# The critical role of the individual in language education: New directions from the learning sciences

W.L.Quint Oga-Baldwin [a, *], Luke K. Fryer [b], Jenifer Larson-Hall [c]

[a] *Waseda University, School of Education, 1-6-1 Nishi Waseda, Shinjuku, Tokyo, 169-8050, Japan*
[b] *University of Hong Kong, Japan*
[c] *The University of Kitakyushu, Japan*

## 1. Introduction

For a large portion of the world's language learners, the primary vehicle for learning a new language comes through schooling. This vehicle and its critical component parts are the focus of this special issue. For this special issue, we draw a distinction between acquisition as the process of gaining proficiency in a language through natural environmental exposure during the developmental process, and learning as the purposeful, focused development of language skills through the structures afforded by formalized classroom schooling. In learning a foreign language through formal education, students encounter the new language through isolated islands of contact in a vast monolingual sea. Likewise, immigrant children may primarily find opportunities for deliberate practice in their second language in school settings. Taken along with the ever-expanding importance of schooling in the modern economy (Tamborini, Kim, & Sakamoto, 2015) and the economic and social value of foreign language skills (Baker, 2009; Egger & Lassmann, 2012), these realities necessitate a re-examination of the critical non-cognitive individual difference factors involved in formal language education.

For this discussion, we use the commonly accepted operational definition of *non-cognitive individual difference factors* as specific attitudes, behaviors, and strategies that help students achieve success in school, separate from aptitudes, knowledge, and mental processing abilities (Kautz, Heckman, Diris, Weel, ter, & Borghans, 2014). We focus on language classrooms because the formalized learning environment offers specific affordances and constraints which indelibly mark the experience of achieving proficiency in a foreign language separate from learning in naturalistic environments or specialized learning environments. Researchers have hypothesized key differences between language and other subjects learned in school (Ushioda, 2011), but empirical evidence for these differences has not been forthcoming, and there is evidence that students treat languages as simply one of many school subjects that they must learn, regardless of their interests, inclinations, and cultural backgrounds (Chanal & Guay, 2015; Fryer & Oga-Baldwin, 2019). Much of the literature on the non-cognitive individual differences in language learning takes a perspective based on language acquisition, as one might do with a first language or a language learned in a naturalistic setting, without the explicit, rote, and formulaic constraints that are commonly found in formal learning environments. We believe treating non-cognitive individual differences in language learning and

---

* Corresponding author.
  *E-mail address:* quint@waseda.jp (W.L.Quint Oga-Baldwin).

acquisition as the same is problematic. Though a large amount of this research has sampled from and been based off school populations (Boo, Ryan, & Dörnyei, 2015), the two necessarily different contexts are often conflated.

Language learning researchers have long relied on a handful of longstanding individual difference models, each very specific to the field of Second Language Acquisition, such as motivation and attitudes (Masgoret & Gardner, 2003). Research on motivation in the SLA field has been dominated by single theory paradigms for most of its history (see Boo, Ryan, & Dörnyei, 2015), in spite of earlier calls for greater integration with the learning sciences and psychology more broadly to explain students' success at learning (Dörnyei, 1994). The strengths of these wider theories can help to explain different aspects of learning in formal settings. A plurality of theories offers new directions for empirical research, creates dialogue between the fields of SLA and learning sciences, and improves the visibility of language learning research in related fields. Much of the impetus for this special issue comes out of the cross-theoretical focus of the third Psychology of Language Learning conference (PLL3) in Tokyo in 2018, which included keynotes from researchers working in language, psychology, and education. Like this conference, our special issue emphasizes new research possibilities for individual difference factors in foreign language education.

### 1.1. Justifications for this special issue

Early man used the sun as a primary guide for direction, allowing its passage from east to west to help define the directions of the compass rose. As knowledge advanced, explorers in the age of sail trusted Polaris and other stars to guide them towards north, but these stars were not always visible, trustworthy, accurate, or efficient. The North Star is useful in the northern hemisphere, but once we leave these familiar seas, we are liable to be lost. The sun reliably moves from east to west, but it is just as easy to become lost and go in circles following it.

