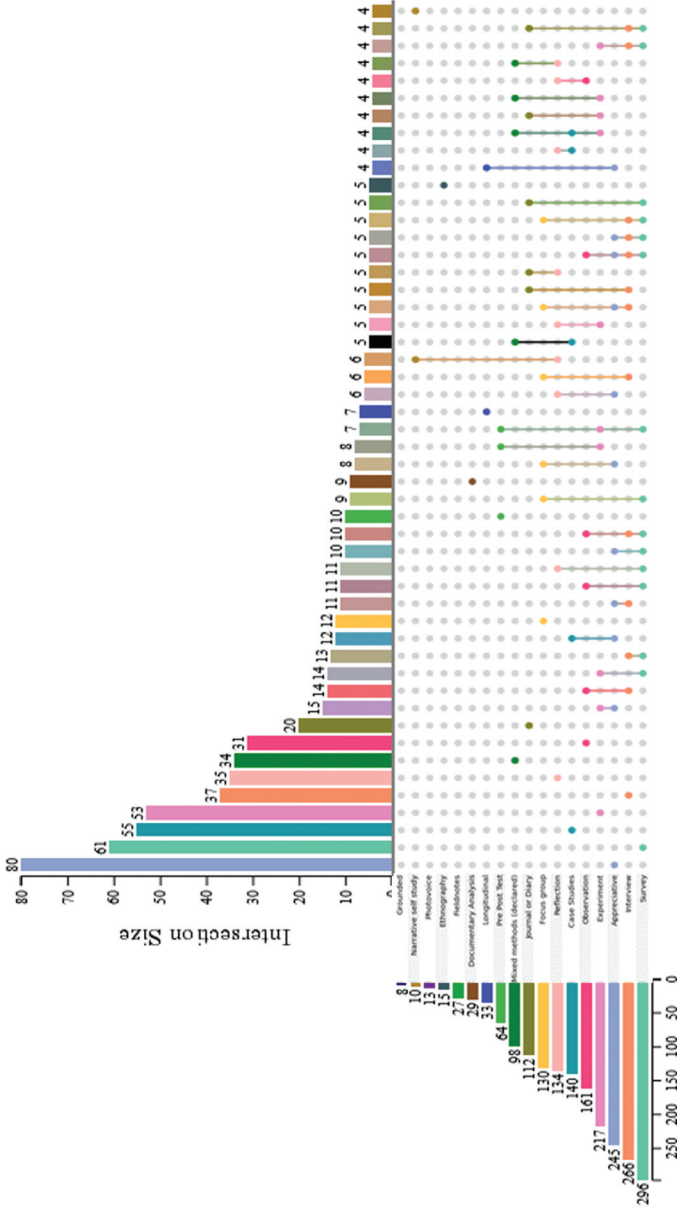


Figure 5. Distribution of top 50 intersections of research methods used in PedAR studies, with total set sizes indicated by horizontal bars.



