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Language Teachers' Self-efficacy Beliefs: A Review of the Literature (2005-2016)

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*Abstract: Research into **language** teachers' self-efficacy (LTSE) beliefs, a domain-specific branch of research into teachers' self-efficacy (TSE) beliefs in general education, has emerged in the past 16 years. To date, though, this emergent domain-specific research field has not been described in depth, with most accounts of it summarised very briefly, even in published research that provides empirical data relating to the specific topic of LTSE beliefs. Guided by a synthetic research ethic, this literature review aims to explore the gap. It highlights the characteristics of this LTSE beliefs research field, discussing the methodology employed by various studies that have elicited LTSE beliefs, indicating their areas of focus and evaluating what can be learned from them. Finally, it raises implications for teacher education and highlights potential research directions for quantitative, qualitative and mixed methods designs, offering suggestions that may benefit (teacher-educator) researchers.*

Introduction

On the basis that "among the types of thoughts that affect action, none is more central or pervasive than people's judgements of their capabilities to deal effectively with different realities" (Bandura, 1986, p. 21), there has been considerable interest in teachers' self-efficacy (TSE) beliefs for several decades. However, only comparatively recently (over the last 16 years) has there been much focus on *language* teachers' self-efficacy (LTSE) beliefs. This is a development that has mirrored changing approaches to studying TSE beliefs themselves; the domain-specificity of these beliefs has increasingly been recognised by researchers. Klassen et al.'s (2011) review of 218 studies, for example, highlights that TSE beliefs studies focusing on particular subjects taught have recently been more in evidence; these subjects include Science, Maths, Technology, Physical Education, and Language and Literacy; the last of these subject areas was represented in their sample by four studies.

Amongst the various potential domains, the TSE beliefs of language teachers (particularly foreign language teachers) may be of particular interest. This is because these beliefs may unfortunately be threatened in very specific ways, for example regarding linguistic competence. This may be the case with non-native speakers feeling themselves being measured pejoratively against native norms, for example regarding pronunciation or conversational fluency, which can impact how they feel about using the language in class for instructional purposes. However, it can also affect monolingual native speakers, since these teachers are sometimes criticised publicly in academic discourse for their inability to access the first languages of their learners (Dörnyei & Ushioda, 2011); such teachers may feel awkward about being unable to use their learners' mother tongues for purposes such as translating key lexis or explaining grammar. Other challenges to LTSE beliefs might include poor learner motivation in many foreign language classrooms (Chambers, 1999), difficulties

in helping dyslexic children read in first language contexts (Gibbs & Elliott, 2016), a tendency in numerous national contexts towards the top-down imposition of imported teaching methods (Nunan, 2003), and constant curriculum change (Wedell, 2008); the latter can require considerable readjustment if it results, for example, in the retraining of language teachers to teach younger learners (Cameron, 2003).

However, while some studies have alluded to, or addressed, such issues while reporting findings or analysing LTSE beliefs more broadly, there is, as yet, no comprehensive synthesis of LTSE beliefs research. While I have begun to map out the issues, examining selected studies set in second and foreign language but not first language contexts (Wyatt, 2018), a fuller synthesis of LTSE beliefs research seems needed. This is evident in the light of some recent studies, such as Karimi et al. (2016). These researchers focus on self-efficacy beliefs in teaching reading in English as a second language, and so are clearly working within the developing domain-specific field of LTSE beliefs research. Nevertheless, they cite few sources that demonstrate awareness of this field, mostly referring to TSE beliefs in general education.

With the intention of synthesising knowledge already generated within the field of LTSE beliefs research for the benefit of co-researchers, I provide a meta-analysis of the relevant literature, examining 115 studies that have been conducted since 2005. In so doing, I explore the relationships between LTSE beliefs and other relevant psychological and educational constructs. I then highlight key implications for both language teacher education (which I use here as a superordinate term to include pre- and in-service provision, as well as professional development) and potential research directions. The next section summarises current understandings of TSE beliefs.

TSE Beliefs: An Overview of Current Understandings

TSE beliefs can be defined as teachers' beliefs in their abilities to support learning in various task-, domain- and context-specific cognitive, metacognitive, affective and social ways (Wyatt, 2008, 2016). As apparent in the early work of Bandura (1977, 1986), a TSE belief includes a central agent-means component (a belief in the ability to take action), which is combined with an outcome expectation (a means-ends belief as to the effect the action will have) (Wheatley, 2005). These agent-means and means-ends beliefs may or may not be harmoniously aligned, with possible implications for teacher education. For example, it may be appropriate to support "the development of practical teaching skills if agent-means beliefs seem low or [raise] theoretical awareness if means-ends beliefs seem unjustifiably high" (Wyatt, 2015a, p. 140).