Similarly, the field of individual differences in language education has a long history of being guided in a single direction by strong visible signs. As those who navigated by the sun and stars, we have been operating using the light from a limited number of the strongest sources. While these poles have shifted as three generations of researchers grew and developed within these paradigms (see Dörnyei & Ryan, 2015, for a complete review of these phases), the pull has been towards dominant language acquisition orientated theories and researchers. These theories have served to awaken the current generation of researchers to the potential of individual differences for explaining language learning in schools. At the same time, no theory perfectly describes the complexity of learning; all models are wrong, but some are useful (Box & Draper, 1987). In the following sections, we provide a critical review of several of the key longstanding and more recent research paradigms.

The basic justification for this special issue then comes down to the recognition that we, as language education researchers, need theories which 1) are contextually valid for the formal educational settings where the vast majority (Boo, Ryan, & Dörnyei, 2015) of language learning research occurs; 2) are empirically sound with good working instruments; and 3) allow for interplay and conversation with theories outside of the domain of language acquisition. The theories presented in the current special issue each meet all three criteria, and will help to expand the discussion of language education beyond the current paradigm.

### 1.2. Tribalism and theory

In order to properly find our bearings to understand which ways new directions lie, we must first review where we have been. In this section, we outline some of the strongest currents that have influenced the field to date, pulling us in their wakes. We caution that this review is not comprehensive or complete, and we point readers to Al-Hoorie and Macintyre's (2019) forthcoming edited volume overviewing of the state of language learning motivation and individual differences for the most complete understanding. Instead, we seek to illustrate why the current state of affairs, that of tribal paradigm dominance by the largest figures, is undesirable if the field of language learning individual differences is to grow.

Most language acquisition researchers are familiar with the work of Robert C. Gardner. He and his colleagues were certainly some of the earliest researchers in the general area of individual differences for language learning. In their landmark study (Gardner & Lambert, 1959), the pair was the first to acknowledge that language achievement was related to attitudes and motivation. Their work was statistically and methodologically advanced for the time, and flew in the face of the still dominant (though soon to begin waning) behaviorist paradigm. Gardner's work established safe passageways to open waters, but in no way provided the tools necessary to cross the larger seas.

Across a long trail of studies, chiefly conducted with learners of French in Canadian schools, Gardner's publications outlined a socio-psychological theory of motivation, based on a large questionnaire about language learning in general. Questions from Gardner's Attitude/Motivation Test Battery (AMTB) (1985) targeted school language learners, and ask whether participants want to fit in with the target language culture or how much they enjoy learning a language in school. When establishing the AMTB Gardner, (1989) defined motivation to learn a new language from a distinctly behavioral perspective: as the effort individuals exert to learn a new language due to a "desire" to and in seeking "satisfaction" from the experience. His definition presents nothing distinctively related to language acquisition, and did not acknowledge the plethora of robust theories of human motivation and beliefs emerging in the 1970s and 80s (e.g., self-determination theory, Deci & Ryan, 1985; expectancy-value theory, Eccles et al., 1983; attribution theory, Wiener, 1972, 1985; social cognitive theory, Bandura, 1977; 1986). Gardner argued that his definition included the effort individuals expended toward their goal, their desire to learn

the new language, and also their satisfaction with learning the language. Unlike some other theories of human motivation and beliefs rising to prominence during the same era (examples just noted), none of Gardner's assertions relied on a well-established foundation of empirical and theoretical research. Instead Gardner's theory and questionnaire arose almost entirely from his research program and what the current reader can only assume was light grazing (but common failure to reference) of the psychological literature of his time.

In the years since inception of Gardner's questionnaire the AMTB has, rightly or wrongly, been seen as separating motivation into two camps, that of integrative and instrumental motivation (Gardner, 1985). Hundreds of works in SLA have since used these divisions and even the same AMTB questions to ascertain something about the motivation of language learning students. Gardner himself indicated this dichotomy to be problematic (Gardner & MacIntyre, 1993), especially in situations where the only language contact was through business or other instrumental transactions. Many researchers that have followed this metaphorical north star have noted the cracks in this theoretical edifice, and new researchers began investigating other psychological variables in the 1990s, leading to expansion of the theoretical field (see MacIntyre, Noels, & Moore, 2010 for a review).

Gardner himself tested additional constructs from broader psychological theories such as social cognitive theory (Tremblay & Gardner, 1995). This tentative work demonstrated his awareness of the broader field and signaled its role in ensuring the field continued to grow. Unfortunately, however, SLA researchers were reluctant to continue to follow these currents, and many mainstays of the SLA research community who followed Gardner's channels to open water reached out in only limited fashion to the vibrant and quickly growing fields of psychology and educational psychology for additional points of reference.