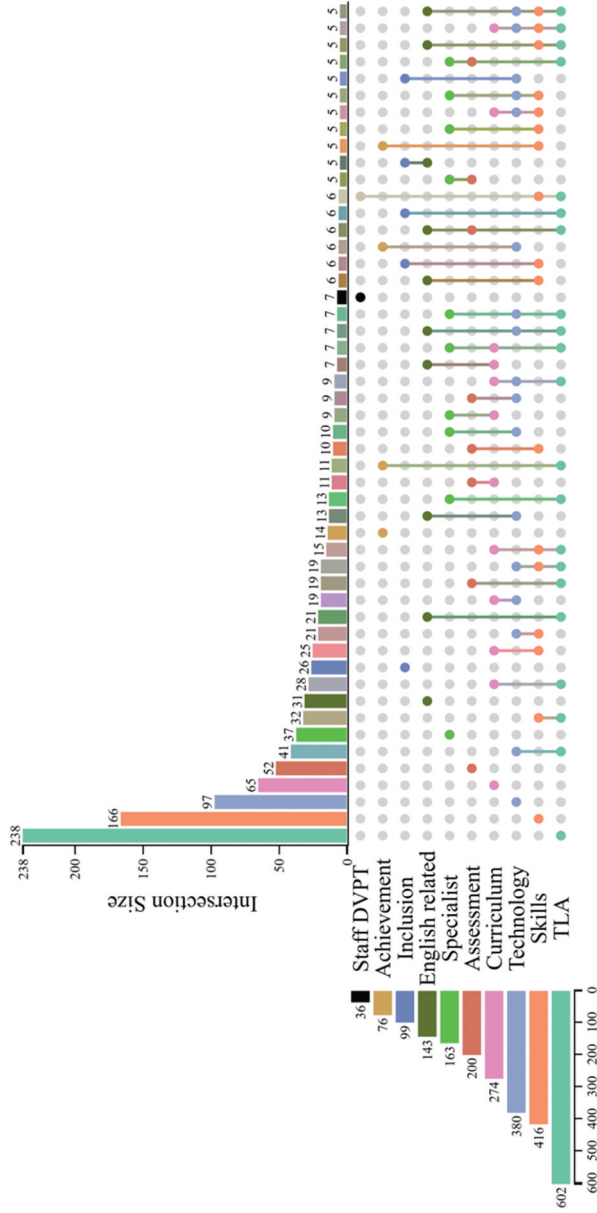


Figure 7. Distribution of top 50 intersections of themes addressed by PedAR studies, with total set sizes indicated by horizontal bars (1989–2023, n = 1,374).

The visualization in [Figure 6](#) also shows the top 50 intersections of studies across different educational themes, revealing significant overlaps and methodological diversity within the dataset. Of the 605 studies, 240 studies focus solely on 'Teaching and Learning Approach,' making it the most prominent standalone theme. Excluding this, the plot reveals a substantial number of studies combining themes with 155 combinations in addition to 10 with single focus. One hundred and sixty-eight studies intersect 'Teaching and Learning Approach' with other themes, while 97 studies integrate 'Skills' with 'Technology.'

In total, 761 studies focus on a single theme, whereas 582 studies combine multiple themes. This highlights the widespread use of multifaceted approaches in educational research, reflecting the complexity and interconnectedness of educational issues explored in the dataset.

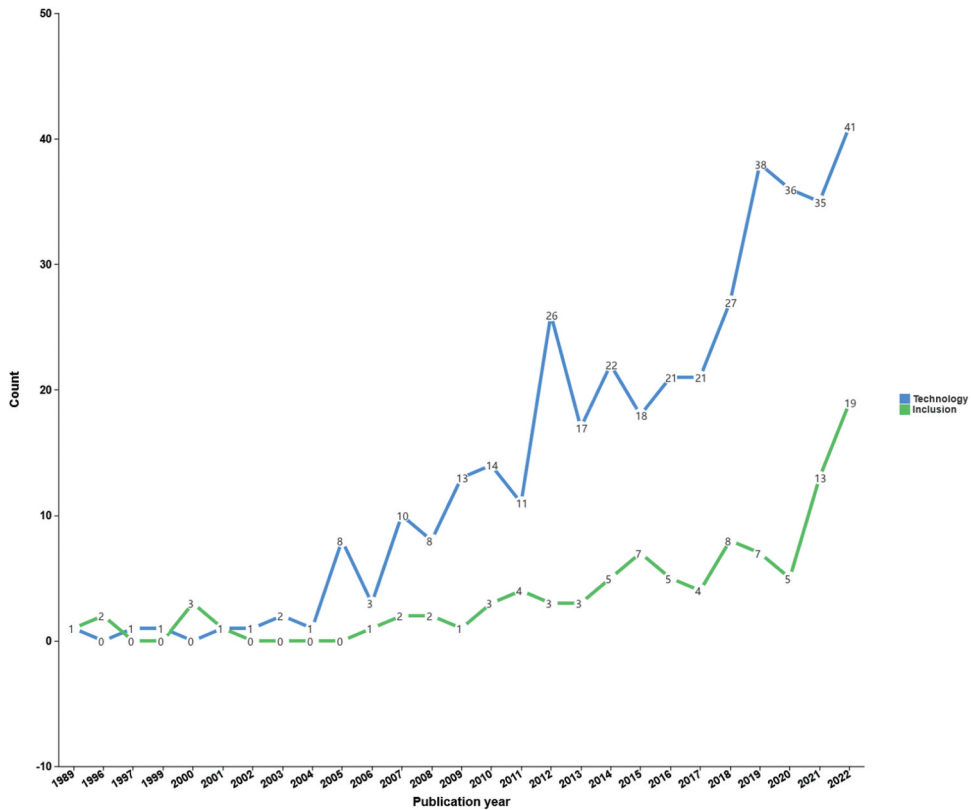
Geographically, we asked if there was any variation in what was studied. [Table 3](#) shows the top 10 producing countries and the themes addressed.

