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Abstract

A fundamental issue in defining teacher education involves dealing with the roles of research and theory in informing practice. Increasingly, research literacy is seen as a core component of professionalism in language teaching. This article outlines a professional development framework that maps out five key facets of language teacher research literacy: foundational knowledge, ability to use the knowledge base of the profession, ability to theorise for practice, ability to produce knowledge through classroom-based empirical inquiry, and ability to share knowledge with peers, mentees, and stakeholders. Information is presented regarding the development and validation of the framework, and implications for its use in research and teacher education are discussed.

Key words: l*anguage teacher education, professional development, research literacy*

Developing a Teacher Research Literacy Framework for Language Teacher Education

Since the publication of Wallace's (1991) treatise on training language teachers, discourse and practice in language teacher education has tended to accept the, now standard, distinction among the *craft model*, the *applied science model* and the *reflective model* of teacher education. These three contrasting models have important implications about how research evidence from applied linguistics, language education psychology and the pedagogical sciences is framed in the context of teacher education programmes for the benefit of participants. If one accepts a view of teaching as a craft, that is, a set of skills that one masters through observation and practice, research evidence may be of little relevance. In the applied science model, research from the disciplines informing teaching is of paramount importance, but the teachers' exposure to it takes place in the context of structured programmes (often university-based courses), where experts are available to mediate challenging content, which can then be unproblematically transferred (or 'applied') to the participants' professional contexts. While there is mounting consensus that both these models are limiting, and that reflective practice has more potential to inform quality teaching (e.g., Edge, 2011; Farrell, 2016, 2017; Mann & Walsh, 2017), its implications for teacher education are not always uniformly present in teacher education programmes.

If a reflective approach is taken towards the practice of language teaching, two sets of implications seem particularly salient when thinking about how research is framed in language teacher education. The first one is that teachers' engagement with research will not always be confined to the safe space of a university-based course, relevant research will not always be preselected by an authority, and the transformation of research input into actionable insights must be the responsibility of the teachers. This suggests that teacher education should foster the participating teachers' ability to autonomously engage with the expanding knowledge base of the profession (Williams & Cole, 2007). The second set of implications of adopting a reflective approach is that knowledge production in language teaching cannot be perceived as a unidirectional flow of information from the academe to the frontlines of the profession. This is not just a deontic injunction premised on an egalitarian understanding of teaching (though even such an argument seems sufficient); it is also a pressing practical need. Recent years have seen a trend, in the informing disciplines of language teaching, to become increasingly detached from the realities of the classroom. For example, while some areas in applied linguistics (e.g., scholarship Instructed Second Language Acquisition and Computer Assisted Language Learning) have retained an anchoring in practice, the primary concern of Applied Linguistics is no longer to inform language education (Cook,

2015; Kostoulas, 2019; Kramsch, 2015). Though such a perspective has usefully expanded our theoretical understandings of topics in applied linguistics and psychology, this trend has created a widening knowledge gap about education. Put differently, as research in the informing disciplines sets its sights into more theoretical and abstract directions, reflective teachers need to take responsibility for creating locally relevant knowledge for their practice and for the profession. For teacher education, this injunction suggests a need to develop the language teachers' ability (and confidence) to engage in empirical knowledge production (Borg, 2010).

In response to the challenges outlined above, this article aims to make a tri-fold contribution to the scholarship on language teacher education. Firstly, a theoretical conceptualisation will be put forward, with a view to integrating the various aspects of teacher education that are connected to research practices, such as research literacy, engagement *in* research and engagement *with* research. Secondly, on a practical level, a professional development framework will be described (ReaLiTea, 2025), which can be used to guide the development of teacher education courses or assessment instruments. Finally, the article puts forward a research agenda for continuing work on improving our understanding of how teacher research literacy can be developed.

Although this contribution is not an article reporting on an empirical research project as such, it loosely follows the conventional structure of such articles: we begin by outlining an ecologically framed conceptualisation of teacher research literacy, based on the theoretical foundation of Stelma and Kostoulas (2021). The next substantive section of the article presents the teacher research literacy framework, followed by a description of the validation procedures that were undertaken by the author team. The article concludes with a discussion of how the framework can be used to inform language teacher education research and practice.

Language teacher research literacy

Language education, and by extension Language Teacher Education, operates at the complex nexus of plurilingualism, interculturality and identity-focused educational thinking. It also often spans the very different, and sometimes overlapping, ecologies for national education systems and commercial instruction, often reflecting the tensions between the humanistic values that the former aspire to and the neoliberal priorities implicit in the other (Holborow, 2015). Being both global in scope and locally situated, it often navigates different educational traditions and epistemic perspectives, sometimes generating tensions (e.g., Phillipson, 1992, 2009). Such multifaceted complexity complicates traditional models of research literacy, which rely on the top-down transmission of knowledge, and it necessitates sensitivity to contextual particularity, possibility and practicality (Kumaravadivelu, 2006). A distinct approach to teacher research literacy for LTE involves

empowering language teachers to make sense of complex pedagogical ecologies, integrate reflective practices, and engage in locally relevant knowledge production, and indeed is a rich, and somewhat polyphonic, corpus of scholarship exploring how teachers relate to research, or what form this relationship should take in the field of LTE (e.g., Kostoulas, 2018; Beaudry & Miller, 2016; Borg, 2013; Dikilitaş & Comoglu, 2022; Eriksen, 2022; Groß-Ophoff et al., 2017).