In the decades since the height of Gardner's influence, few SLA individual difference researchers have been as dominant as Zoltán Dörnyei. His (2005;Dörnyei & Ryan, 2015) work with the *L2 Motivational Self-System* (L2MSS) is his current prevailing paradigm for describing language learning individual differences. The L2MSS hypothesizes relationships between the intra-individual factors (the ideal and ought-to L2 selves), the learning experience, and an outcome variable titled intended effort (a proxy for motivation). Key aspects of this theory are the ideas of vision (Dörnyei & Chan, 2013) and that of a discrepancy between the current and ideal/ought-to selves as motivating by pulling the individual towards a specific state (Higgins, 1989).

The L2MSS has increasingly monopolized language education research in recent years (Boo, Dörnyei, & Ryan, 2015), and there are a few reasons to be concerned about this rapid dominance of the field. First, the sudden increase in the number of published works has largely been powered not by empirical journal articles, which are peer reviewed and therefore open to careful critique prior to publication and then replication to retest results. Instead, this expansion has arisen more often through book chapters, which are often given to weaker empirical standards.

Second, much of this work contains major methodological issues, leaving its fundamental foundations shaky. Instrumentation for this work borrows from the model originally presented by Taguchi and colleagues (Taguchi, Magid, & Papi, 2009). As indicated in a recent meta-analysis (Al-Hoorie, 2018), a number of studies in this paradigm have also failed basic methodological tests. For example, much of this work (e.g., Taguchi et al., 2009) contains factor misspecifications as can be seen with overreliance on correlated errors to inflate fit indices to acceptable levels. Studies (You, Dörnyei, & Csizér, 2015) based on these scales have shown poor discriminant validity (i.e., interfactor correlations greater than 0.8; Tabachnick & Fidell, 2007; Kline, 2010) and weak fits to the hypothetical models, while others have shown small to negligible effect sizes even with huge populations (You & Dörnyei, 2014). Yet others have been outright statistically and methodologically incorrect, such as misinterpreting coefficients and using structural equation modeling diagrams when no structural model was run, despite being published in top-ranking journals. While these problems are deep and quite fundamental, we do wish to note that very recent work has also come about with the aim of rectifying these methodological issues (e.g., Hiver & Al-Hoorie, 2019). These efforts are praiseworthy in both their focus on improving theory through measurement and their appropriate use of statistical methods, and we hope to see other researchers following this line of inquiry.

While many psychological theories include a mechanism for competence beliefs (e.g. "If I work hard, I can succeed at learning a language,"), the L2 motivational self-system is notable for its lack of such. All of the theoretical systems included in this special issue (self-determination theory, expectancy-value theory, personal investment theory, model of domain learning, four-phase model of interest) and some of the constructs (mindsets and goal pursuits) include a competence component as part of their structure. The sudden and drastic reduction in effect sizes of many non-cognitive variables when prior achievement is introduced to the model (Hiver & Al-Hoorie, 2019; Joe, Hiver, & Al-Hoorie, 2017) indicates the need for a clear system of competence beliefs to round out the theory. Across subjects, competence beliefs maintain a predictive effect on learning outcomes even when prior achievement is included in models (Fryer & Oga-Baldwin, 2019).

Even despite the lack of a competence belief system, other reviews (Al-Hoorie, 2018) have noted the L2MSS also has not consistently shown strong predictive relationships with learning outcomes. This fact, along with the methodological issues raised, presents a substantial gap allowing the entry of new learning theories, which have shown explanatory power to be considered in a broad array of educational settings. By integrating and expanding the theoretical boundaries that encompass individual differences for learning a new language at school, we hope the field may develop and increase its explanatory power.

As a final note, single theory dominance stands against the origins of the more modern paradigms. Dörnyei himself in his 1994 review called for more varied educational perspectives, and thanks to this, we have seen some increases in the diversity of theories presented (Boo et al., 2015). However, the page real estate allowed these theories has been small in comparison to the L2MSS literature; in our anecdotal discussions with the authors in this special issue, many of the top language education

journals, editors, and reviewers have been less than welcoming to new perspectives, while higher ranked general education and psychology venues have accepted their articles. Given this state of affairs, we repeat Dörnyei's (1994) call for an eclectic set of theories for understanding language learning motivation.

