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## Unlocking the potential of research-informed practice: Insights into benefits, challenges, and significance among teachers in Catalonia, Poland, and England

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#### Abstract

This survey-based study delves into the intricate interplay of research utilisation in the pedagogical approaches of a sample of 534 teachers across Catalonia (Spain), Poland, and England. Applying Baudrillard's Theory of Consumption lenses, we present novel insights into the multifaceted aspects of research use, including its benefits, costs, and significance within the teaching profession. Our findings underscore the interdependencies among the perceived benefits, costs, and significance of research utilisation, bolstered by factor analysis. Specifically, our results indicate that teachers regard research as a means to enhance their understanding of educational theories, providing valuable insights to inform their teaching practices. Moreover, research empowers teachers to challenge entrenched conceptions and adopt innovative pedagogical strategies. In addition, the significance of research use is associated with its alignment with school priorities and integration into the decision-making processes. Furthermore, teachers identified various obstacles to research use, including issues of research literacy, support mechanisms, and the accessibility of research resources. The study sheds additional

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insight into the dynamics of research utilisation among teachers operating within diverse national contexts. It underscores the intricate relationships between individual and organisational factors that shape and influence teaching practices.

#### KEYWORDS

evidence informed practice, research evidence; school, teachers, teachers' practice, teaching

#### 1 | INTRODUCTION

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The last decade has brought many unexpected, complex, and unprecedented challenges: the global pandemic, the assault on Ukraine, the worsening environmental crisis, increasing intolerance and violence motivated by sexism, racism, xenophobia, among many others (e.g. Brown, Luzmore, et al., 2022; Brown & Handscomb, 2023). In response to these rapidly evolving challenges and the precarity they bring, scholars and policy makers have renewed their focus on teaching as a research-informed profession, in light of its powerful role and responsibility in 'reimagining our futures' (UNESCO, 2022). For instance, UNESCO envisions teachers as reflective practitioners and knowledge creators who 'contribute to growing bodies of knowledge needed to transform educational environments, policies, research, and practice, within and beyond their own profession' (p. 85). In a similar vein, Schratz et al. (2011) highlight that contemporary teachers should be able not only to use existing knowledge but also to create new knowledge via conducting their own professional research and using knowledge to make informed decisions. This leaning towards research-informed teaching practice is also strongly advocated by scholars who suggest that research use in education has great potential to strengthen teachers' professionalism, and, in turn, to support better learning outcomes for their students, as well as school and education system performance (e.g., Crain-Dorough & Elder, 2021; Godfrey, 2014; Gorard et al., 2019; Mincu, 2014). Indeed, around the world, a range of governmental and non-governmental initiatives have been established for encouraging teachers to implement research-informed practices in their classrooms. This move towards research-informed teaching can also be seen, although to varying degrees and in accordance with respective histories and education traditions, in the authors' own national settings: Spain/Catalonia, Poland, and England.

# **1.1** | The systems commitment with research evidence-informed practice across contexts

In Spain, in Catalonia, the adoption of the *Catalan Education Act* (DECRET 274/2018, 2024) has seen a formal, systematic commitment to the use of evidence in the field of education, such as the recent introduction of an evidence-informed practice competence for teachers. Furthermore, teachers are invited to participate in a vast range of non-governmental programmes, offered by both private sector organisations and university researchers aimed at training and mentoring teachers who want to use research-informed practices (González, 2023).

In Poland, since 1989—upon collapsing the communist regime and education system—more attention began to be paid to the role of research in the teaching profession, for example, re-establishing the research-based, academic model of teacher education or introducing mandatory internal audits of student outcomes for teachers to carry out (Korzeniecka-Bondar et al., 2023). However, it was only in 2022 that governmental regulations clearly legislated for teachers to choose to conduct and use educational research as a means of improving the quality of their school's work, enshrining it as a requirement option for reaching the highest level on their professional path (i.e., certified teacher; MEiN, 2022). Furthermore, and operating on a non-governmental level, the Evidence Institute was also established to promote sound educational research as a means of informing best educational practices.

England seems to be the most established of the three settings in terms of promoting research-informed practice, with many recent initiatives and policies supporting this approach to teaching practice both nationally and locally. For example, on a governmental level, England's Department for Education included references to research-informed teaching within its standards for school leaders and in the pilot *Early Career Framework* for newly qualified teachers (Department for Education, 2019). On a non-governmental level, organisations have been established to support the use of Research—evidence informed practice such as England's Chartered College of Teaching, the Education Endowment Foundation (which provides freely available and accessible summaries of 'what works' Research–evidence for teachers to use), as well as the Teachmeets and ResearchED conferences (designed to help teachers connect more effectively with educational research).

However, despite these governmental and non-governmental initiatives, teaching communities across our countries cannot, yet, be truthfully defined by their consistent and regular use of research to inform teaching. While teachers espouse positive views on the potential benefits of research for their educational practice, only a small percentage actually use research to bring about changes in their practice. For example, quantitative and qualitative studies carried out in Catalonia by lon et al. (2022) and lon and Lopez (2022) concluded that teachers perceive educational research to be important because it helps to detect what works in their teaching practice and, as such, has a positive impact on student learning. However, teachers indicate that they often feel unprepared to use research information or even to conduct inquiry processes about their practice (lon & Lopez, 2022). Similarly, in Poland, a survey-based study by Kowalczuk-Walędziak et al. (2020) found that while teachers appreciated the positive impact of the research-practice relationship, they were less confident about using their MA research in their professional practice. Two survey studies conducted in England by Brown, Ophoff, et al. (2022) showed that even when teachers understood the linkage between research use and professional success, they were still much more likely to draw ideas and support from their own experiences—or the experiences of other teachers/schools—when deciding on approaches to support pupil progress (Biesta et al., 2019; Wisby & Whitty, 2017; Wrigley, 2018).

