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Introduction to the special issue on ability beliefs and learning a new language at school

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Abstract

This editorial introduces a special issue examining ability beliefs in language learning psychology. The issue presents diverse theoretical perspectives on how learners' perceptions of their abilities affect language acquisition outcomes. Drawing on foundational work in competence motivation, the collection addresses a critical gap in language education research by highlighting how ability beliefs – from self-efficacy to mindsets – serve as essential mediators between learning experiences and achievement. Contributors explore methodological considerations for causal inference, systematic reviews of key constructs, and frameworks integrating individual and ecological perspectives. We argue that ability beliefs contribute unique variance to language learning achievement, often eclipsing other psychosocial variables, yet remain underrepresented in prominent language learning theories. By clarifying these overlapping but distinct constructs, the special issue provides a foundation for more integrated theoretical models through rigorous empirical testing. This collection helps bridge psychological

qualia with observable learning outcomes, pushing the field toward improved theoretical parsimony and practical relevance.

Keywords: ability beliefs; measurement; qualia; theory development

1. Introduction

At the heart of the social sciences is the expression of qualia that are difficult to directly measure. Unlike the so-called hard sciences, psychometric evaluations do not have a concrete reality that we can point to – newtons, mols, and drag coefficients have a tangible representation, while motivation, attention, emotion, and ability must as of yet be shown indirectly. Where adding ten mols of sodium chloride to one liter of water gives us a predictable and measurable solution, it also will have a noticeable qualitative result – that water will be *salty.* Though we are often able to find observable indicators of these things, perhaps through biometrics like brain activation in functional magnetic resonance imaging (fMRI), eye tracking, or galvanic skin response, these are often difficult data to gather and sometimes offer no better description of lived experience than self-report (Ciuk et al., 2015; Li et al., 2017). Working in the psychology of language learning, we are concerned with documenting learners' experiences and expressing a relationship between those experiences and the outcomes of learning.

The qualia of the psychology of language learning in a classroom are no less "real" than the qualia of a unit of force – we perceive them and they are a part of lived experience, and they very directly affect performance. An essential point of science communication is to share phenomena that can be trusted and verified across contexts, and thus we are seeking to describe qualia consistently and comprehensibly. When we describe motivation, ability, or any construct, we seek terms that will reliably indicate this idea in a way that other readers can recognize and operationalize in their own contexts, just as physical scientists do with their standardized measurements. Though there is some truth to the post-modernist conceit that the qualia we describe in research occurs at intersubjective points of consensus, this definition is neither helpful nor useful for smooth and efficient communication across scientific disciplines; though we define details of constructs of motivation and ability in different terms, both describe functional and recognizable phenomena, and the lay definitions of these things are often useful.

This special issue offers us in-depth descriptions of the qualia associated with the lay feeling of "can do." In similar common usage terms, motivation is often about the reasons "why" we do things. The qualia of reasons why we do what we do are indeed important to understand in classroom settings – as

teachers, we seek to catch students' interest in the tasks, pull them in smoothly, and then set them to working on their own, and some amount of motivation and motivating will be necessary to achieve this. At the same time, reasons why fall flat without a format for action, and this is where the lay qualia of ability beliefs become most apparent. Ability beliefs describe the myriad "how" of learning: *how much* can we do, *how well* can we do it, and logically and lexically contained within this construct, *how* do we do the task. Ultimately, while understanding the "why" behind actions is important, the "how" often holds the key to success. Where why is justification, how is actionable.

2. How in language education: Theories and their qualia

Many of the ideas presented in this collection have their theoretical roots in the seminal work of Robert White and his 1959 paper defining and explaining the construct of competence. White's (1959) concept of effectance motivation and the desire to seek knowledge and feel a sense of personally-caused change in the environment are evident to one degree or another in each paper. These varied perspectives, their associated effects, and corollary theories all can be used to explain students' perspectives on ability. In organizing and writing for this special issue, we the editors (Oga-Baldwin and Fryer) aimed to tie the papers back to this idea of students' feelings that they have succeeded, are having the effect they want, or will make positive gains in the future.