While in the process of developing relatively positive or negative TSE beliefs in relation to the specific pedagogical tasks that concern them, teachers draw reflectively on different kinds of experiences that have impacted their cognitions in different ways (Fives & Alexander, 2004). These experiences include those of actually having succeeded or failed in similar tasks themselves, experiences of seeing or learning about others succeeding or failing, and feedback on performance that helps them believe they too can succeed or convinces them they will fail (Bandura, 1986). TSE beliefs are also shaped by physiological arousal, often experienced in the form of fluctuating levels of anxiety (Bandura, 1986).

As to how open they are to change, it is increasingly recognised that TSE beliefs are fluid and context-sensitive, and therefore less stable than others in Pajares' (1992) typology of beliefs (Wyatt, 2016). Nevertheless, task-specific self-efficacy beliefs can be generalised over time (Bandura, 1977) and, as this occurs, these task-specific beliefs can contribute to the development of more robust and settled global self-efficacy (GSE) beliefs (Wyatt, 2016),

which concern not so much specific strategies or techniques but broader constructs such as (in our field) managing a language class or engaging with language learners.

TSE beliefs can be seen as interacting with other kinds of self-beliefs, including growth and fixed mindsets (Dweck, 2000), as highlighted by Wyatt (2013), and can be conceptualised as operating within broader motivational frameworks, such as Ryan and Deci's (2000) 'self-determination theory' (SDT). Within SDT, TSE beliefs contribute to the sense of competence that is characteristic of intrinsically-motivated teachers (Wyatt, 2015b); such teachers are also likely to experience a sense of autonomy in the way they feel they can approach their work, and to be fulfilled in having a strong sense of relatedness for their learners and teaching environments more generally (Ryan & Deci, 2000).

This brief overview has focused on current ideas. For criticisms of earlier conceptualisations of TSE beliefs, see Wheatley (2005), Klassen et al. (2011), and Wyatt (2014). From the perspective of these current understandings, the interconnectedness of TSE beliefs, GSE beliefs and other relevant cognitions is explored, with the beliefs of language teachers specifically focused on. The approach I have adopted is motivated by a 'synthetic research ethic' (Norris & Ortega, 2006). "By examining categories of data and methodology that cut across studies", I have tried to develop "as systematic a depiction as possible about what we know, what we do not know and why" (Norris & Ortega, 2006, p. 7). The research methodology is explained in further detail in the next section.

Methodology

Soon after the turn of the 21st century, when Henson (2002) was arguing that the study of TSE beliefs, then about 25 years old, had experienced an awkward adolescence due to extensive conceptual and measurement confusion, there was still a lack of research into the TSE beliefs of *language* teachers. However, when I started reviewing the literature, it quickly became apparent to what extent this situation had changed. Indeed, during data gathering, I managed to locate (through Google Advanced Scholar search terms such as 'teachers' self-efficacy', 'teacher efficacy', 'second language', 'foreign language', 'literacy instruction', as well as citation indexes), and read, no fewer than 115 relevant studies 'published' by December 2016; these included journal articles, conference proceedings, book chapters, and 'unpublished' dissertations that were available online. Others were inaccessible, except through second-hand sources, including possibly the first focused on English as a Foreign Language (EFL) teachers: Shim's (2001) PhD thesis submitted at Ohio State University. This university was where the influential quantitative instrument 'Teachers' Sense of Efficacy Scale' (TSES), which many researchers in this field have subsequently adapted for studying LTSE beliefs, was then being developed (Tschannen-Moran & Woolfolk Hoy, 2001).

The search was limited in various ways, for example by excluding studies focused specifically on 'collective self-efficacy beliefs', which might deserve a separate review, and by being confined to studies published in English; it is possible too that limitations in my choice of search terms did not facilitate the harvesting of all available studies. Further to these limitations, although I have located a few available studies relating to literacy instruction in first language contexts published prior to 2005, I have found none in second or foreign language contexts that appeared before then, and have taken 2005 as a starting point for convenience. This review thus spans 12 years, as did Klassen et al.'s (2011) study of TSE beliefs; this delimitation regarding range (2005-2016) facilitates comparisons I make below. In reviewing the literature within the parameters set, I have aimed to be as inclusive as possible, leaving the 'quality' of the studies to be explored in the review itself; I have thus practised exhaustive sampling, as Norris and Ortega (2006) recommend.