Notably, in Colombia and China there were high numbers of studies associated with English language development. About 45% of all papers in Colombia and 44% in China link to this theme. In Spain (38.6%), China (38.5%) and Turkey (33.3%), the importance of technology is high, while in Spain there is a higher emphasis on the development of specific skills (45.5%). Action research works with different priorities related to differing national contexts.

The timeline of each topic varies. For example, as shown in [Figure 8](#), the emergence of studies on technology below shows occasional studies over the period 1989 to 2004, and then growth to a consistently above 35 studies per year by 2019 onwards. By contrast, a focus on inclusion was slow and low until 2014 when an upwards trajectory began. The timeline of what people studies

**Table 3.** Distribution of the themes addressed by PedAR studies in top 10 producing countries.

|                                | UK  | USA | Australia | South Africa | Indonesia | Turkey | Spain | China | Colombia | Canada |
|--------------------------------|-----|-----|-----------|--------------|-----------|--------|-------|-------|----------|--------|
| Achievement & attainment       | 12  | 12  | 2         | 6            | 9         | 6      | 0     | 1     | 1        | 0      |
| Assessment                     | 43  | 26  | 22        | 17           | 6         | 7      | 9     | 3     | 5        | 2      |
| Curriculum                     | 53  | 53  | 31        | 28           | 3         | 5      | 9     | 7     | 1        | 7      |
| English related                | 8   | 10  | 1         | 3            | 10        | 4      | 4     | 17    | 16       | 1      |
| Inclusion                      | 19  | 21  | 7         | 6            | 0         | 5      | 5     | 2     | 1        | 2      |
| Skills                         | 59  | 70  | 46        | 22           | 15        | 10     | 20    | 15    | 9        | 17     |
| Specialist                     | 41  | 23  | 23        | 14           | 2         | 5      | 2     | 1     | 3        | 3      |
| Staff development              | 11  | 4   | 4         | 2            | 0         | 0      | 1     | 0     | 2        | 2      |
| Teaching and Learning Approach | 105 | 94  | 47        | 41           | 29        | 25     | 16    | 16    | 12       | 10     |
| Technology                     | 58  | 53  | 40        | 30           | 18        | 20     | 17    | 15    | 11       | 6      |



**Figure 8.** Comparison of timeline of studies focusing on ‘technology’ vs ‘inclusion’.

may tell us about the priorities of higher education over time, as more studies on topics come into focus.

## Discussion

We set out to understand where PedAR occurred and when it had been undertaken, remembering that our study was limited to English language publications. PedAR was found to be geographically concentrated, with the UK, USA, Australia and South Africa consistently dominating production, whereas other countries showed sporadic instances. While our study cannot fully explain this, factors such as national pedagogic research culture and influencers likely played a role.

Some differences seen in this map of PedAR may simply be explained by population size and the scale of higher education in each country. Language may also play a role as only publications in English were included. More work is needed to explore the global picture of studies in all languages to create a full picture of the PedAR landscape. Notwithstanding these factors, the exploration of geographies highlights the importance of recognising international variability.

Publication seemed lower than one might expect given the strength of encouragement for this approach over decades. We posit a difference between PedAR

completed and PedAR published. PedAR is seen as one type of SoTL (Ryan 2013), yet much of SoTL is unpublished (Canning and Masika 2022) and is often shared through practice sharing events rather than a journal publication. Feldman et al. (2025) recognised that action research is rarely reported by science educators, perhaps because it is used more as a tool for improvement than a publishable research strategy, and teachers may share their work through presentations, videos or website content (Zeichner 2008 cited in Somekh and Zeichner 2009), which were beyond our search scope. Our review cannot definitively explain the modest volume of publications on PedAR against decades of usage and the size of the global higher education sector, but the shortfall raises questions: is far more PedAR being completed than is ever published?