# **1.2** | Teachers' engagement with research evidence informed practices through explanatory lenses

Teachers' engagement with educational research evidence in practice can be analysed through various lenses. For example, the concept of absorptive capacity within both the educational systems and the individual teachers was used by Crain-Dorough and Elder (2021, p. 123), in a literature review to gain insights into the research-practice gap and strategies for bridging it. In a comparative study conducted by Malin et al. (2020), a dual analytical framework, incorporating a cohesion/regulation matrix and insights from institutional theory, provided a methodological perspective for understanding evidence-informed practices across diverse educational systems including the United States and Germany. Furthermore, the lens of 'implementation research' has been employed to tackle fundamental questions such as 'What works?' and 'How and Why?' (Century & Cassata, 2016).

Teacher's engagement with research evidence (or the lack of it) has also been examined by looking at the nature of educational research and its applicability. For instance, in a study conducted by Ming and Goldenberg (2021), researchers were urged to reconsider the definition of research quality by focusing on its anticipated utilisation and by considering the power dynamics that shape the way knowledge is established, shaped, and authenticated within the research realm.

Looking at the teachers and school factors, we can find that at the individual level, teachers' research use can be impacted by their: views on whether research is useful or not; ability to understand academic language and adapt findings to their own classroom context; prior experience with educational research; commitment and willingness to innovate; access to high-quality research training; research skills; and personality traits and attitudes (e.g., openness to learning new approaches; see e.g., Gorard et al., 2020; Ion et al., 2022; Jackson et al., 2018; Lysenko et al., 2014).

At the school level, teachers' research use is impacted by their school's: leadership styles (e.g., to what extent they promote learning and change among teaching staff); working and learning conditions (e.g., time and funding available to teachers); climate (e.g., the presence or absence of a knowledge-sharing and innovative environment and a supportive, trusting school culture); collaborative relationships between teachers; and international relationships (see, e.g., Cain, 2015; Ion & Iucu, 2014; Ion & Lopez, 2022; Schaik et al., 2018).

#### **1.3** | The research evidence and the Theory of Consumption

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Overall, the existing literature clearly indicates that using research in teaching practice is a complex process, dependent on the interplay between many factors that are complex in themselves. For our study, we draw on Brown, MacGregor, et al. (2022) argument that research in the area of research informed educational practice in short RIEP has often been criticised for being 'under-theorised' and that the use of Baudrillard's (1968) semiotic theory of consumption provides a novel and focused deductive lens for examining teachers' use of research-evidence. Specifically, in his theory, Baudrillard deals with the relationship between the multiplication of objects, services, or material goods and their consumers—seeking answers to fundamental questions of how objects are 'experienced' and what needs they serve in addition to those that are purely functional.

Baudrillard's frame appears to fit the available evidence. For instance, Brown, MacGregor, et al. (2022) undertook a thematic analysis of recent empirical studies that have examined educators' use of academic research. Recent work in this area has involved a range of methods and analysis, from qualitative investigation, to the use of surveys to examine behaviours on a larger scale; with each study reporting on key research-use barriers and enablers. Here, Brown, MacGregor, et al. (2022) found that all comfortably sit within one of the three headings of 'benefit', 'cost' or 'signification' and concluded that "yet to identify a single research-use factor from the vast corpus of research examining research-use, knowledge mobilisation, close to practice research, evidence-informed practice, as well as a range of related fields, that does not correspond to one of these three themes" (Brown, MacGregor, et al., 2022, 4–5).

Via his semiotic analysis, Baudrillard (1968) identified that all consumer goods possess three values: their 'benefit' value (i.e., the utility that can be derived from a good); their 'cost' value (i.e., what it takes to consume a good); and the value of the good as a 'sign' (i.e., what messages an act of consumption is signifying both to the consumer themselves and to others around them).

Reflecting on this typology of consumer goods values, Brown, MacGregor, et al. (2022, 1) argue the 'use of research-evidence by educators is firmly situated within the overall culture of consumerism that encapsulates Western societies'. Indeed, the factors at individual, organisational, and systemic levels reported above can collectively be analysed via Baudillard's tripartite lenses of 'benefit,' 'cost,' and/or 'signification.' As such, teachers' use of research can be considered as a function of some combination of the following three factors:

- a. The *benefits* of using research in teaching practice: teachers' beliefs and perceptions regarding whether using research is likely to offer benefits for student outcomes, professional practice, decision-making, or ongoing professional learning—as well as whether using research is likely to offer a higher or lower level of benefits than other approaches to teaching practice.
- b. The costs of using research in teaching practice: teachers' beliefs and perceptions regarding whether using research is likely to incur mental, financial, time, and energy costs—plus weighing these costs against those incurred by using other approaches to teaching practice, as well as against the benefits gained by using research.

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c. The signification of using research in teaching practice: teachers' beliefs and perceptions regarding whether using research is desirable to them. Critically, this desirability is distinct from the perceived benefits of research use; instead, desirability refers to the extent to which teachers want to be associated with the act of research use. Such desirability may be attached to internal factors (e.g., professional identity) or external factors (e.g., colleague expectations).