### 1.3. Positive psychology

Another area which has been of recent interest is positive psychology (Macintyre, Gregerson, & Mercer, 2016). In education (Kristjánsson, 2012), psychology (Ryan & Deci, 2017), and language learning (Dewaele & Dewaele, 2017), many people are currently flocking toward this trend, and from our perspective, this looks to be the upcoming dominant position across many of the social sciences. We recognize the appeal of taking psychological research and pushing it towards doing good, using the principles of research to improve the world. Positive psychology appeals to this nearly universal desire among researchers, and indeed has been the impetus for positive efforts (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). As researchers, we too have been moved to improve our research so that it is not just high quality, but also promotes positive outcomes as well (Hostetler, 2005).

Momentarily setting to the side the ubiquity of language teachers and researchers' desire to do good, we should question whether the philosophical-redressing that is positive psychology is necessary. Researchers have already been seeking to improve pedagogy and learning, help students achieve well-being in schools, and create environments where languages can be learned without the overt social signposting of positive psychology, even before the invention of the movement (Dörnyei & Csizer, 1998). Like much of the tribalism that follows many theories, positive psychology may merely be creating a greater "us-them" dichotomy; Seligman and Cziksentmihalyi's (2000) introduction to the special issue that kicked off the positive psychology movement is famously dismissive of much of the psychological work up to that point, including work that focused on promoting positive change. The Seligman and Cziksentmihalyi (2000) special issue further included theoretical contributions from established researchers, most of whom were rebranding their previous theoretical positions to emphasize connections to the new movement, much in the frame of "old wine, new bottles" (Kristjánsson, 2012). In the intervening years, cracks have begun to show in the power of positive psychology and its potential to have meaningful, real-world effects, and have even illustrated its potential to do harm in some cases (Coyne & Tennen, 2010). Beyond this, the strong (perhaps excessive) focus on positive thinking and positive reactions to potentially negative environmental stimuli can create a culture of blaming the victim, wherein students who do not thrive are at fault for having the wrong frame of mind (Ehrenreich, 2009).

More specifically to the research on language education in schools, the questions asked by positive psychology (how to create well-being, how to improve people's lives) are important, but remain secondary to more salient issues of supporting student learning. One of the primary goals of formal education remains to improve students' skills and knowledge. We take the perspective that, long term, building students' abilities will also help them to make and define their own well-being and offer them options that will help them to lead better lives. We agree with, accept, and endorse the ideas of positive psychology; we do not see the goals of improving abilities and improving well-being as mutually exclusive, and further endorse the idea that experiences which might discomfit students in the short term can also yield long-term gains in student learning. In short, though positive psychology has much to offer in terms of focus and energy, we remain neutral in positioning and presenting the theories in this special issue.

We close our critique of the field with a note of recognition. Though we have leveled criticism at major figures and theoretical positions in the field, we do so acknowledging their contributions at the same time. Without these theorists and researchers, this special issue would not be possible, and many of our authors would be toiling away in other fields. We recognize their work as landmark, important, and forward looking, while at the same time calling for future readers, writers, and researchers not to seek the same paths and currents that these researchers followed, but rather to seek the distant lands that they too sought to reach.

### 1.4. The current special issue

Having established where we have been, we offer a set of trajectories that can take us to new places and connect with a vast and wider world. These special issue articles represent more than wholesale importation of educational theories. We invited up-and-coming voices and established researchers in both language education and general learning psychology to provide up-to-date reviews of relevant theoretical perspectives on the learning sciences. Each of these authors offered us new directions based on clear theory, while also outlining the relevance of the theory to language education and how it can communicate the uniqueness of learning a language back to the wider world. It is in the spirit of better communication, one of the central goals in learning a new language, that we present the articles of this special issue.

Ed Deci and Rich Ryan's self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2017) is a well-established theory in psychology, education, and language. Though recognizable in language largely thanks to the work of Kim Noels (Noels, Pelletier, Clément, & Vallerand, 2000), its finer points beyond the traditional dichotomy between intrinsic and extrinsic motivation remain less well applied and understood. The updated review in this issue, presented by Maya McEown and Quint Oga-Baldwin (2019), discusses the five 'mini-theories' that work in harmony to describe different aspects of how high-quality motivation can be measured and applied in the language learning classroom. While the goals of self-determination theory lean towards the positive psychology ideas of well-being, the article details how these goals can be made contiguous with those of formal educational settings.