Although in many contexts around the world teachers —particularly in the early stages of their career— are constrained by centralised curricula and top-down decision-making structures, a need exists, nevertheless for "critical scrutiny of evidence, whether that be directly from enquiry-oriented practice evident in schools, from active participation in research, and/or from examination of researcher-led studies" (Warring & Evans, 2015, p. 18). It should be noted that such research engagement, whether in the form of reading about research or actively engaging in knowledge creation, is not intended to generate consensus about practice; indeed, such consensus is often not possible (cf. Wyse & Bradbury, 2021 for a concrete example). Rather, what is suggested is the development of critically-oriented, empirically-informed understandings of what is possible within the affordances and constraints of specific contexts.

Such engagement with (and in) research sometimes takes place in pre-service teacher education (e.g., Hatlevik et al., 2024; Kowalczuk-Walędziak, et al., 2025), and it is an important feature of teacher development frameworks, such the EPOSTL (European Portfolio for Student Teachers of Languages (EPOSTL; Newby et al., 2007). Beyond initial teacher education, Widdowson (1990) points out that teaching involves a synthesis of instructional and experimental activity and goes on to suggest that "the most effective pedagogy is one in which the two act together, each informing and reinforcing the other" (p. 3). More recent contributions have highlighted the role of research engagement for developing evidence-informed practice. For example, Consoli and Dikilitaş (2021) illustrate how practitioner research can be integrated into everyday teaching, while Hanks (2024) emphasises the role of exploratory practice in empowering teachers as knowledge generators.

Some recurring and partially overlapping themes in this discourse, which warrant some disambiguation, include (language teaching) *research*, (language teacher) *research engagement*, and —finally— (language teacher) *research literacy*. In the literature, language teaching research can be construed narrowly or more inclusively. In the first sense, often encountered in caricature form in arguments in favour of absolute teacher autonomy, research is "a lengthy process of collecting, analysing, and then evaluating a set of data […] in quest of regular patterns, moving from the particular to the general" and it is typified by the researchers' "personal detachment from, and relative control over, the phenomenon under study" (Medgyes, 2017, p. 492). Such understandings

of research are quite prevalent in popular perception, since many teachers appear to view research as involving large samples, sophisticated statistical procedures and experimental methods (Kostoulas et al., 2019; Diakogianni, 2024). This narrow view stands in contrast to a perspective of research as evidence-informed knowledge production within the context of practice. This broader definition does not exclude the type of research mentioned above, but also encompasses "systematic, intentional inquiry by teachers about their own school and classroom work" (Lytle & Cochran-Smith, 1992, p. 450). Such a perspective, which goes back to Lewin's (1948) observation that everyone is capable of systematically noticing important aspects of their context, reflecting on them, and making plans to change them, includes classroom-based empirical activity, such as Action Research (Burns, 2009), Exploratory Practice (Hanks, 2017), Lesson Study (Dudley, 2014) and similar activity that aims to expand the knowledge base of language teaching.

The term (language teacher) *research engagement* refers to the interaction of language teachers and research. Borg (2010, 2013) makes a useful distinction between engagement *with* research and engagement *in* research. The first term refers to activities such as reading research articles, or —if one takes a broader definition of research— engaging with the findings of others (in whatever form these might be made available) with a view to informing professional practice. By contrast, engagement in research refers to knowledge-producing activity, along the lines of the broader definition of research presented in the previous paragraph. In both these forms, research engagement has been argued to have a range of positive effects on teacher professionalism (e.g., Dikilitaş & Yayli, 2018; Sato & Loewen, 2022; Marsden & Kasprowicz, 2017; Winch et al., 2015; Wyatt, & Dikilitaş, 2016).

For research engagement to be effective rather than merely performative, however, teachers must develop a set of skills that collectively compose their *research literacy*. Some definitions of research literacy include "the ability to find, comprehend, discuss, and assess various types of research; to communicate them accurately; and to apply the findings for academic and professional purposes" (Beaudry & Miller, 2016, p. 4). It also includes "the degree to which teachers and educational leaders are knowledgeable about various research methods, current research findings, and the implications of these findings for their daily practices, as well as for broader educational policies and practice" (BERA-RSA, 2014, p. 40). We revisit teacher research literacy in the next section, but the aspects that stand out from these definitions are that it is a multifaceted construct, and that it is practice-oriented.

For the time being, we will attempt to synthesise all the information that has been presented so far in a comprehensive conceptualisation. The epistemological frame on which this

conceptualisation is based draws on Intentional Dynamics theory (Stelma & Kostoulas, 2021), a synthesis of ecological theory (Bateson, 2000/1972) and complex dynamics systems theory (CDST) (Larsen-Freeman & Cameron, 2008). We define research literacy as the ability to effectively engage with the collective knowledge of the profession, in ways that challenge constraints in the local context and expand pedagogical possibility by creating new affordances for teaching and learning of additional languages.