Since we have identified this critical discrepancy between teachers' appreciation of research and their simultaneous reluctance to use it in their professional practice, our study—via applying Baudrillard's tripartite lenses explores the dynamics of the benefits, costs, and significance of research use from the perspectives of teachers in Catalonia (Spain), Poland, and England. Our research questions are as follows:

(RQ1) What benefit, cost, and signification factors do teachers perceive as regards research use in their professional practice?

(RQ2) Which combinations of these benefit, cost, and signification factors most profoundly influence teachers' research use in their professional practice?

#### 2 | METHODS

#### 2.1 | Survey description

To tackle these research questions, a survey methodology was employed. Our approach involved designing the survey and addressing RQ1 by initially delving into recent literature, predominantly from 2010 onward, encompassing the domain of Research-Informed Educational Practice (RIEP). This literature spanned research utilisation, knowledge mobilisation, close-to-practice research, evidence-informed practice, and related subjects. The primary goal was to comprehensively identify factors that served to either aid or hinder RIEP. Whenever the literature offered empirical grounding, we aimed, where applicable, to adapt the questions and scales used in those studies. In cases where the literature lacked empirical backing, we distilled key concepts and themes to formulate survey question items. All these survey items were then categorised according to their representation of benefits, costs, or any significant factors associated with RIEP, as per Brown, MacGregor, et al. (2022).

In addition to this literature-based approach, our research team—composed of two experienced professors, a post-doctoral researcher experienced in education, and an experienced teacher pursuing a PhD in this field—brainstormed other potential factors influencing RIEP related to benefits, costs, and significance. Subsequently, we developed survey question items to encompass these ideas.

To analyse the correlation between Benefit, Cost, and Signification (BCS) factors and the actual utilisation of research, we constructed scales aiming to explore how teachers utilised research to enhance their practice and professional growth. Furthermore, we formulated questions to explore alternative sources contributing to practice development, including courses; newsletters; publications from professional bodies; engagement with social media; and advice from colleagues. Delving deeper into the school environment, we devised questions to probe the cultural aspects impacting practice development and learning, such as trust, innovation, risk-taking, and experimentation (Brown et al., 2016; Kools & Stoll, 2016).

To ensure the questionnaire's reliability and minimise measurement errors, we employed a three-stage review process.

 The initial stage comprised two rounds of item pretesting. In the first round, we utilised Graesser (2006) Question Understanding Aid web-based programme, which scrutinizes questionnaire items for potential issues like technical jargon, ambiguous phrases, complexity, and cognitive load. Subsequently, as a team, we assessed and revised each item based on the programme's output. In the second round, we employed

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Willis and Lessler (1999) Questionnaire Appraisal System to individually scrutinise items for additional issues concerning instructions, clarity, underlying logic, respondent knowledge, bias, and response categories. This round involved comparing individual assessments within the research team to identify and address any further necessary modifications.

- 2. In the second phase, cognitive interviews took place involving one school leader and two teachers. These interviews prompted respondents to navigate through the questionnaire, explaining their interpretation of each survey item. They were also encouraged to pinpoint any language or comprehension difficulties. Additionally, expert interviews were conducted with three independent academics well-versed in RIEP research. These experts were tasked with assessing whether the survey adequately covered key RIEP issues and highlighting potential gaps. They were also asked to evaluate face validity, ensuring the survey items measured the intended aspects as intended by the research team. All insights and suggestions gathered from stages two and three were integrated into the survey's design.
- 3. Following the initial design by the research team and subsequent translation into Catalan and Polish, multiple rounds of validation were initiated.
  - a. Initially, cognitive interviews were conducted involving teachers and school leaders from Catalonia and Poland. Participants were tasked with reviewing each survey item to identify language or comprehension barriers. All comments and revisions resulting from these interviews were thoroughly considered and incorporated into the survey.
  - b. In the second stage, the survey underwent discussion with a group of teachers and school leaders familiar with RIEP concepts from the project-involved schools. The aim was to assess whether the survey effectively measured the targeted research criteria. Again, all insights and feedback gathered from this stage were meticulously incorporated into refining the survey design.

#### 2.2 | Sample and data collection procedure

In Catalonia and England, data were collected as part of the *Evidence Informed Practice for School Inclusion* (EIPSI; ref. 2020-1-ES01-KA201-082328). The researcher from Poland was, subsequently, invited to join this research study as a result of her scholarship on evidence-informed practice in the Autonomous University of Barcelona in 2021 (ref. 2019/03/X/HS6/00592).

In Catalonia, our sample was derived by utilising the database of public primary and secondary schools provided by the Department for Education, which comprises a total of 2.663 public primary schools. From this extensive pool, we carefully selected a sample of 392 schools located in the Barcelona area. To engage these schools, we initiated contact via their respective school email addresses, accompanied by an invitation letter clearly outlining the study's objectives. The survey distribution took place during the period of April to June 2020, coinciding with the initial phase of the Pandemic, that have difficulted the data collection process. To address this, we adjusted our approach, opting to reach out to schools individually through their leadership teams. This change in strategy resulted in a substantial increase in survey responses during the second launch. A total of 343 teacher responses from were achieved.