In a later article, Oga-Baldwin (2019) defines and describes engagement, stating that it is less of a coherent theory than a promiscuously applicable construct for explaining learners' activity in learning environments. Based on the overlapping concepts of behavior, emotion, cognition, and agency, engagement is treated here as the hinge joint in learning a foreign language. Oga-Baldwin treats engagement as the central mediator in the learning process, standing between learners' prior beliefs, abilities, experiences, and interactions, and likewise predicting their outcome attitudes, learning, and the changes they make to the learning environment.

Luke Fryer (2019) introduces the process of getting interested as a sustainable driver for re-engagement in learning a new language. Interest's power arises from a combination of its recognized value to laypeople, paired with an increasingly refined theory of development, embedded in the context, and occurring across the process of learning about specific topic of study (here, a language). The essence of interest is an intention of the learner to return and reengage with the object of their interest; this makes interest a critical construct for language learning, which must be a long-term, even lifelong goal. Fryer (2019) reviews research demonstrating the fundamental connections between students' interest in particular tasks and future increases/decreases in interest in a particular class/course or even the whole domain of language learning. Knowledge about these connections has the potential to give teachers more control over their classrooms. The article concludes by arguing that interest research—inside and outside language learning—can be used quite fruitfully for very applied types of language learning research.

Elizabeth Loh (2019) describes Eccles' and Wigfield's (2002) expectancy-value theory of motivation, covering the theory broadly, but focusing on its value components, which have well-established links to classroom learning. This theory has enjoyed widespread acceptance and understanding in the educational and psychological literature in Europe, the US, and other western countries, but has not yet seen widespread acceptance outside of this sphere of influence, least of all in the field of language education. The theory connects an individual's expectations for success, various possible types of values for tasks/outcomes, and factors in the individuals' perceptions of the costs that can be associated with an undertaking. Of further note is that Dr. Loh's program of research is focused on Chinese as a second/foreign language, a field which is still small within language education, but bound to grow proportional to China's rapidly expanding global influence.

Mindsets have become a hot topic in psychological and educational research. We welcome Nigel Lou and Kim Noels' (2019) work in implementing this theory in language learning settings. The ideas of incremental and entity theories, pioneered by Carol Dweck starting in the 1980s (Dweck & Leggett, 1988), have received widespread interest as a direct means of enhancing student learning in many school settings. These ideas state that the frame of mind with which learners approach their studies may affect their outcomes. Learners may believe that their abilities are fixed and unchanging, or that they can grow and improve over time; where the former are unlikely to improve, the latter often show higher achievement. Lou and Noels' paper poses the question of how teachers and researchers can alter their beliefs and lead learners toward more positive, adaptive attitudes, with suggestions and future directions for action.

As a place of both triumph and disappointment, the language classroom inspires a wide variety of emotions, such as pride, anxiety, shame, and sometimes boredom. Shao, Pekrun, and Nicholson's (2019) contribution addresses the rapidly emerging issue of emotions' role within learning generally (Pekrun, 2006) and learning a language specifically (Dewaele, 2010). This article reviews more than four decades of research in this area, noting that many researchers may underestimate the contribution of various emotions for language achievement. Shao et al. bridge the burgeoning research already undertaken by SLA researchers to the broader program of psychological emotions research. Theory as well as the essential role of strong measurement are discussed, with examples being drawn from robust studies in a variety of learning contexts. Shao, Pekrun, and Nicholson (2019) call for rapprochement between the small island of language learning emotions research and the broader field to ensure teachers and students can reap the benefits of our state-of-the art knowledge and that future language learning research stands on the strongest possible foundations.

Goal theories have been well-accepted in psychology for a long time (Urdan & Maehr, 1995), but like other theories included in this special issue have not seen much treatment in language education. Minhye Lee and Mimi Bong (2019) offer a complete overview of relevant goal theories, including achievement goals, goal-setting, and future time perspective. Their work is notable for its scope, as it ties together the goals construct to many of the other articles in the special issue, including mindsets and self-determination theory. This article should be of special interest to L2MSS researchers, as many of the goal constructs can be seen to overlap with the ideas of the ideal and ought-to L2 selves, and provide mechanisms for how to set up an envisioned outcome.

