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Understanding research literacy from the perspective of teacher education

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Abstract

Current debates on teacher professionalism emphasize a research-based teaching profession as one of distinguishing factors of high-performing educational systems (Darling-Hammond, 2017; Tatto, 2015). Yet, epistemic and operational assumptions about the relationship between research and teaching are often tacit, and the issue is underexplored empirically. The term *research literacy* has been introduced in recent research literature to express potential aims and outcomes of a research-based teaching profession; defined shortly as “the ability to purposefully access, comprehend, and reflect scientific information as well as apply the resulting conclusions to problems with respect to educational decisions” (Groß Ophoff et al., 2017), emphasising a difference between engagement *with* versus *in* research. This paper applies the model of competence as multidimensional continuum, developed by Blömeke and colleagues (Blömeke et al., 2015; Blömeke & Kaiser, 2017), to the concept of research literacy. The aim is twofold: (1) To expand the understanding of research literacy as competence, and (2) To contribute to an understanding of how to develop research literacy from the perspective of teacher education. From this exploration, the paper further sheds light on how to understand interconnections between research competence and teacher practice. The overarching research question guiding the paper is: *How can we understand research literacy from the perspective of teacher education?* The model of competence as multidimensional continuum provides a map to expand the understanding of research literacy along a horizontal continuum between input factors and outcomes, and a vertical axis of progression or levels of competence. Findings indicate that whereas most definitions of research literacy advocate *engagement with research*, the importance of *engagement in research* is underexplored both theoretically and empirically. From the perspective of teacher education, these findings raise questions for further research related to program designs to promote research literacy.

Extended summary

Introduction

Current debate on teacher professionalism emphasizes a research-based teaching profession as one of distinguishing factors of high-performing educational systems (Darling-Hammond, 2017; Tatto, 2015). Yet, epistemic and operational assumptions about the relationship between research and teaching are often tacit, and the issue is underexplored empirically. A (Menter & Flores, 2021). Although most Nordic countries have followed the example of Finland and implemented research-based teacher education (Elstad, 2020), further research is useful to provide a more comprehensive understanding of what a research-based teaching profession entails. From the perspective of teacher education, a clear understanding of how teachers are expected to mobilize research knowledge within their practice as teachers is required to support the development of *research literacy*; “the ability to purposefully access, comprehend, and reflect scientific information as well as apply the resulting conclusions to problems with respect to educational decisions” (Groß Ophoff et al., 2017).

Theoretical background

The term research literacy is used in recent research literature to express potential aims and outcomes of a research-based teaching profession. The BERA-inquiries (2014) provide a broad and visionary understanding of research literacy as part of teacher professionalism; “the extent to which teachers and school and college leaders are familiar with a range of research methods, with the latest research findings and with the implications of this research to their day-to-day-practice, and for education and practice more broadly. To be research literate is to ‘get’ research - to understand why it is important and what might be learnt from it, and to maintain a sense of critical appreciation and healthy skepticism throughout” (BERA-RSA, 2014, p. 40). Further, BERA portrays research literacy as reinforcing other key components in teacher professionalism, like subject and pedagogical knowledge and classroom practice (BERA-RSA, 2014). Some attempts have been made to operationalise research literacy for the purpose of measurement, but they differ in epistemic assumptions and provide conflicting views on whether research literacy is limited to engagement *with* research or if it also imbues engagement *in* research (Groß Ophoff et al., 2017). Engagement with research as a body of knowledge differs from engagement in research as a professional learning process or a social (academic) practice (Leat et al., 2015).

Accordingly, a theoretical lens is required to reflect on research literacy as part of teachers’ professional knowledge. For this purpose, the model of competence as a multidimensional

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continuum (Blömeke et al., 2015, Blömeke & Kaiser, 2017) is suggested as a model to unpack meanings and applications of research literacy in the interplay between teacher education and professional practice. The model provides a map to expand the understanding of research literacy along a *horizontal continuum* between input factors and outcomes, and a *vertical axis* of progression or levels of competence. In itself, the model opens for supplementary theoretical approaches to understand professional learning. Whereas cognitive theories will describe the development of research literacy on the individual level, sociocultural approaches will draw attention to contextual factors within teacher education and teacher practice that shape how research literacy plays out.

Aims

The aim of the paper is twofold: (1) To expand the understanding of research literacy as competence, and (2) To contribute to an understanding of how to develop research literacy from the perspective of teacher education. From this exploration, the paper further sheds light on how to understand interconnections between research competence and teacher practice. The overarching research question guiding the paper is: *How can we understand research literacy from the perspective of teacher education?*

Methods

The paper applies the model of competence as continuum (Blömeke & Kaiser, 2017) to definitions of research literacy (BERA, 2014; Groß Ophoff et al., 2017) in current research literature to review how the term is understood. By doing so, conflicting epistemic views and research gaps are identified. Contributions in research literature attempting to define or operationalize the term research literacy are included in a thematic analysis of the concept (Braun & Clarke, 2006). The model of competence as continuum (Blömeke & Kaiser, 2017) provides a thematic map that draws attention to the complexity of understanding research literacy, yet unpacking meanings and operationalizations.

Findings (preliminary)

Findings indicate that most definitions of RL advocate *engagement with research*, whereas the importance of *engagement in research* is underexplored theoretically and empirically. Upheld against the model of competence as continuum (Blömeke & Kaiser, 2017), the definitions mainly pertain to research literacy as an end state or outcome. How to develop research literacy in terms of underlying dispositions and situation-specific skills according to the model, is unexplored in the literature reviewed. Further, pathways to research literacy in terms of levels of competence or progression is

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not addressed empirically. These findings confirm the usefulness of the model to develop a comprehensive understanding of research literacy.

Theoretical and educational significance

From the perspective of teacher education, these findings raise questions for further research related to the interplay between input and output factors in research literacy. An important and under-examined issue, theoretically and empirically, is whether research literacy imbues merely engaging with research as a body of knowledge. The study has potential implications regarding both program designs in teacher education and institutional conditions for research literacy within schools.

Relevance to Quint ambition

As research literacy is regarded a kind of competence that reinforces other teacher competencies, developing research literacy within the context of teacher education has potential outcomes in the classroom and beyond. By educating research literate teachers that are able to develop schools from within, teacher education fuels quality in teaching broadly and indirectly. Thus, the paper provides an epistemic turn on one of several prerequisites for teaching quality, aiming specifically for (i) ways of conceptualizing teaching quality and (iv) epistemologies and theoretical underpinnings.

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