Data for Poland were collected between April 2022 and September 2022 in primary and secondary schools in two regions of Poland—Małopolskie and Podlaskie—due to them being the locations of the researcher's professional networks. Contact details were obtained via databases from the Faculty of Education of the University of Białystok and Teacher Education Center in Białystok, i.e., the largest teacher education and professional development providers in the Podlaskie region. In Małopolskie, schools were contacted via a non-profit AFS organisation, which offers training programmes in the field of intercultural education, which are highly popular among teachers in the region. Schools were invited to participate in the study via emails sent out by the leaders of these three organisations, with a letter detailing the research aims, importance, and ethics (e.g., assuring participants of their

anonymity). The response rate to this first round of invitations was very low due to the fact that many Polish teachers were navigating an unexpected influx of pupils from Ukraine. When sending reminders to complete the questionnaire did not increase the response rate, the survey strategy was changed: the researcher used her personal contacts with school headteachers in these regions, asking them to contact their teaching staff directly. As a result of this new approach, a total of 112 teachers from Poland completed the questionnaire.

As no database of teachers in England exists, it was not possible to sample at a teacher level. As such, the research team derived this sample at a school level, using England's Department for Education's https://get-infor mation-schools.service.gov.uk/Downloads website, which provides a downloadable database of all schools in England. This database was used (after removing records for schools that were closed, proposed to close or not yet open) to provide a randomly selected sample of 10% of all schools in England (2.424 schools). As you would expect, the characteristics of this random sample mirrored those of the school population described above. Having identified our sample, we then located the email addresses of an identified gatekeeper and emailed them a link to the survey, asking them to distribute this link to all teaching staff (school leaders, teachers, and teaching assistants). Follow up emails were sent 1 month after initial contact. Overall response to the survey was relatively low; nonetheless, schools were facing unprecedented challenges due to the global Covid-19 pandemic during the period of our fieldwork.

The sample is described in Table 1.

#### 3 | DATA ANALYSIS

#### 3.1 | Descriptive analysis

The objective of this analysis is to select the most explanatory variables related to the benefits, costs, and signification of evidence-informed practices. To do so, first, a descriptive analysis of all the variables has been carried out. In total, 40 different variables have been included, distributed as follows: 14 variables for the benefits domain, 12 for costs, and 14 for signification. The nature of the variables is ordinal, of the Likert scale type, where 1=completely disagree and 5=completely agree with the reference statement. For all the items, we have calculated the means and the standard deviation.

#### 3.2 | Exploratory factor analysis

The objective of this analysis is to select the most explanatory variables regarding benefits, costs, and the signification of RIEP. To do this, first, a descriptive analysis of all variables was performed. In total, 40 different variables have been included, divided into 14 variables for the domain of benefits; 12 for costs, and 14 for the meaning. The nature of the variables is ordinal, using the Likert scale, where 1 = totally disagreement and 5 = totally agreement with the reference statement.

Due to the nature of the variables, it was possible to conduct a factor analysis to group variables in the same domain (benefits, costs, and meaning) into factors or groups. In this regard, various analyses were performed for each domain, finally opting to include those variables that are more consistent factorially and always fulfilling the principles marked by the Kaiser-Meyer-Olkin adequacy tests of sampling and the Barlett sphericity. Additionally, the combination of variables that presents a higher explained variance in the largest number of factors has been chosen. A variance of 60% or more has always been obtained in no more than three factors.

First, the suitability of the analysis and the selected items were verified by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Both results for the three analyses are available in Table 2. The reference interval for the adequacy of the selected variables is at least between 0.6 and 0.8 for the

# TABLE 1 Sample demographics.

Sample demographics	Ν	%
Country		
England	79	
Catalonia	343	
Poland	112	
Gender		
Female	392	71.5
Male	126	25.3
Rather not say	15	3.1
Other	1	0.2
Total	534	100
Sample demographics	Mean	SD
Age	44.4	9957
Experience in teaching	17.37	10,857
Initial training received	Ν	%
No university degree	10	2.1
Bachelor's degree	198	40.9
Post Graduate Certificate in Education	95	19.6
Master's degree	153	31.6
PhD/EdD	15	3.1
Other level of training	13	2.7
Type of contract		
Full-time contract	439	90.1
Part-time contract	48	9.9

#### TABLE 2 KMO test and Bartlett sphericity test.

	Benefits	Costs	Signification
Kaiser-Meyer-Olkin (KMO)	0.87	0.773	0.78
Measure of sampling adequacy			
Bartlett's test of sphericity			
Aprox. Chi-cuadrado	2884.561	2480.383	1795.719
Gl	55	55	45
Sig.	0.000	0.000	0.000

KMO test. In the present case, the KMO value for the benefits domain is 0.87; for costs, it is 0.773, and for signification, it is 0.78, so it makes sense to continue with the factor analysis. Additionally, Bartlett's test of sphericity is statistically significant in all cases, which means that the values imputed in the analysis have linearity between them and are not distributed spherically in the matrix, indicating that the cases cannot be grouped by factors.

The next step is to analyse the variance explained by each factor and their selection. The minimum percentage of explained variance should be at least 60% to stop selecting factors. In this sense, in the third factor, the benefits domain has an explained variance of 66%, the costs have 61%, and the signification has 64%.

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Before presenting our research findings, we want to stress that while we wanted to achieve a degree of geographical and cultural breadth we found to be lacking in existing studies, our intention was not to position our three national settings for a comparative study. Indeed, in gathering participants for our study, our respective sample sizes were both smaller than hoped for and imbalanced. As such, the findings below are presented collectively, i.e., without distinguishing between their voices on a national basis—instead, with the ultimate goal of offering a cohesive yet nuanced set of perspectives that reflect the investigated phenomena from a (more) international perspective.