As noted, ability beliefs can sometimes differ from students' prior performance on achievement tests and other measures commonly used to control for student level (Bandura, 1993). Importantly, ability beliefs are a major predictor of language acquisition and achievement, consistently demonstrating the largest effects of any individual difference variable after prior ability (Fryer & Ainley, 2019; Richardson et al., 2012; Schneider & Preckel, 2017). Language learning is necessarily a continuous, longitudinal, dynamic process with unseen complex interactions between attitudes and abilities (Papi & Hiver, 2020). In testing the effects of specific interventions and language related programs of instruction on language learning outcomes, failing to account for the contribution of ability beliefs can lead to models which do not explain the complexities of a learning situation. Students' own perception of the difficulty of learning a language can have an important effect on the success of a program of instruction as well as students' individual success within that program.

In recruiting writers from across education, psychology, and language education, we sought experts on these aspects of ability and more, each providing a unique contribution. Though there is a great deal of overlap, perhaps more than

might be seen in other similar special issues, the nuances of each theoretical position are also important to recognize. When describing these qualia in lay terms, the differences are as important as the similarities (Skinner & Raine, 2022). Organizing this special issue, we posed to the authors the following three questions:

1. How do students' perceptions of their ability to learn a new language affect how they learn and the amount they learn?
2. What relationships or gaps exist between commonly used language acquisition models and established theories of ability belief in describing achievement of linguistic skills?
3. What are the critical, unanswered theoretical and practical questions regarding ability-beliefs for students learning new languages at school?

Each of the authors' articles addresses these key questions, offering guidelines as to how best to move the field forward. As ability belief theories remain an implicit but crucial element to existing understanding of language learning, each theoretical perspective provides speculation for the development of actionable models.

Al-Hoorie and Hiver explore the role of confounders and colliders in making causal inferences in language learning research. Confounders are variables that cause a spurious association between independent and dependent variables, and should be controlled for. Colliders are variables that are a common effect of the independent and dependent variables, and should not be controlled for. Using the novel method of directed acyclic graphs (DAGs), the authors illustrate these concepts and argue for the importance of explicit modeling of causal relationships in language learning research. This paper is set as the opening content to the special issue for a specific purpose: Many of the constructs presented within are indeed overlapping. In moving theories forward, there is a need for careful consideration of confounding and colliding relationships for the best case of theoretical and empirical parsimony.

Self-efficacy is a well-researched and growing area in second language (L2) learning research. The article by Fryer et al. presents a systematic review of the literature on self-efficacy in second/new language learning. The review found most studies were cross-sectional and relied on self-report measures, despite long-term recognition within the fields of both education and language that these designs are insufficient for any substantive or meaningful advancement. The authors suggest that future research should use more rigorous research designs and integrate self-efficacy with other second language acquisition theories.

Oga-Baldwin and Ryan review the concept of competence need satisfaction in language learning within the framework of self-determination theory. They discuss how competence need satisfaction is distinct from the other ability-related beliefs presented and how it can be supported or thwarted in the classroom. The

authors highlight the interconnected nature of competence, relatedness, and autonomy in language learning, while exploring the possibility for new corollary concepts of competence need satisfaction.

Rubie-Davies and Li present a systematic review of the literature on teacher expectations for second language learners. This work, grounded in the long history of research on teacher expectations, expands the effects of teachers' expectations on language learners' self-perceptions of ability and subsequent achievement. The review found that teachers often have lower expectations for second language learners and that these expectations can indeed affect students' academic and psychosocial outcomes. In many ways, these external factors can provide students with the modeling and impetus for self-improvement. The authors offer the hope that teacher training and professional development (Hattie, 2023) could help to address this issue.

Similar to the external expectations set by teacher expectations, Li et al. review the literature on the internal goals learners set for themselves in language classrooms. The review covers topics ranging across achievement goals, goal content, goal-setting, and goal complex approaches. The authors argue that a near-exclusive focus on achievement goals has precluded language researchers from fully leveraging the insights of other goal perspectives, with theoretical insights on how different goal theories can advance language learning research. This review provides an update to previous work on the topic of goals in language education (cf. Lee & Bong, 2019) while offering specific perspectives on how goals can be informed by ability beliefs.