Key to this conceptualisation is an understanding of language teacher research literacy not as something that teachers 'have' but rather as a developmental process towards fully autonomous research engagement (Figure 1). We view this process as an intentional phenomenon —a term that we use here in the philosophical sense (Brentano, 2012/1874), to index that this process 'intends towards' or 'is about' research engagement.

[INSERT FIGURE 1 APPROXIMATELY HERE]

Another characteristic of teacher research literacy is that it is embedded within an 'ecology of ideas' (Bateson, 2000), a complex entanglement of beliefs about and attitudes towards knowledge research and teaching, policies and practices, and sociocultural structures. Operating on an individual scale (intrapersonally) and on a social scale (interpersonally), the components of the ecology are synthesised and assigned significance by teachers through processes of meaning-making (Stelma & Kostoulas, 2021).

The different configurations, or dynamics, of components in this ecology create affordances for research engagement, which —crucially— have a recursive effect on the teachers' research literacy. For instance, a teacher who has the opportunity to take part in a small-scale action research project might develop useful skills and positive attitudes towards research; thus, their research literacy will grow (of course, this is just one of the possible developmental trajectories). In other words, teacher research literacy micro-genetically emerges (Larsen-Freeman & Cameron, 2008) from the interaction in this ecology, and morphogenetically restructures (Archer, 2013) the ecology of which it is part. In this sense, it is a "powerful transformative force" (Borg, 2010, p. 391) in language education.

From the above exposition, it follows that research literacy is a process that could, in theory, develop spontaneously and / or be sustained by the teachers' autonomous action. However, in practice, this is a process that is often initiated and driven through teacher education, and it is incumbent on teacher educators to provide effective scaffolding and appropriate direction to

teachers. It is with this in mind that, in the following section, we present a professional development framework for teacher research literacy.

A teacher research literacy framework

The professional development framework that is described in this section (ReaLiTea, 2025) is part of a wider project aimed at developing teacher research literacy (Research Literacy of Teachers; www.realitea.info). This framework is designed primarily for use within pre-service and in-service LTE programmes, which are typically embedded in national education systems; however, it remains adaptable for teacher development in commercial and international language education contexts. The framework builds on the extensive professional experience of the project members, which was enriched through consultation with five leading experts in the overlapping fields of language teacher education, practitioner research and research engagement.

The purpose of this framework is to support teacher development by providing scaffolding for developing research literacy-related competences during initial teacher preparation and further professional development. In initial teacher education, for example, teacher educators can use the framework to structure reflective journal writing, scaffold mentoring, or provide content for seminar activities; additionally, it might be used for formative assessment in teaching placements, to help pre-service teachers monitor their progress engaging with (and in) professional knowledge. This can empower teachers to develop reflective, research-informed practices from the outset of their careers.

Building on the conceptual understanding that was outlined in the previous section, in the framework, language teacher research literacy is viewed as an emergent, multi-faceted, developmentally growing set of competences pertaining to the language teachers' ability and readiness to interact with the knowledge base of language education. To clarify, this conceptualization involves not only academic knowledge but also practical and reflective knowledge types; it encompasses disciplinary, pedagogical, contextual, and ethical knowledge that language teachers require as they develop personal understandings of "what is happening and why it is happening" (Edge, 2011, p. 10) and perhaps also 'what alternatives are possible' in their professional context.

In the context of this definition, we understand 'interaction' to include various forms of engagement, such as reading, reflecting on, and producing empirically grounded understandings that is relevant to professional needs; similarly, we propose a broad definition of the term 'knowledge base', which encompasses not just the knowledge deposited in the form of research articles, but

rather any systematically produced, empirically informed knowledge, including professional literature, appropriate internet-based resources (e.g., blogs and videos) and so on, that satisfy the criteria of relevance and rigour.

Viewing research literacy as a professional growth process, we identify three broad developmental phases, or **levels of research literacy**. In the first phase, in which teachers only have *limited autonomy*, they wholly depend on input, direction and support from teacher educators for tasks such as finding appropriate literature, understanding its implications, and preparing a presentation or publication. As teachers move on to the *developing autonomy* level, which follows, they still benefit from scaffolding and feedback, but they are increasingly capable of engaging with research tasks on their own. In the final phase, that of *achieved autonomy*, teachers are capable of independent research engagement. With appropriate acknowledgement of the diversity in the expectations of teacher education systems across contexts, these three levels have been designed to broadly correspond to the BA, M-level and advanced (e.g., doctoral) teacher education programmes.

As hinted in the previous section, we do not view research literacy as a unidimensional construct. In the framework, a distinction is made among five **facets of research literacy**, as follows:

a) Foundational, or background, knowledge that is required for reading, understanding, and producing professionally relevant insights;

b) Use of published professional knowledge, which encompasses skills related to the retrieval and extraction of published information;

c) Theorising for practice, which involves the ability to transform abstract knowledge into actionable insights for language teaching and learning;

d) Knowledge production, which indexes the teachers' ability and readiness to generate professionally relevant information through practitioner research;

e) Knowledge sharing, which means the teachers' ability to communicate knowledge with peers, stakeholders, and mentees.