Ronnel King, Suzanna Yeung, and Yuyang Cai's (2019) article introduces the language education literature to a previously unrepresented tradition: that of achievement motivation. While this lineage, stemming from Atkinson's U.S.-based work in the mid-20th century, represents one of the major schools of thought regarding motivation in educational settings, it is virtually unknown in language education—despite its widespread acceptance and recognition outside of language education, a number of language researchers who deal in individual differences research appear ignorant of it. This lineage and tradition thus bring language education research closer to the mainstream of educational research, and away from theories straying into stagnant waters. Introduced to and applied in numerous cross-cultural settings by Dennis McInerney and his colleagues (King & McInerney, 2014; Yeung & McInerney, 2005), this work touches on widespread intercultural elements that apply to learning a language in formal contexts.

Finally, Meghan Parkinson and Daniel Dinsmore (2019) introduce the work of one of the modern giants in educational psychology. Patricia Alexander's model of domain learning (MDL) (Alexander, 2003) seeks to explain the individual differences in how learners develop expertise in a specific field of study. MDL integrates the development of an individual's domain

knowledge (skill), growing interest for a domain, and the depth of processing they utilize across three critical stages. The MDL yields suggestions for language learning classrooms such as explicit learning strategies instruction and more specifically the critical role of first language when selecting learning strategies. Much of what the MDL suggests will be familiar landscape to language teachers, but this topographical view provides a new perspective and new routes to expertise for language students.

Each of these perspectives offers new directives and goals for language research and pedagogy. All contributions present theories from rich traditions, with clear empirical questions, corollaries, and emphases which allow new avenues for exploration. Some may be combined and mixed; others overlap with existing paradigms, and thus can be used to generate hypotheses regarding the relative strength of effects through experimental comparisons. Long term, the latter of these options represents the freshest avenue for exploration. Comparing the empirical merits (and failures) of these contributions will allow for better, stronger, and more robust theories, and allow for more accurate predictions without reliance on tribal loyalty.

## 2. Conclusion

Modern global positioning systems (GPS) allow us to get to our exact destination, and create maps with near perfect fidelity. They bounce signals from multiple points, recognizing location by triangulating proximity to different electronic sources. This truly complex dynamic system allows us to know the velocity and position of the myriad electronic devices that allow us to navigate our world. Using this vast array of sources, we can better find our way.

Just as the stars and sun by themselves are inaccurate measures of position, none of the theories presented in this issue tells the whole story of individual differences for language learning; they are single points we may use to guide us along the way. Each tells the story of a recognizable type of non-cognitive individual difference, and helps us as researchers to better triangulate the field. Just as we no longer rely on single bright lights for navigating our world, we can better map the field of individual differences in language education by using multiple points and inputs to better guide us toward an understanding of how non-cognitive factors influence the ultimate attainment of language proficiency. We do not seek to dissuade new researchers and educators from the existing paradigms, but rather to open the field up to a greater variety of paradigms that will allow for better and more accurate understanding.

Like the truly complex dynamic systems of modern GPS navigation which operate at the intersection of numerous mathematical, geographical, and technological theories, we do not yet have a grand model for individual differences and explaining language learning, nor do we see one as necessary or desirable. The current issue uncovers some disparate and different ideas, all useful, all with sound methods and measurement attached, all with new options for understanding language education in formal learning settings. We assert that these theories are best recognized in relation to the others, combined at times, or perhaps even tested one against the other to settle empirical questions. Thus, this special issue is best considered as a unified whole, offering both contrasting and complimentary perspectives on the different phenomena which comprise non-cognitive individual differences. Using these multiple theories as our guide, we might better set sail into these new seas of research on language education.

## Acknowledgements

## References

Al-Hoorie, A. H. (2018). The L2 motivational self system: A meta-analysis. *Studies in Second Language Learning and Teaching, 8*(4), 721–754. http://doi.org/10.14746/ssllt.2018.8.4.2.

Al-Hoorie, A. H., & Macintyre, P. D. (2019). *Contemporary language motivation theory: 60 years since gardner and Lambert (1959).* Bristol, UK: Multilingual Matters.

Alexander, P. A. (2003). The development of expertise: The journey from acclimation to proficiency. *Educational Researcher, 32*(8), 10–14. http://doi.org/10.3102/0013189X032008010.

Baker, W. (2009). The cultures of English as a lingua franca. *Tesol Quarterly, 43*(4), 567–592.

Bandura, A. (1977). *Social learning theory. Englewood cliffs, NJ: Prentice-Hall.*

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory. Englewood cliffs, NJ: Prentice-Hall.*

Boo, Z., Dörnyei, Z., & Ryan, S. (2015). L2 motivation research 2005–2014: Understanding a publication surge and a changing landscape. *System, 55*(C), 145–157. http://doi.org/10.1016/j.system.2015.10.006.