Drawing again from educational psychology, Möller et al. review the literature on L2 self-concept and its relationship with achievement in other subjects. Though a recognized major construct in educational psychology generally (Marsh, 1986), self-concept has received only basic and cursory attention in language education (Mercer, 2011). The authors present the internal/external frame of reference model and dimensional comparison theory as a way to comprehend the relationship of language to other subjects (i.e., language and mathematics, foreign and own languages). The framework illustrates how social and dimensional comparisons shape ability beliefs. The authors' meta-analysis found negative contrast effects between L2 achievement and self-concept in other subjects, even in the first language. This work provides additional perspectives on potential reasons behind why learners' may perceive differences between language and other school subjects, despite their overlaps in motivation and achievement (Al-Hoorie & Hiver, 2020; Oga-Baldwin & Fryer, 2020), and hierarchical relationships within schools (Chanal & Paumier, 2020).

Relating to the interconnected nature of language, ability, and other functions, self-regulation and its many frameworks are inherently concerned with mapping the

full process of the individual as it manages its environment. Nakata et al. review the literature on ability beliefs in self-regulated language learning. Echoing sentiments from Fryer (this issue) and Lou (this issue), they discuss the role of constructs such as self-efficacy and mindsets in language learning strategies, motivation, and social regulation. The authors also propose a framework for understanding the development of self-regulated language learning and, as other papers in this issue, suggest future research directions for better understanding this complex and dynamic interplay of connected and colliding constructs.

Yang and Gao look to the trends in research on individual differences. They demonstrate how each of the papers fits into the expanding narrative of new theories entering the field of language learning psychology. They address growing concerns regarding the use of digital tools and artificial intelligence, and emphasize the need to maintain human feeling as part of the language classroom in the face of expanding mechanization.

In the final article, Lou introduces the mindset × ecological-system framework, which integrates the person × situation approach and ecological framework into the process model of mindsets. This framework emphasizes the importance of considering the embedded ecological contexts, ranging from interpersonal to cultural systems, in understanding how mindsets shape learning and resilience. We have placed this paper as the final in the special issue for its scope in summarizing the connection between the internal and external – the ideas of personally held internal trait-like mindset perspectives, and the situational-ecological processes that help to inform them.

Finally, the commentary Phakiti helps situate the variables within the broader framework of psychology in language education. It ties up the special issue, providing an overarching and comprehensive picture of how ability beliefs integrate with motivation, emotions, and self-regulatory facilities.

The strength in these theoretical constructs is the bridge they provide between the qualia within the mind of the learner and the active, verifiable realities of outcomes. In this very real sense, the ability beliefs described here offer more than theories about learner perceptions and what is important. The constructs described in each of the selected articles present the different ways in which learners connect real and observable events with their experiences of prior success, situational control and competence, future expectations, goals, hopes, and approaches to self-management. By connecting mental representations with observable outcomes, we draw theories closer to practice and help make them more testable. These developments allow for the best possible representation of the qualia we seek to understand, and help bring the field of language education toward a better standard of open communication.

3. The missing quality: Pushing the field forward

One of the original justifications for this special issue is the recognition that many of the theories commonly used in language education (cf. Boo et al., 2015) contain no explicit measure of ability belief as they are commonly measured. Notable for its absence in this special issue is the L2 motivational self system (L2MSS), currently undergoing both theoretical and methodological crises (cf. Al-Hoorie et al., 2024; Henry & Liu, 2023; Liu, 2023). This theoretical framework must be recognized for its contribution in bringing many researchers to the field (Boo et al., 2015), but the current and continuing critical scrutiny is well justified. As such, this theoretical self-system stands out for its lack of a competence component, and its key variables may be better modeled using other ability belief variables (Al-Hoorie et al., 2024); the L2MSS thus has no place within this volume.