It should be noted that these facets (Figure 2) are at least to some extent overlapping: for example, it must be assumed that when a teacher reads a research article, they will also learn —from the methodology section— how to conduct research; similarly, their foundational knowledge, such as academic language skills, will likely develop from the process. There is also overlap between, for instance, the schematic knowledge required to produce relevant insights (point a) and the ability to empirically generate such insights (point d). Nonetheless, such analytical distinctions, which are

further elaborated in the following sub-sections, do carry certain pedagogical advantages in course design and assessment, and therefore may lend themselves well for the purposes of teacher education.

[INSERT FIGURE 2 APPROXIMATELY HERE]

Foundational knowledge

The first of the five facets of research literacy encompasses several knowledge areas that are deemed necessary for any type of research engagement (Table 1). Unlike the other facets, this one is described as a 'knowledge base' as it indexes the background against which the other facets develop. One such area is **linguistic proficiency**, with particular emphasis on cognitive academic linguistic proficiency (Cummins, 2013). Even though the perspective taken here is inclusive in terms of what forms of research output are valued, a lot of research is published in academic journals using challenging language (Borg, 2010). This is especially true for teachers who need to engage with scholarship that has been published in languages other than the one they speak natively.

[INSERT TABLE 1 APPROXIMATELY HERE]

A second area includes **schematic knowledge** in the informing disciplines of language education, such as linguistics, pedagogy, and language education psychology (Kostoulas, 2019). Cultural knowledge is another important part of this knowledge area (Kramsch & Zua, 2016), particularly for teachers of languages that are strongly associated with specific national cultures. Schematic knowledge is necessary for research engagement because it provides a cognitive foundation on which new information can be anchored.

Two more areas subsumed in this facet of research literacy include **knowledge practices** and **knowledge management**. The former refers to aspects such as digital skills (including increasingly the ability to use Artificial Intelligence for learning), information management skills, and the ability to learn effectively. The latter includes meta-learning skills, such as the ability to plan, sustain, and monitor professional growth.

Using the knowledge base

The second facet of research literacy, using the knowledge base of the profession, roughly corresponds to what Borg (2013) describes as engaging with research (Table 2), including especially the research that is most directly relevant to the needs of teaching and learning. 'Reading' research is a far from straightforward task, and teacher educators are called upon to help teachers develop several interrelated sub-skills. Firstly, teachers need to be able to **locate information** relevant to their

needs, a task complicated by the overwhelming volume of research output, and the need to prioritise reading based on relevance to language teaching. This task is further complicated by the challenge of accessing said information, which —despite the increase in open-access publications– is still complicated by commercial paywalls (Cook et al., 2024; Sato & Leuwen, 2019).

[INSERT TABLE 2 APPROXIMATELY HERE]

Additionally, teacher educators need to help teachers develop skills to **extract information** from the literature, including also —where relevant— teacher-facing publications such as summaries of published articles.[1] This might involve capitalizing on skills that are familiar to language teachers, such as general and detailed reading (and listening) comprehension, as well as skills that can be readily transferred from fields such as Languages for Specific Purposes, such as effective notetaking. Increasingly, this also means becoming effective in translingual academic skills such as reading in one language and summarizing in another (Siegel, 2023), particularly for teachers whose professional role involves teaching languages that are foreign to them.

Furthermore, it is important for teacher education to develop the teachers' skills to **critically evaluate** the relevance and authority of the information to which they are exposed (Jemsy, 2018). This can be done intuitively, or in more structured ways like the Currency, Relevance, Authority, Accuracy, and Purpose Test (Blakeslee, 2004). The relevance of these skills is heightened considering the abundance of information online that is confidently articulated, often well-intentioned, but frequently misguided, such as pre-prints, publications that appear in predatory journals, or other dissemination outlets that lack quality control mechanisms.

Lastly, using the knowledge base also includes the ability to **synthesise information** from multiple sources to develop comprehensive understandings of the phenomena that are relevant to the teachers' needs. The widespread use of artificial intelligence as a means for synthesising educational content has heightened the importance of this set of skills, as AI-curated summaries and educational resources have become increasingly prevalent. While efficient, such resources usually lack contextual sensitivity and are likely to propagate oversimplified or misguided interpretations of research.

Theorising for practice

A potentially overlooked aspect of research literacy involves the ability to theorise for practice, which means to generate, from reading and empirical work, locally relevant insights that

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[1] e.g. the one-page summaries of research at the OASIS project (www.oasis-database.org)

can inform teaching and learning. With positivistic understandings of teaching no longer being current, theorising for practice places a set of epistemological demands on teachers.

[INSERT TABLE 3 APPROXIMATELY HERE]

The first of these challenges involves being able to synthesise various sources of information (e.g., conceptual, historical, experiential and empirical) into a personal understanding (or 'theorization'; Edge, 2011) of their professional practice (**theoretical positioning**). This involves being able to articulate a grounded, confident and coherent account of their pedagogical beliefs, especially with regard to questions where multiple perspectives are possible.