Box, G. E. P., & Draper, N. R. (1987). *Empirical model building and response surfaces.* New York, NY: Wiley.

Chanal, J., & Guay, F. (2015). Are autonomous and controlled motivations school-subjects-specific? *PLoS One, 10*(8), e0134660.

Coyne, J. C., & Tennen, H. (2010). Positive psychology in cancer care: Bad science, exaggerated claims, and unproven medicine. *Annals of Behavioral Medicine, 39*(1), 16–26. https://doi.org/10.1007/s12160-009-9154-z. http://doi.org/10.1371/journal.pone.0134660.t007.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* NY: Plenum.

Dewaele, J.-M. (2010). *Emotions in multiple languages.* Basingstoke: Palgrave Macmillan.

Dewaele, J.-M., & Dewaele, L. (2017). The dynamic interactions in foreign language classroom anxiety and foreign language enjoyment of pupils aged 12 to 18. A pseudo-longitudinal investigation. *Journal of the European Second Language Association, 1*(1), 12–22. https://doi.org/10.22599/jesla.6.

Dornyei, Z. (1994). Motivation and motivating in the foreign language classroom. *The Modern Language Journal, 78*(2), 273–284.

Dörnyei, Z., & Chan, L. (2013). Motivation and vision: An analysis of future L2 self images, sensory styles, and imagery capacity across two target languages. *Language Learning, 63*(3), 437–462. http://doi.org/10.1111/lang.12005.

Dörnyei, Z., & Csizer, K. (1998). Ten commandments for motivating language learners: Results of an empirical study. *Language Teaching Research, 2*(3), 203–229. http://doi.org/10.1177/136216889800200303.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited.* New York: Routledge.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition.* Mahwah, NJ: Lawrence Erlbaum.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*(2), 256–273.

Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., et al. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achieve- ment and achievement motivation* (pp. 75–146). San Francisco, CA: W. H. Freeman.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109–132.

Egger, P. H., & Lassmann, A. (2012). the language effect in international trade: A meta-analysis. *Economics Letters, 116*(2), 221–224. http://doi.org/10.1016/j.econlet.2012.02.018.

Ehrenreich, B. (2009). *Bright-sided: How positive thinking is undermining America*. New York: Metropolitan Books.

Fryer, L. K. (2019). *Getting interested in learning a language: Developing a sustainable source of engagement*. System.

Fryer, L. K., & Oga-Baldwin, W. L. Q. (2019). Succeeding at junior high school: Students' reasons, their reach, and the teaching that h(inders)elps their grasp. *Contemporary Educational Psychology, 59*, 101778. http://doi.org/10.1016/j.cedpsych.2019.101778.

Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. Baltimore, Maryland: Edward Arnold.

Gardner, R. (1989). Attitudes and motivation. *Annual Review of Applied Linguistics, 9*(1), 135–148. http://doi.org/10.1017/S0267190500000854.

Gardner, R. C., & Lambert, W. (1959). Motivational variables in second language acquisition. *Canadian Journal of Psychology, 13*(4), 266–272.

Gardner, R. C., & MacIntyre, P. D. (1993). On the measurement of affective variables in second language learning. *Language Learning, 43*(2), 157–194.

Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? *Advances in Experimental Social Psychology, 22*, 93–136. http://doi.org/10.1016/s0065-2601(08)60306-8.

Hiver, P., & Al-Hoorie, A. H. (2019). Reexamining the role of vision in Second Language motivation: A preregistered conceptual replication of you, Dörnyei, and Csizér. *Language Learning, 1–56*, 2016 http://doi.org/10.1111/lang.12371.

Hostetler, K. (2005). What is "good" education research? *Educational Researcher, 34*(6), 16–21. http://doi.org/10.3102/0013189X034006016.

Joe, H.-K., Hiver, P., & Al-Hoorie, A. H. (2017). Classroom social climate, self-determined motivation, willingness to communicate, and achievement: A study of structural relationships in instructed Second Language settings. *Learning and Individual Differences, 53*, 1–13. http://doi.org/10.1016/j.lindif.2016.11.005.

Kautz, T., Heckman, J. J., Diris, R., Weel ter, B., & Borghans, L. (2014). *Fostering and Measuring Skills: Improving Cognitive and Non-Cognitive Skills to Promote Lifetime Success*. OECD Publishing.