#### 4 | FINDINGS

#### 4.1 | Descriptive analysis

We start our analysis with the descriptive analysis of the three blocks of factors. We begin the analysis with our initial descriptive analyses of the blocks of factors. As we can see in Table 3, teachers showed a strong perception that research evidence is useful for their practice, especially research contributes to a more profound understanding of teaching concepts (M=4.26 SD=0.759). Research can be perceived as an important way to tailor interventions to individual class requirements (M=4.24; SD=0.826). Moreover, research is also perceived as a source of inspiration for new ideas and of new theories to be experimented in their classes. The overall value of this factor is the highest among all the factors (M=3.45; SD=0.380).

The section pertaining to the costs associated with research utilisation exhibits slightly lower ratings compared to the preceding section, highlighting teachers' overall positive attitudes towards the benefits of research use. Nonetheless, there are notable areas with higher scores in this category. For instance, teachers recognise that research becomes particularly valuable when integrated with their professional expertise, as indicated by an average rating of 3.92 (SD = 0.938). Simplifying the language used in research is seen as crucial in facilitating research adoption, receiving an average rating of 3.90 (SD = 0.865).

Furthermore, teachers express confidence in their ability to access and comprehend research evidence, as well as apply it in their teaching practices. However, they do acknowledge certain challenges, particularly in critically assessing the quality of research and comprehending research methodologies. Additionally, teachers find it somewhat challenging to directly translate research findings into actionable strategies within their teaching contexts.

In the third block of items concerning the significance of research evidence, teachers exhibit a heightened propensity to incorporate research into their instructional practices when it aligns with the overarching objectives of their schools (M=3.90; SD=0.785). Furthermore, they draw a connection between research utilisation and the potential enhancement of their school's reputation (M=3.88; SD=0.866). Similarly, there is a strong inclination to engage with research when it is closely aligned with the specific needs of their students (M=3.86; SD=0.937).

On the contrary, teachers hold the belief that the schools' positions in quality rankings do not serve as reliable indicators of their inclination to utilize research evidence or foster a widespread research culture (M=3.04; SD=1.135).

Overall, this block of items is ranked second after the benefits section, with a score of 3.43 points (SD = 0.43617).

#### 4.2 | Factor analysis

After conducting the descriptive analysis, we undertook factors analysis (Tables 4 and 5). Here, three factors were selected to group the different variables in each domain, with the distribution is illustrated in Table 5.

One all the items in the analysis were grouped into factors, they were recoded by calculating the mean of each factor. In this way, a total of nine new variables was created and correlated with one other (using Pearson's

#### TABLE 3 Descriptive analysis benefits, costs, and signification.

	Benefits	Mean	SD
1	Research evidence cannot tell me anything new	1.65	0.808
2	I don't believe that research evidence can have any positive impact on practice	1.76	0.966
3	Research evidence can't provide me with concrete solutions	2.23	1.009
4	I have not found research evidence useful for guiding leadership decisions	2.27	1.144
5	I am more likely to use research-based interventions when this is a requirement of my performance management targets	3.67	0.983
6	I can identify/measure the outcomes/impacts resulting from the use of research evidence	3.68	0.845
7	I can apply research evidence from other settings to my classroom	3.91	0.835
8	I have found research evidence useful for guiding the development of new teaching practices	4.07	0.864
9	I am more likely to use research-based interventions if they are aligned to meeting school improvement priorities	4.09	0.823
10	The use of research evidence can lead to improved student outcomes	4.14	0.842
11	Research evidence provides me with theories $I$ can use to improve my practice	4.19	0.815
12	Research evidence provides me with ideas and inspiration for improving my practice	4.21	0.826
13	I am more likely to use research-based interventions if they are aligned to meeting the needs of my class	4.24	0.758
14	Research evidence can help me expand, deepen and clarify my understanding of teaching and pedagogy	4.26	0.759
	Costs	Mean	SD
1	There are no trusted sources of research evidence I can access	2.4	0.943
2	I find the language of academic research inaccessible	2.61	0.979
3	I don't have time to engage with research evidence	2.71	1.077
4	l am able to access published peer reviewed research articles (for example, l can log in to academic research databases)	3.02	1.095
5	It is difficult to know how to directly apply the findings of research evidence to my practice	3.09	0.981
6	I feel confident to judge the quality of research evidence	3.15	0.966
7	l have a good understanding of research methods and their strengths and weaknesses	3.29	0.91
8	I know where to find relevant research evidence that may help to inform my practice	3.33	0.961
9	I know who in my school can help me access research evidence	3.44	1.121
10	I know who in my school can provide support with using research evidence	3.46	1.126
11	Research evidence needs to be 'translated' and made practitioner friendly if I am to use it effectively	3.9	0.865
12	Research evidence is only professionally useful when combined with teachers' practical knowledge	3.92	0.938

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#### TABLE 3 (Continued)

	Signification	Mean	SD
1	Researchers are not expert authorities in relation to education	2.73	1.01
2	Schools rated 'good' or above by Ofsted (or similar classifications) are more likely to use research-based interventions and/or have a research friendly culture	3.04	1.135
3	Teachers' awareness, engagement and use of research evidence are developing rapidly.	3.15	0.916
4	The awareness, engagement and use of research evidence are developing rapidly among other key staff in schools	3.24	0.912
5	School leaders' awareness, engagement, and use of research evidence are developing rapidly.	3.29	0.902
6	I can think of few, if any, examples of successful uses of research evidence in education	3.32	1.023
7	I am more inclined to engage with research evidence when this is a requirement of my performance management targets	3.42	1.025
8	There is an expectation in my school that we should engage with research evidence to improve practice	3.46	1.003
9	I am more likely to use research evidence if my colleagues are also using research evidence	3.54	0.96
10	School leaders seek out research evidence to support their existing views or plans of action	3.56	0.927
11	The use of research evidence is the hallmark of an effective profession	3.76	0.902
12	I am more inclined to engage with research evidence when it is aligned to meeting the needs of my class	3.86	0.937
13	Using research evidence enhances a school's reputation and attractiveness as a place to work and learn	3.88	0.866
14	I am more inclined to engage with research evidence when it is aligned to meeting my school's improvement priorities	3.9	0.785