Post-method understandings of language education suggest that such theorisations need to be locally relevant to teachers' professional context (Kumaravadivelu, 2001). This requires research-literate teachers to develop the ability to understand the particularities of their teaching ecology, the constraints present in it, and the affordances that are produced therein (**contextual sensitivity**). Such sensitivity is needed as it enables teachers to meaningfully select, adapt and apply professional knowledge to their unique classroom reality.

An additional requirement is that language teachers are aware of how their developing theories are shaped by their experiences, priorities, and values. This kind of **reflexive awareness** is essential for fostering teacher autonomy, criticality, and context-sensitive practice (Crookes, 2021; Farrell, 2022). Edge (2011) summarises readiness to reflexively interrogate meaning-making as the ability to engage with questions such as 'What difference does it make to the teacher education that I offer that it is *I* who offer it? and 'What difference does offering *this* teacher education make to me as a teacher educator?' (p. 47, original emphasis).

Lastly, theorising for practice involves being able to translate the teachers' emerging theorisations into practical courses of action that can improve practice (**practicality**). Practicality, in this sense, does not mean simply generating actions that lead to immediate learning payoff. Rather, it involves transforming theoretical insight into context-sensitive action, and refining such action based on reflective inquiry. In other words, practicality in this framework positions language teachers as active decision-makers who adapt and reconstruct knowledge to enhance the effectiveness and relevance of their teaching within their educational ecology.

Producing knowledge

The fourth facet of research literacy, producing knowledge, encompasses various forms of practitioner research ('engaging in research', per Borg, 2013). It should be stressed once more that 'research' in this setting is not narrowly defined as large-scale research projects that require

academic expertise, and the information that follows is not to be read only with this scale in mind. However, classroom- and school-based empirical work does entail expectations of systematicity and rigour, albeit at a smaller scale. This facet of research literacy, then, encompasses the teachers' developing ability to conduct such work (Table 4).

[INSERT TABLE 4 APPROXIMATELY HERE]

Producing knowledge, as defined above, requires developing competence in designing practice-based projects (Sato & Leuwen, 2022), such as action research or exploratory practice investigations (**research design skills**). Among other things, this involves being able to define appropriate research goals, selecting the most appropriate methods (or methodological combinations), and planning for the efficient use of resources. Additionally, engaging in knowledge production requires **data generation** and **data analysis skills**, such as designing effective questionnaires, being able to conduct interviews and classroom observations competently, and analysing qualitative and statistical data appropriately. Finally, this aspect of research literacy involves having the necessary skills, or **ethical competence**, to conduct research in ways that prevent participants (including the teacher-researcher) from harm and treat them with respect (Gilliland et al., 2023). This set of competences includes familiarity with applicable regulatory frameworks and ethical principles, and —particularly— the special provisions that apply to working with minors and vulnerable populations.

Sharing knowledge

The final facet of research literacy in the framework involves sharing knowledge and / or being able to use it within a broader community. Adding this dimension to research literacy stems from the observation that research is a public-facing activity (Borg, 2010), which –in the case of teacher research in particular– is aimed at improving practice (Hammersley, 2004).

[INSERT TABLE 5 APPROXIMATELY HERE]

The competences associated with sharing empirical knowledge are, in the most obvious sense, the productive skills such as **talking** and **writing about research** for audiences in their contexts: in some cases, this might involve peers or stakeholders; in others, it could involve sharing insights with the academic community. It should be noted that these two competences are distinguished from the narrowly linguistic skills defined in the section dealing with foundational knowledge. The former, talking about research, refers to the teachers' ability to engage in the discourse practices of knowledge exchange, such as delivering presentations and engaging in the question-and-answer sessions; the latter, writing about research, involves similar academic socialisation, which —in

addition to producing written text— involves selecting appropriate venues for sharing research and, where relevant, dealing with peer review.

A second set of competences refers to how teachers participate in communities of practice (Wenger, 1999), and how they engage with others. The former, **participation in communities of practice**, involves networking skills, including the ability to proactively create such communities where these might not exist, as well as the ability to leverage such communities for knowledge production. It also includes knowledge transfer among peers, as well as from more knowledgeable teachers to mentees. Finally, **broader community engagement** refers to the teachers' ability to facilitate the movement of knowledge beyond the confines of the profession. Examples of this include public engagement and interactions with stakeholders and decision-making authorities.

Operationalising the competences

In the teacher research literacy framework, these competences are operationalised in the form of descriptive statements ('descriptors') that document what the teachers can presently do. These 'can do' statements have been deliberately modelled after frameworks such as the Common European Framework of Reference for Languages (Council of Europe, 2001) and the Digital Competence Framework for Educators (Punie & Redecker, 2017) for ease of use, as users of the framework are likely to be familiar with this format. Multiple versions of each statement are provided, which correspond to different levels of research literacy (limited, developing, and ful autonomy), with each ascending level adding additional criteria to the research-literate teachers' skillset. An example of such descriptors is presented in Table 6.