A pattern to the embedding of PedAR was moving from intermittent to a taking-off of the research approach in-country. The start of the expansion varied, and most countries were still producing intermittently. Couple this with the timeline variability by topic, for example, the later growth in inclusion compared to, say technology, and the emphasis some countries have on English related language studies, we posit that PedAR's adoption is locally shaped, rooted in topics which are important in time and space.

The mapping concurs Gibbs et al.'s (2017) finding that PedAR is associated with disciplines already valuing it. There is a strong tradition of action research in business (Adelman 1993; Shani and Coghlan 2021), healthcare, and teaching (Mertler 2019). Reflective practice, like action research, often involves cycles, challenging one's own assumptions, and working with problems. The two approaches have overlapping history and characteristics (Tripp 1995).

The methods used in PedAR reflects the 'broad church' nature of action research as noted by McTaggart (1994, 314). The prevalence of interviews, diaries and case studies aligns with action research's emphasis on narrative and participation whereas experiments link strongly to the idea of intervention – trying something and evaluating it. Such diversity of methods is typical of practitioner research where data sources evolve (Leuverink and Aarts 2018).

Combining methods was common. We did assume that 'multiple' and 'mixed' were synonymous, since mixed methods has its own specific protocols and quality measures. The contrast between the small number of studies claiming mixed methods, compared to those using multiple methods was high. The use of multiple methods may be a pragmatic response to the approach of gathering data wherever it is possible in live situations, or it may be a conscious act of triangulation. The number of blends of methods compared to the small number of mixed methods studies raises the question about the rigour in the blending of methods.

Appreciative inquiry was frequently cited as a method(ology) with 245 occurrences, either alone or in combination. Appreciative inquiry is not a single method but a strong sub-type of approach in PedAR which focuses on positive change (Whitney, Trosten-Bloom, and Giovanna Vianello 2019). Its use, which seeks to build forward positively, rather than solving problems, may reflect the positionality of the researchers or the nature of the issues under investigation.

Notably, 26.9% of studies did not identify specific methods in their abstracts or keywords. This may support the observation of Gibbs et al. (2017) that PedAR often fails to

make the research process explicit (although more details may be found in full-text which were not considered in this study). The relative importance of methodologies and methods in action research, and practitioner research is debated (Leuverink and Aarts 2018), with Mattsson and Kemmis (2007, 189) reminding us ‘this kind of research should not be evaluated using only academic criteria’. Alongside methodological considerations, literature highlights other factors which include reflexivity (Bradbury et al. 2019), empowerment and catalytic validity, impact on practice (Heikkinen, Huttunen, and Syrjälä 2007); improvements to practice (Norton 2019), theoretical contributions (Bradbury et al. 2019; Mattsson and Kemmis 2007), and evocativeness (Heikkinen, Huttunen, and Syrjälä 2007). Rigorous and clear research methods are important as a quality marker, but in action research there are many other considerations too. Perhaps, it is not surprising that research methods are not always foregrounded at the abstract level. Tripp (1995, 21) is clear that action research is separated from other types of reflective practices by ‘a recognisable research component in the inquiry’. We urge all those publishing PedAR to be explicit, in abstracts, about the methods used.

About 41.1% of the abstracts did not state the learner level. Of the remaining 58.9%, postgraduates were most frequently targeted, then bachelor’s students; doctoral students were understandably least. The postgraduate emphasis contrasts with Manarin et al.’s (2021) review of North American SoTL literature, (not specifically PedAR), where 79% of papers centred on bachelor-level, while graduate students and graduates made up a minority. The difference could be regional priorities – North American systems often foreground undergraduate satisfaction metrics. Or perhaps PedAR particularly as an approach encourages engagement with diverse groups. Notably, 330 studies (40% of the 810 which specified learner groups) addressed transition between levels of study e.g. student moving into higher education or into a clinical rotation or into postgraduate level. Transition is a vulnerable moment in a student’s experience and so it is not surprising that this is a strong theme that attracts scholarly interests. Additionally, 48% of the 810 studies targeted learners at more than one level of study. This pattern does not automatically signal cross-level collaboration; more plausibly, it reflects a practical reality where many practitioner-researchers teach across several levels.

Our final question looked at the focus of PedAR. The strongest theme was around learning and teaching approaches. This was often paired with other themes. It was a strong theme across all of the top producing countries of PedAR and reinforced what was found in wider SoTL literature that teaching approaches are a key area of focus (Manarin et al. 2021).