#### TABLE 4KMO test and Bartlett sphercity test.

	Benefits	Costs	Signification
Kaiser-Meier measure of sampling adequacy	0.87	0.773	0.78
Barnett's test of sphericity chi-square			
Aprox. Chi-cuadrado	2884.561	2480.383	1795.719
GI	55	55	45
Sig.	0.000	0.000	0.000

correlation, which measures positive or negative correlation in quantitative variables). The results can be found in Table 6. *Correlations* show these results, with correlations that are statistically significant and with high intensity in both positive and negative directions (meaning the Pearson correlation value is  $\geq \pm .35$ ) highlighted in salmon colour; with the small number of statistically insignificant correlations, marked in blue.

According to the analysis, the most relevant findings are as follows:

The factor B5\_F1 (benefits) shows statistically significant correlations at .000 with all other factors. The most robust positive correlations are observed in its relationship with the probability of utilising evidence (B5\_F3). This probability is higher if it is tied to school priorities and management objectives. Additionally,

#### TABLE 5 Explained variance and matrix.

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		Factor		
Factor name		1	2	3
Benefits				
B5_F1	Research evidence provides me with theories I can use to improve my practice	0.94		
	Research evidence provides me with ideas and inspiration for improving my practice	0.904		
	I have found research evidence useful for guiding the development of new teaching practices	0.752		
	The use of research evidence can lead to improved student outcomes	0.552		
	I can apply research evidence from other settings to my classroom	0.504		
B5_F2	Research evidence cannot tell me anything new		0.84	
	I don't believe that research evidence can have any positive impact on practice		0.725	
	Research evidence can't provide me with concrete solutions		0.646	
	I have not found research evidence useful for guiding leadership decisions		0.489	
B5_F3	I am more likely to use research-based interventions if they are aligned to meeting school improvement priorities			0.705
	I am more likely to use research-based interventions when this is a requirement of my performance management targets			0.602
Costs				
	Pattern matrix	Factor		
Factor name		1	2	3
B6_F1	I know who in my school can help me access research evidence	1.015		
	I know who in my school can provide support with using research evidence	0.913		
B6_F2	I feel confident to judge the quality of research evidence		0.782	
	I am able to access published peer reviewed research articles (for example. I can log in to academic research databases)		0.715	
	I have a good understanding of research methods and their strengths and weaknesses		0.681	
	I know where to find relevant research evidence that may help to inform my practice		0.479	

#### TABLE 5 (Continued)

Costs				
	Pattern matrix	Factor		
Factor name		1	2	3
B6_F3	I find the language of academic research inaccessible			0.708
	There are no trusted sources of research evidence I can access			0.628
	I don't have time to engage with research evidence			0.595
	It is difficult to know how to directly apply the findings of research evidence to my practice			0.477
	Research evidence needs to be 'translated' and made practitioner friendly if I am to use it effectively.			0.355
		Factor		
Factor name		1	2	3
Signification				
B7_F1	School leaders' awareness, engagement. and use of research evidence are developing rapidly	0.948		
	The awareness, engagement and use of research evidence are developing rapidly among other key staff in schools	0.835		
	Teachers' awareness, engagement and use of research evidence are developing rapidly	0.711		
	There is an expectation in my school that we should engage with research evidence to improve practice	0.482		
	School leaders seek out research evidence to support their existing views or plans of action	0.423		
B7_F2	I am more inclined to engage with research evidence when it is aligned to meeting the needs of my class		0.675	
	I am more likely to use research evidence if my colleagues are also using research evidence		0.548	
	I am more inclined to engage with research evidence when it is aligned to meeting my school's improvement priorities		0.52	
B7_F3	The use of research evidence is the hallmark of an effective profession			-0.861
	Using research evidence enhances a school's reputation and attractiveness as a place to work and learn			-0.673

there is a strong positive correlation when RIEP is perceived as enhancing the school's reputation and the profession (B7\_F3).

The factor B5\_F3 shows statistically significant correlation with all other factors. Those with the highest intensity are the factor that expresses the benefits of REIP (B5\_F1) and the probability of using REIP according to different conditions (B7\_F2).

Similar to the previous factor, B6\_F1 exhibits statistically significant correlations with all the other factors. Of particular interest is the positive correlation it shares with B6\_F2. This suggests that when the school actively supports the use of RIEP, there is a higher level of trust, increased access, better understanding, and a stronger sense of purpose regarding RIEP utilisation.