[INSERT TABLE 6 APPROXIMATELY HERE]

Validating the teacher research literacy framework

As a first step towards establishing the reliability of the framework as an instrument that can inform teacher education a small-scale validation project[2] was conducted. This investigation set out to answer two questions:

Research question 1: What is the degree of agreement among teacher educators regarding the assignment of categories in the framework?

Research question 2: What importance do teacher educators assign to the competences included in the framework?

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[2] Ethical approval was granted by the University of Thessaly Internal Review Board (108 / 12.12.2023).

To answer these research questions, a webpage and an online questionnaire were created. The webpage contained information about the ReaLiTea project and this particular inquiry. It also included definitions of research literacy and the five facets that make up the construct. The questionnaire consisted of three sections: The first one served to record the participants' informed consent. In the second section, participants were presented with a list of 20 competences and knowledge areas (see Tables 1 to 5) and asked to assign them to one of five categories (the five facets of the research literacy definition). An additional category ('none') was provided for participants who believed that none of the other categories was a good fit for a competence or knowledge area. In the third section of the questionnaire, participants revisited the 20 competences and knowledge areas, and were asked to rate their perceived importance using a five-point numerical scale ranging from 'not important at all' to 'very important' (only the end points of the scale were given, the assumption being that the intervals were equidistant). Given the small-scale nature of this study and the particularities of the sampling procedures (see below), no demographic information was collected, as this might compromise anonymity.

The questionnaire was forwarded to experienced language teacher educators through the authors' professional networks. An attempt was made to maximise geographical coverage by contacting informants who taught in teacher education programmes in several European countries (Austria, Estonia, Cyprus, France, Germany, Greece, Norway, Switzerland, Türkiye, and the UK). Additionally, participants were asked to forward the questionnaire to similarly qualified participants using snowball sampling. A total of 16 participants responded to the questionnaire. One participant was subsequently removed from the sample as they had provided blank responses to all questions.

Following that, Krippendorff's *alpha* (α) was used to estimate inter-rater reliability (Krippendorff, 2019). The metric was selected because it allows for the calculation of inter-rater reliability with multiple raters, and it adapts for missing data and all levels of measurement. Krippendorff's α ranges from -1 to 1, with 0 indicating randomly allocated ratings, 1 indicating perfect agreement between raters and -1 indicating perfect disagreement, after correcting for chance agreement. Krippendorff recommends that raters undergo training in order to familiarise themselves with the coding scheme, discuss and clarify ambiguities, and practice rating. Although this suggestion was impracticable, given the aim to maximise geographical coverage, it was expected that the information in the webpage (see above) would counterbalance this omission. Since SPSS does not include Krippendorff's α by default settings, a macro (Hayes & Krippendorff, 2007) was used to calculate the metric.

The resulting value was α=.76, which is marginally less than .80, the threshold suggested by Krippendorff (2019) as satisfactory. This result might be interpreted as a product of hasty responses and inadequate rater training, an interpretation that is rendered plausible by the relatively little time invested by some participants in completing the questionnaires (M = 4'49'' for all three sections of the questionnaire). Nevertheless, this finding prompted a rewriting of the definitions for additional clarity, and additional instructions were added to the instrument (ReaLiTea, 2025). It is expected that the combined effect of these changes will be an improvement in the teacher educators' agreement when interpreting the various categories in the framework, and this is something that could be the focus of a future round of validation.

Regarding the second research question, the mean values and standard deviations for each category were calculated, and the results are presented in Table 7.

[INSERT TABLE 7 APPROXIMATELY HERE]

As can be seen in Table 7, the participating teacher educators placed strong emphasis on foundational knowledge that research-literate teachers should have. This was especially pronounced in the case of linguistic proficiency, which presumably reflects the fact that participants work with language teachers. The relatively lower importance placed on knowledge autonomy practices might mean that this aspect of the framework is less relevant to teacher educators who work with teachers in structured sections of instruction, such as universities, because in these settings appropriate guidance may be available to counteract the lack of autonomy.

Uniformly high values of importance (>4.00) were placed on the ability to use the literature. Again, it is possible that the relative ranking of the responses might reflect the priorities present in instructed education settings, as teacher educators might expect trainees to be able to locate information on their own (M=4.80), whereas synthesis of information might be seen as a skill to be developed (M=4.20).

By contrast, the values assigned to theorising are relatively lower, as they generally range between 3.60 (for 'theoretical positioning') and 3.80 (for 'contextual sensitivity'), with the exception of practicality (M=4.33). While not low, these responses seem to reflect the well-documented preference for practical activities in teacher education, with conceptual nuance being considered a less desirable quality in the theorizations of research-literate teachers.

Some of the lowest values assigned in this part of the questionnaire were encountered in the 'knowledge production' facet of teacher research literacy. With the exception of ethical competences which were assigned a very high value (M=4.73), possibly under the influence of social desirability

bias, competences connected to research design and empirical procedures were considered to be somewhat lower (between 3.27 and 3.53).

Lastly, the competences relating to knowledge sharing revealed a mixed picture. Talking talking about research and participating in communities of practice appeared to be highly valued by the respondents (*M*=4.27 in both cases), and this applied to a somewhat lesser degree with broader community engagement (*M*=3.87) and writing about research (*M*=3.60).