The development of ‘skills’ was another substantial area of focus. There is a diversity of coverage which included: writing and communication skills, digital literacy & technology skills, critical thinking & interdisciplinary learning, collaboration, reflective and metacognitive skills and creative skills. The focus on skills was relatively strong across all of the top PedAR producing countries. As a means of partnership and collaboration action research may be a valuable vehicle for developing skills with students.

Although action research studies often cite staff development as a key theme (Kemmis 2009), only 36 studies were related to staff development, though our student-centred inclusion criterion is a partial explanation (staff developing staff without students would have been excluded). Staff development theme may be an implicit strand of activity within other PedAR projects rather than a dominant theme. It is also possible that high

volumes of research, undertaken for staff development, may not be published, echoing concerns about under-publication in PedAR as discussed earlier (see Elliott 2024; Feldman et al. 2025).

Finally, few studies focussed on attainment and achievement. Though definitive explanations are elusive, studies reviewed tend to be on practice, things within the control of staff. The disconnect with achievement and attainment is stark. This raises the question of whether action research is undertaken at sufficient scale and over sufficient time to impact attainment or whether practitioners focus on more controllable aspect of their practice. Ultimately, is PedAR looking at methods of practice rather than their impact of actions on student achievement?

## Conclusion

This global review of PedAR offers the first synthesis of its use in higher education. We have asked and answered questions about where and when action research has been published, how it is undertaken, which disciplines it is used in, who benefits, and what the focus of studies is. While PedAR has a rich history and growing international reach, its adoption and documentation are often sporadic. Geographically, PedAR mostly stays concentrated in a few countries, mainly the UK, USA, Australia, and South Africa, despite its universal practical appeal although this geographical skew may reflect a bias of this review due to English-language bias of publications in this review. National educational norms, research funding models, and academic autonomy probably influence these patterns, though this needs more analysis. The fact that most PedAR authors publish only once suggests engagement might be fragmented rather than embedded, raising questions about its lasting impact and about our shared interpretation of PedAR.

PedAR covers many subjects, with strong representation in areas like business, health sciences, teacher education, and nursing. However, almost half the studies reviewed didn't clearly state their discipline, pointing to a wider issue in how PedAR is reported. Methodologically, PedAR uses diverse research strategies, with surveys, interviews, and appreciative inquiry being common. Yet, a significant number of studies didn't clearly state their methodology beyond the labelling of 'action research' in the abstract. We accept this lack of detail could be an issue of writing style rather than an omission, but still, this aligns with long-standing criticisms that action research sometimes lacks rigor or transparency.

Thematically, PedAR inquiries are dominated by teaching and learning approaches, followed by skills, technology, inclusion, and language acquisition. These themes highlight the multifaceted challenges in higher education teaching. Our timeline analysis shows how PedAR's focus shifts, reflecting changing global priorities, like the increased emphasis on digital technologies after 2010.

Findings of this mapping were based on information presented in abstracts. This has inherent limitations in the completeness of data and the depth necessary to fully understand the nature of the research. Bearing this in mind, the results point to several directions for future research. First, the mapping clearly shows a fragmented rather than a highly connected international landscape for PedAR. It would be valuable to investigate what factors facilitate or impede cross-national PedAR collaborations, as well

as how this fragmented structure affects the advancement of PedAR knowledge. Second, each theme identified in this map deserves a critical synthesis to obtain deeper insights into how PedAR is conceived, implemented, and experienced across different contexts. Third, comparative country-level studies could investigate the systemic and cultural factors that shape engagement with PedAR. However, it is important to note that the limited number of cross-and inter-country comparative studies may reflect the inherently context-embedded nature of PedAR which makes the findings less easily comparable across national contexts. Fourth, research should explore PedAR's long-term impact on the effectiveness of teaching practices under research and the impact on the practitioner-researcher. Fifth, we need to understand the possible disconnect between practice and publication. Research is needed to understand why this is. Finally, how do the one-time authors of PedAR view their research identity? Do they see themselves as PedAR researcher or researchers of their subject field who collect evidence of teaching excellence? Exploring these questions is fundamental to building a more connected and self-aware global PedAR community.

## Note

1. SCOPUS was not subscribed at the time of searching. However, it is believed that the four databases used overlaps substantially with SCOPUS for Education and Social Sciences.

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