		B5_F1	B5_F2	B5_F3	B6_F1	B6_F2	B6_F3	B7_F1	B7_F2	B7_F3
B5_F1	Correlación de Pearson	1	456**	.433**	.241**	.269**	359**	.242**	.234**	.459**
	Sig. (bilateral)		000	000	000	000	000	000	000	000
	N	674	674	670	620	631	634	612	613	609
B5_F2	Correlación de Pearson	456**	1	226**	109**	118**	.392**	146**	129**	362**
	Sig. (bilateral)	000		000	.007	.003	000	000	.001	000
	N	674	675	670	620	631	634	612	613	609
B5_F3	Correlación de Pearson	.433**	226**	1	.125**	.123**	094*	.226**	.450**	.270**
	Sig. (bilateral)	000.	000		.002	.002	.018	000	000	000.
	N	670	670	670	619	630	633	611	612	608
B6_F1	Correlación de Pearson	.241**	109**	.125**	1	.464**	279**	.481**	.125**	.277**
	Sig. (bilateral)	000	.007	.002		000	000	000	.002	000.
	Z	620	620	619	620	620	620	600	601	597
B6_F2	Correlación de Pearson	.269**	118**	.123**	.464**	1	379**	.443**	0.049	.336**
	Sig. (bilateral)	000.	.003	.002	000		000	000	.231	000.
	N	631	631	630	620	631	631	611	612	608
B6_F3	Correlación de Pearson	359**	.392**	094*	279**	379**	1	205**	0.032	303**
	Sig. (bilateral)	000	000	0.018	000	000.		000	0.435	000
	N	634	634	633	620	631	634	612	613	609
B7_F1	Correlación de Pearson	.242**	146**	.226**	.481**	.443**	205**	1	.270**	.376**
	Sig. (bilateral)	000.	000	000	000.	000.	000.		000.	000
	Ζ	612	612	611	009	611	612	612	611	608
B7_F2	Correlación de Pearson	.234**	129**	.450**	.125**	0.049	.032	.270**	1	.269**
	Sig. (bilateral)	000	.001	000	.002	.231	.435	000		0
	N	613	613	612	601	612	613	611	613	609
B7_F3	Correlación de Pearson	.459**	362**	.270**	.277**	.336**	303**	.376**	.269**	1
	Sig. (bilateral)	000	000	000	000	000	000	000	000	
	Z	609	609	608	597	608	609	608	609	609

\*\*Significant correlation at level 0.01 (bilateral). \*Significant correlation at level 0.05 (bilateral).

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TABLE 6 Correlations.

This school-centric factor is also associated with the consensus that RIEP is advancing rapidly and holds a significant role within the school, both in terms of management indicators and strategic planning (B7\_F1).

B6\_F2 is the first factor that does not have a statistically significant correlation with the other factors. According to the results, this factor (confidence, understanding, access, knowledge of where to find evidence) has no correlation with the probability of using evidence if it is aligned with the needs of the class, if colleagues are using it, or if it is in the school's priorities (B7\_F2). However, there is a positive correlation with the evaluation of teachers' awareness of RIEP (B7\_F1). On the other hand, there is a negative correlation with the factor composed of items that assess the difficulties of using research evidence according to language, usefulness, access, etc. (B6\_F3).

#### 5 | DISCUSSION

In our survey-based study, we aimed to explore the dynamics of the benefits, costs, and signification of research use from the perspective of teachers in Catalonia, Poland, and England. Via applying Baudrillard's (1968) tripartite lenses, we were able to provide fresh insights into how teachers use research in their teaching practices across a diverse range of schools, spanning three different national settings.

Overall, our study revealed a general consensus among teachers that there are both benefits and cost to incorporating research into their professional practice. In the following paragraphs, we discussed our research findings, placing into dialogue teachers' perceived BCS factors as regards their own use of research in their teaching practices. Indeed, this nexus encompassing the three types of factors is broadly reflective on the fact that they correlated in our factorial analysis.

Regarding the perceived benefits of using research in professional practice, the factorial analysis conducted in our research highlights how teachers tend to link research evidence with an enhanced comprehension of educational theories, which, in turn, offers valuable insights and guidance for their teaching approaches. Furthermore, research empowers teachers to engage in introspective processes, thereby challenging their existing conceptions and knowledge while integrating new ideas into their teaching practice (Walker et al., 2018). Additionally, in terms of signification, our findings indicate that teachers are more inclined to use research when it aligns with their school's overarching priorities and when it is an integral part of their school's decision-making processes. Indeed, although the teachers primarily saw research as something for them to utilise on an individual basis, they also advocated for incorporation of research into their school's missions—a finding in line with those of other studies (e.g., Ion et al., 2022).

Organisational factors emerged as a pivotal influence in teachers' perceptions of research use. The presence of support and trust among the teachers' colleagues significantly enhanced the likelihood of them using research—confirming the mediating role of the organisation context in the process of research use (e.g., Brown, 2017).

Teachers' preparedness to use research—i.e., their ability to access, comprehend, and feel confident in using research—initially was not found to directly impact upon their research use. However, this scenario changed when the concept of research use was further linked enhancing student outcomes or other colleagues within the school also being actively engaged in research. This shift in the findings compel us to consider the importance of the developing teachers' research capacities, not only as individual capacity, but as influenced by a collective school environment, as discussed by, for example, Cain (2015). Indeed, recent research suggest that when schools actively supports the use of research among teachers, there is a higher level of trust towards, increased access to, better understanding of, and stronger sense of purpose regarding research (Joram et al., 2020).

On this level of signification, teachers' willingness to engage with research is often shaped by their perception of whether their school leaders encourage or endorse its use. When teachers believe that their school leaders value research, they are more inclined to embrace it in their professional practice—again highlighting the pivotal role of school leadership and decision making in fostering a school culture of research use (see 16 of 19 | WILEY

e.g., Coldwell et al., 2017). Simultaneously, our results show that teachers are more inclined to want to use research in their professional practice if they believe that it will enhance the reputation or attractiveness of their school, an association which underscores the interplay between institutional image and research adoption (Godfrey, 2014). Similarly, our findings reveal the tendency towards research use when research is perceived by teachers to have a positive impact on their professional status and reputation (see also Wyse & Torgerson, 2017).