King, R. B., & McInerney, D. M. (2014). Culture's consequences on student motivation: Capturing cross-cultural universality and variability through personal investment theory. *Educational Psychologist, 49*(3), 175–198. http://doi.org/10.1080/00461520.2014.926813.

King, R., Yeung, S., & Cai, Y. (2019). *Why invest in learning an L2: Personal investment theory and its implications for L2 motivation and learning. System*.

Kline, R. B. (2010). *Principles and Practice of Structural Equation Modeling* (3rd ed). New York: Guilford Press.

Kristjánsson, K. (2012). Positive psychology and positive education: Old wine in new bottles? *Educational Psychologist, 47*(2), 86–105. http://doi.org/10.1037/0033-295X.92.4.548.

Lee, M., & Bong, M. (2019). *Relevance of goal theories to language learning research. system*.

Loh, E. K. Y. (2019). *What we know about expectancy-value theory, and how it helps to design a sustained motivating learning environment. System*.

Lou, N. M., & Noels, K. (2019). *Mindsets matter in language learning: Conceptualizing the social and educational framework for language mindsets, engagement, and resilience. System*.

Macintyre, P. D., Gregersen, T., & Mercer, S. (2016). *Positive psychology in SLA*. Bristol, UK: Multilingual Matters.

MacIntyre, P. D., Noels, K. A., & Moore, B. (2010). Perspectives on motivation in second language acquisition: Lessons from the Ryoanji Garden. In *Selected proceedings of the 2008 second language research Forum*. Somerville, MA: Cascadilla Press. Retrieved from http://www.lingref.com/cpp/slrf/2008/paper2381.pdf.

Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, motivation, and second language learning: A meta-analysis of studies conducted by Gardner and as- sociates. *Language Learning, 53*(1), 123–163.

McEown, M. S., & Oga-Baldwin, W. L. Q. (2019). *Self determination for all language learners*. System.

Noels, K. A., Pelletier, L. G., Clément, R., & Vallerand, R. J. (2000). Why are you learning a Second Language? Motivational orientations and self-determination theory. *Language Learning, 50*(1), 57–85.

Oga-Baldwin, W. L. Q. (2019). *Acting, thinking, feeling, making: The engagement process in language learning*. System.

Parkinson, M. M., & Dinsmore, D. L. (2019). *Understanding the developmental trajectory of strategies in second language acquisition using the Model of Domain Learning. System*.

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review, 18*(4), 315–341. http://doi.org/10.1007/s10648-006-9029-9.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14. https://doi.org/10.1037/0003-066X.55.1.5.

Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35*(3), 293–311. http://doi.org/10.1016/0895-4356(89)90038-3.

Shao, K., Pekrun, R., & Nicholson, L. (2019). *Emotions in classroom Language Learning: What has been done and what can be learned? System*.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Pearson Education.

Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Z. Dörnyei, & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66–97). Bristol: Multilingual Matters.

Tamborini, C. R., Kim, C., & Sakamoto, A. (2015). Education and lifetime earnings in the United States. *Demography, 52*(4), 1383–1407. http://doi.org/10.1177/000312240807300202.

Tremblay, P., & Gardner, R. (1995). Expanding the motivation construct in language learning. *The Modern Language Journal, 79*(4), 505–518.

Urdan, T. C., & Maehr, M. L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research, 65*(3), 213–243. http://doi.org/10.3102/00346543065003213.

Ushioda, E. (2012). Motivation: L2 learning as a special case? In S. Mercer (Ed.), *Psychology for language learning: Insights from research, theory and practice* (pp. 58–74). New York: Springer.

Weiner, B. (1972). Attribution theory, achievement motivation, and the educational process. *Review of Educational Research, 42*(2), 203–215.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*, 548–573.

Yeung, A. S., & McInerney, D. M. (2005). Students' school motivation and aspiration over high school years. *Educational Psychology, 25*(5), 537–554. http://doi.org/10.1080/01443410500046804.

You, C. J., & Dörnyei, Z. (2014). *Language learning motivation in China: Results of a large-scale stratified survey*. Applied Linguistics. http://doi.org/10.1093/applin/amu046.

You, C. J., Dörnyei, Z., & Csizér, K. (2015). Motivation, vision, and gender: A survey of learners of English in China. *Language Learning, 66*(1), 94–123. http://doi.org/10.1111/lang.12140.