Discussion

The empirical data presented in the previous section, though limited in scope, suggest a broad consensus regarding the conceptual validity of the five proposed facets of the teacher research literacy framework (ReaLiTea, 2025), when used by one of its intended audiences, teacher educators. This constitutes a *prima facie* indication that the structure of the framework is congruent with the conceptualisations of people involved in teacher education. Coupled with the theoretical grounding of the framework in the literature (e.g., Borg, 2010; Groß-Ophoff et al., 2017; Marsden & Kasprowicz, 2017), and the input from leading experts in the field that was incorporated into the framework design, this modest empirical substantiation inspires confidence in the robustness of the framework.

It is nevertheless interesting to note that agreement among users was far from perfect, as some respondents offered alternative, plausible assignments for each of the competences. While such deviations do not, in and of themselves, undermine the utility of the framework as a whole, they do suggest a need for a certain degree of preparation for its use. This can be achieved in a number of ways, including detailed instructions for the use of the framework (e.g., in the form of a teacher educator guide), as well as workshops in which teacher educators might be familiarised with its use. Such workshops need not have a top-down character aimed at maximising uniformity; rather, they could be seen as opportunities for developing localised variants of the framework that are better suited to the different settings in which teacher education takes place. While being mindful of the pressures for standardisation, benchmarking and accountability (Douglas-Gardner & Callender, 2023), it seems important to avoid over-specifying developmental and assessment instruments, such as the research literacy framework, in order to allow for users to exercise agency in their interpretation (Are Tripestad, 2015) and create space for context-sensitive understandings to emerge (Khosronejad et al., 2023).

Perhaps unsurprisingly, the data show traces of the "perennial problem" (Korthagen, 2007, p. 303) in teacher education, namely the gap between the perceptions of teaching as a practical activity

and the perceptions of teaching as a reflective, empirically driven and theoretically grounded profession. Even among the teacher educators who participated in this study, it appears that some scepticism was voiced regarding the value of teachers producing knowledge through empirical investigations. Similarly, the competences that are related to developing theoretically nuanced understandings of professional practice were viewed as relatively less useful compared to competences such as reading about research. The scale of the study and non-representative sampling used necessitate considerable caution in evaluating and interpreting such findings, but they should nevertheless be viewed as alarming, as they might connect to discourses of deprofessionalisation and delegitimization (Madalinska-Michalak & Galvin, 2023), and —at minimum— suggest the prevalence of a hierarchically defined division of labour among school-based teachers and university-based teacher educators and researchers (see Kostoulas et al., 2019). If that is the case, an opportunity presents itself for developing forms of teacher education that empower language teachers to actively produce knowledge that is relevant to their needs, and ultimately challenge unhelpful perceptions. The teacher research literacy framework that is presented here has been designed to support such work.

Taking a more holistic view of the framework described here, a conceptual contribution that the paper makes is the definition of language teacher research literacy as a developmental, multifaceted phenomenon, viewed not as a static competence but as an intentional process, which emerges within the relational and ecological contexts of teaching and learning. This perspective positions research literacy as a process of becoming, in which language teachers continuously shape their practice and their professional selves by engaging with, theorising, producing, and sharing knowledge. This definition of language teacher research literacy, and the framework that operationalises it, offers a new perspective on the epistemological foundations of language teacher education. In doing so, it articulates how teacher research literacy intersects with reflective practice, contextual sensitivity, and knowledge creation within the 'ecologies of ideas' (Stelma & Kostoulas, 2021) of language education, and provides a conceptual scaffold for rethinking the aims and processes of pre-service language teacher education.

While the presentation of the teacher development framework in this article was intended as a primarily conceptual contribution to language teacher education, it can also be viewed as a springboard for empirical work that can usefully inform teacher education programmes and scholarship in the field. An immediate priority will be a structured research programme aimed at systematically validating and refining the framework, including work with larger and more diverse samples of potential users. This will involve a more detailed validation of the competences that the framework comprises, and an empirical calibration of the descriptors across multiple national

settings to assess their relevance and clarity. A second direction of research might involve the use of the framework as an instrument for surveying teachers in specific settings, as part of needs analysis for teacher education. The framework might also be used for longitudinal measurements of growth in professional development programmes, or for the creation of teachers' profiles for retrodictive qualitative modeling studies (Dörnyei, 2014) that help to understand teacher development.

Perhaps of more importance than the research agenda that the teacher research literacy framework can support, is the potential it opens for informing ongoing debates regarding the roles of language teachers in the language education ecosystem. Goodwin et al. (2023) usefully remind us of the tensions between the contrasting views of teachers as technicians and teachers as reflective professionals, as a core issue in teacher education. What the framework offers is a comprehensive description of what the latter teacher role might encompass, a role that substitutes the research-practice divide with research-informed teaching, valorises theories and research *for* teaching alongside theories and research *about* teaching, and ultimately challenges unjust hierarchies in the knowledge production ecosystem. This is a challenging role, but at a time of 'post-certainty' in language education (Kostoulas, 2019), it has become a pressing priority for teacher educators.