Likewise, we have opted to leave out recent fad constructs without an inherent connection to ability, such as grit (Pawlak et al., 2022) or engagement (Oga-Baldwin et al., 2019). These constructs lack a clear accounting for self-perceptions of competence. While these variables may and should be tested alongside the theories and models presented in this special issue, this should be done with care. As we will discuss, appropriate model testing and integration will require comparison of these constructs, and their explanatory power must be compared with existing constructs to determine the nature of relationships with learning.

As noted here (Al-Hoorie & Hiver, this issue) and elsewhere (Oga-Baldwin et al., 2019), ability beliefs contribute a unique source of variance to achievement, often eclipsing other psychosocial variables (Joe et al., 2017). Despite this recognition, the arguably largest language-based theory, that is the L2MSS, has largely ignored perceptions of ability and personal control in its models. At the same time, researchers have at times dissolutely peppered variables such as self-efficacy into models (see Fryer et al., this issue) without regard for the theoretical background, content, and hypotheses of the model. Some integrated models constructed are consistent and work from theoretically congruent backgrounds and principles, such as, for example, Zimmerman's (2020) model of SRL and self-efficacy (see Nakata et al., this issue), while in other hybrid models, theoretical stretch is necessary, but parity can be achieved (Chanal & Guay, 2015; Fryer & Oga-Baldwin, 2019). Still other hybrid models would overlap in nonsensical ways, but canny researchers with knowledge of both theories (and their assumptions and worldviews) might test one set of constructs against another.

As has been recently noted, the qualia described by the various models in language, education, and psychology are all part of a related family (Skinner, 2023a). In moving the field forward, there is a need for testing the limits of these models, accounting for jingle-jangle issues (Marsh et al., 2019), while at the same

time appropriately recognizing the unique potential contributions of each theoretical position and its corollaries (Skinner, 2023b). There have been moves in education and psychology to look at the larger picture and start to draw theoretical perspectives closer (King & Fryer, 2023; Urhahne & Wijnia, 2023), though with some trepidation regarding the shared assumptions between traditions (Reeve, 2015). In order to integrate constructs and theories in the motivation to learn, and also learn languages, there will logically and naturally need to be empirical comparisons of the effects of each of the variables proposed by these theories. Some work is already being done in this fashion (Hirosawa et al., 2024), but more is needed to provide clear and parsimonious integrated framework.

Integration is indeed possible (Skinner, 2023b). As noted, the key question is when and how to clarify and simplify the conceptual space (Pekrun, 2024). Through the perspectives provided in this special issue, the qualia of ability beliefs are now laid bare for comparison. At the same time, models and theories not represented in this SI which have to date lacked this element cannot simply shop here to pick the variable with the strongest effect size – or the slickest marketing. Model comparison and choice will require careful selection of compatible theories, or presentation of test cases in which both theoretical perspectives can be adequately demonstrated. In this case, like so many others in modern science, pre-registration, collaboration, and open science (Al-Hoorie & Hiver, 2021; Liu et al., 2023) as well as meta-analytic perspectives (Kline, 2019) will be necessary to appropriately confirm hypotheses and determine the exact nature of confounders, colliders, sibling constructs (Lawson & Robins, 2021), and outright contradictions.

Integrated theoretical models that consider the interplay of motivational variables, of personal control, and student achievement can provide a more comprehensive understanding of student motivation and inform effective educational practices. Such a framework would recognize that these constructs are not static but rather develop and evolve over time through dynamic interactions between students and their social contexts (Hiver et al., 2022; Skinner et al., 2022). Experiences of success and failure in the classroom, as well as the feedback and support they receive from teachers and peers (Bandura, 1993; Skinner et al., 2022), can shape their ability beliefs and perceptions of control, which in turn can influence their subsequent academic achievement (Skinner & Raine, 2022). A truly hybridized framework, pre-registered and tested rigorously against other models, would be groundbreaking, offering the theoretical unity sought by many. While such a model will challenge baseline assumptions (Reeve, 2015) and require a preponderance of evidence to achieve popular uptake (Kuhn, 1962/2012), this special issue defines the qualia that may lead toward building integration among theory through empirical practice.

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