Teachers perceived also costs or obstacles to their research use. As in previous research (Díaz-Vicario et al., 2022), these are related mainly to the teacher's literacy and support to engage with research but also with the accessibility of research formats and resources (in terms of time, space, and structures) to effectively engage with them.

#### 6 | IMPLICATIONS OF THE STUDY

As it stands, our study may offer some important takeaway messages for various stakeholders (e.g., teacher education providers, researchers, policy makers, and school leaders) in our own three countries and beyond who are-individually and collectively-responsible for nurturing a research-oriented teaching profession. From our findings, it is clear that teachers perceive research-informed teaching practices as highly beneficial, which is why we suggest that the recent efforts of policy makers in putting research-informed teaching practices more prominently on political and educational agendas, as well as funding them, are well worth continuing and expanding. Yet it is not enough for governments in Poland, Spain, and England to simply call for the adoption of research-based models of teacher education. More is needed for change to occur. For example, in Poland the government's 5year master's teacher education for elementary school teachers is officially billed as producing research-informed graduates, but in practice this idea of research is mainly restricted to scientific or theoretical research, not its meaningful application to practice (Korzeniecka-Bondar et al., 2023). As such, instead we encourage teacher educators and teacher education providers (at both Initial Teacher Education and CPD levels) to invest in offering more practical guidance on how to use research in professional practice. In Catalonia, Spain, the enactment of the Research Plan,<sup>1</sup> championed by the Department for Education, has served as a catalyst for enhancing teachers' research capacity. This initiative is designed to enhance their research literacy and promote the utilisation of evidence-informed practices. However, as highlighted in our study, the collaborative engagement of all stakeholders in fostering individual, organisational, and systemic research capacity is indispensable. Moreover, a nuanced understanding of the multifaceted factors influencing the uptake of research evidence is crucial for informed decision-making and effective implementation strategies at all levels. In England, there is a research evidenceinformed curricula for initial teacher training (which looks at the interplay between research and practice and how the latter can inform the former; Department for Education, 2024). Likewise, there are standards for teachers (e.g., Department for Education, 2019) that are grounded in research. Yet these are of limited use if teachers are unable or lack the inclination to engage further with research so as further improve the quality of their pedagogy and decision making. Their utility will also be hindered in the absence of ongoing support for teachers on how to utilise research across the life-course of their career.

It should be of no surprise, therefore, that our research has confirmed that, in reality, teachers do not feel adequately prepared to use research in their professional practice; therefore, it is our recommendation that teacher education providers (at both Initial Teacher Education and Continuous Professional Development levels) should offer more practical ongoing guidance, support and resource for how to use research in professional practice. Our findings also demonstrated the crucial role of school leaders in encouraging teachers to use research, at both classroom and school level; therefore, it would be useful for school leaders to formalise and enshrine research integration into their school priorities, as well as channel leadership strategies which empower teachers to use research in their practice. For example, it would be useful to initiate and strengthen

networks of school leaders who are or seek to become research-engaged—looking to our own national contexts, England serves as a good example of how supporting teachers to be research-engaged through such networks.

Ultimately, however, from our findings we can infer that the above recommendations will only be truly effective if underpinned by researchers' efforts to make the language of their publications simpler and practitioner friendly–friendly–as stressed by many of the teachers surveyed in this and previous studies in our contexts (Brown, Ophoff, et al., 2022; lon & Lopez, 2022; Kowalczuk-Walędziak et al., 2020).

#### 7 | CONCLUSION

Our research findings broadly align with the existing literature regarding the factors influencing teachers' research use in their professional practice. However, viewing these findings through Baudrillard's theoretical lens has added new clarity and nuance regarding the dynamics of teachers' research use—specifically in terms of their perceptions of the associated BCS factors. By including three diverse European settings, our study also contributed to the existing literature through expanding the geo-political scope of scholarship on research-informed teaching practice.

Nonetheless, due to the limitations of our study, our findings should be interpreted with caution for application to other research contexts and professional practices. First, while our study draws from samples of teachers working in different geographical settings and education traditions, they are limited to just three and are all on the same continent. Second, the difficult circumstances within which this study was conducted—for instance, the pandemic and increased invasion of Ukraine—presented logistical limitations for the researchers in gathering their teacher samples. As noted earlier, the numbers of teachers surveyed were unavoidably imbalanced and lower than hoped for. Consequently, these samples cannot be taken as representative of the population of teachers in our countries, making it impossible to generalise our findings widely. On the other hand, it is these very circumstances that—we hope—render our findings all the more valuable, as a means of better understanding how teachers use, or *could* use, research to address the contemporary challenges facing our profession. With these limitations and potential in mind, we propose that the combinations and dynamics between the benefit, cost, and significance factors of research use in teachers' professional practice identified by our study, although interesting and promising, should be tested among larger cohorts of teachers, both in our three countries, as well as more internationally.

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#### CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available in FIGSHARE. doi:10.6084/m9.figshare.25262332.

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#### ENDNOTE

<sup>1</sup>Research and evidence for education and policy improvement [La recerca i les evidències per a la millora de la pràctica i la política educatives] available here: https://projectes.xtec.cat/recerca-educativa/.

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