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Tables

Table 1

Foundational knowledge and competences

	Competence	*Knowledge areas or skills*
1.1	Linguistic proficiency	• Oral communication skills • Written communication skills • Familiarity with research communication genres • Visual communication skills
1.2	Schematic knowledge	• (Applied) Linguistics • Language education psychology • Education theory • Cultural knowledge
1.3	Knowledge practices	• Digital literacy • Learning practices • Information management • Knowledge attribution
1.4	Knowledge autonomy	• Problem-setting • Self-directed growth

Table 2

Using published professional knowledge competences

	Competence	Knowledge areas or skills
2.1	Locating appropriate sources	• Searching for information • Filtering information • Accessing information
2.2	Extracting information	• General comprehension skills • Detailed comprehension • Note-taking
2.3	Evaluating information	• Understanding authority • Evaluating trustworthiness • Evaluating local relevance • Evaluating potential impact
2.4	Synthesising information	• Scope of synthesis • Organisation of synthesis • Criticality of synthesis

Table 3

Theorising for practice competences

	Competence	Knowledge areas or skills
3.1	Theoretical positioning	• Conceptual grounding of theorisation • Historical grounding of theorisation • Experiential grounding of theorisation • Theoretical grounding of theorisation
3.2	Contextual sensitivity	• Connecting theorisation to sociocultural influences • Connecting theorisation to policies and practices • Connecting theorisation group dynamics / small-cultures
3.3	Reflexive awareness	• Understanding reflexivity in teaching • Understanding reflexivity in research
3.4	Practicality	• Understanding implications for teaching • Understanding implications for research

Table 4

Knowledge production competences

	Competence	Knowledge areas or skills
4.1	Research design competences	• Formulating research questions • Designing research protocols • Planning for the use of resources
4.2	Data generation competences	• Sampling • Qualitative data generation • Quantitative data generation
4.3	Data analysis competences	• Qualitative data analysis • Quantitative data analysis • Synthesising multiple (mixed) research strands
4.4	Ethical competences	• Informed consent • Beneficence and non-malfeasance • Confidentiality and data protection • Working with minors and vulnerable populations

Table 5

Knowledge sharing competences

	Competence	Knowledge areas or skills
5.1	Talking about research	• Presentations • Asking questions and providing feedback • Responding to questions
5.2	Writing about research	• Text production • Selecting publication outlets and submitting work for publication • Dealing with peer review
5.3	Community participation	• Networking • Knowledge building
5.4	Community engagement	• Mentoring • Peer interaction • Engaging with authority • Public engagement

Table 6

Examples of framework descriptors

Skill or knowledge area	Emerging autonomy	Developing autonomy	Achieved autonomy
Understanding authority	I am broadly familiar with the typical features of academic and professional communication and I can identify them in oral and written texts. I can distinguish between such communications and uninformed or pseudoscientific writing.	I can make a tentative but informed decision about the authority of academic and professional readings using criteria such as the reputation of the journal or publisher where the text appears. With appropriate support, I can identify possible indicators associated with predatory or low-tier publications.	I can make informed decisions about the authority of the texts I read by considering a range of factors, drawing on my familiarity with the field. I can confidently distinguish between publications of different standards, by critically synthesising a range of criteria. I understand the limitations of single criteria (e.g., impact scores) as proxies of authority.
Formulating research questions	I can formulate research questions based on my research strengths, needs and interests, with substantial guidance from a knowledgeable other.	I can co-create research questions in collaboration with knowledgeable others, based on my strengths, needs, and interests and I can structure my research around these questions. I can make adjustments to the questions to improve their focus or respond to emergent themes in the data.	I can create researchable questions based on my language teaching experience. I can continue to refine the questions in response to dialogic interaction with my data.

Table 7

Teacher educators' beliefs about competences and knowledge areas

Facet	Competence or knowledge area	M	St.Dev.
Foundational knowledge	Linguistic proficiency	4.73	.59
	Schematic knowledge	4.33	.72
	Knowledge practices	4.07	.80
	Knowledge autonomy	3.93	.70
Using published professional knowledge	Locating appropriate sources	4.80	.56
	Extracting information	4.67	.72
	Evaluating information	4.67	.62
	Synthesising information	4.20	.86
Theorising for practice	Theoretical positioning	3.60	.83
	Contextual sensitivity	3.80	.86
	Reflexive awareness	3.73	.96
	Practicality	4.33	.98
Knowledge production	Research design competences	3.47	.64
	Data generation competences	3.27	.59
	Data analysis competences	3.53	.64
	Ethical competences	4.73	.59
Knowledge sharing	Talking about research	4.27	.80
	Writing about research	3.60	.91
	Community participation	4.27	.70
	Community engagement	3.87	.99

Figures

Figure 1

An intentional perspective on research literacy

Meaning-making

Sociocultural beliefs and expectations,
institutional policies and practices
'small cultures'

Research literacy

Research engagement

Empirically informed
language teaching

Individual beliefs, attitudes and priorities

Figure 2

Overview of the Language Teacher Research Literacy Framework