In preparing this literature review, my analytical work progressed through various stages. When identifying potentially relevant sources in the way described above, I first double-checked the abstract and, in the event this was unclear, the full-text, to ascertain that the focus was indeed on LTSE beliefs (rather than on learners, the teachers of other subjects, or other constructs). I then created a table which grew to over 16,000 words, to which I added notes, arranged alphabetically by author, concerning the focus of the studies, research questions, participants, methods, key findings, and limitations. I then annotated this document, grouping and classifying the studies in different ways, and then reread in light of these classifications, further developing my notes while reflecting on the literature. Classifications included the national contexts where the research was conducted, the educational stages of the teachers investigated (pre- or in-service), the languages taught, the methodological approaches adopted and the various factors explored in relation to LTSE beliefs; the last category included, for example, language proficiency and emotional intelligence. I was also interested in the extent to which research instruments and findings seemed task- and domain-specific. I was thus able to follow Norris and Ortega (2006) in focusing on "the actual variables, characteristics and data reported in [the] primary studies, rather than on [just] the study-specific conclusions offered by [the] primary researchers" (p. 6). Exploring the studies in this way seemed essential if the review was to be thorough, able to furnish fresh insights and facilitate the analytical work of creating a systematic depiction of the research field. The next section provides an overview of the 115 studies.

Language Teachers' Self-efficacy Beliefs: A Snapshot of the Research So Far
Geographical Contexts

An interesting finding, in terms of where the studies were conducted, is that the geographical patterns are quite different from those reported by Klassen et al.'s (2011) review of TSE beliefs research conducted between 1998 and 2009. Table 1 (below) highlights the regional differences.

Continent	Percentages in Klassen et al.'s (2011) review of 218 TSE beliefs studies (1998-2009)	Percentages in this review of 115 LTSE beliefs studies (2005-2016)
North America	57	16
Asia	15	59
Europe	18	19
Oceania	5	3
South America	1	1
Africa	2	2
Multiple locations	3	1

Table 1. Where the studies were conducted

Historically, as Klassen et al. (2011) explain, much of the research into TSE beliefs has been carried out in North America. Their figures suggest that 87% of available studies published between 1986 and 1997 originated from this continent. Therefore, in terms of North America's share of the overall global output, the 57% of this they identify in the research conducted between 1998 and 2009 (Table 1, above) represents a drop from the previous 12-year period. Comparing these periods, they thus highlight that there is increasingly greater diversity in the geographical sites of TSE beliefs research.

Table 1 (above) suggests that this trend towards TSE beliefs research studies spreading around the world is evident in the developing field of LTSE beliefs research. However, when one digs a little deeper, there does seem to be a loose geographical centre to

the LTSE beliefs research that has been conducted to date, and this appears to be not in North America but at the point where Europe meets Asia. Of the 115 LTSE beliefs studies under review, a majority (53%) have emerged from only two national contexts: 41 from Iran and 20 from Turkey, with all but two of the European studies having been conducted in Turkey. In Asia, there is greater diversity, in that 21 studies are from East and South-East Asia (China, Indonesia, Japan, Korea, Malaysia, Singapore, Taiwan, Thailand, and Vietnam). Furthermore, another six are from Oman.

These figures might lead one to question why some geographical contexts that have featured in TSE beliefs research appear to have been comparatively neglected by researchers of LTSE beliefs. Oceania is an example of such apparent neglect. While prominent TSE beliefs researchers from this continent include Mulholland and Wallace (2001) and Labone (2004), the LTSE beliefs of language teachers in Australia and New Zealand have been under-explored, notwithstanding research by Hastings (2012), Locke et al. (2013) and Locke and Johnston (2016) that is comparatively rare in including teachers of English as a first language. Reasons for the comparative gap might include the tendency of many English language teacher educator-researchers to conduct their research in the EFL contexts where they have worked full-time. An example of this is Thompson (2016), whose qualification was from Australia, but whose research was conducted in Japan. Meanwhile, full-time international PhD students at universities in Australia and New Zealand, who have chosen to focus on LTSE beliefs, have tended to return to their own national contexts to collect data. An example is Phan (2015), who studied at a university in New Zealand but set her research in Vietnam.

These patterns have been repeated worldwide. For example, Chacón (2005) studied in North America but collected data in Venezuela; Wyatt's (2008) PhD is from the UK, but his research was conducted at his workplace in Oman. Partly as a consequence of these patterns, there has been much more LTSE beliefs research conducted in EFL than in English as a Second Language (ESL) contexts. Indeed, 89 of the 115 studies under review have been of English language teachers working in EFL contexts (presumably virtually all non-native speakers, although this is not always explicitly stated). In contrast, I could locate only four studies of native-speaker English language teachers working in ESL contexts (all North American). However, additionally, I located a 'hybrid' study (Brannan & Bleistein, 2012), which featured teachers who were almost exclusively North American, some working in ESL and others in EFL contexts; these contexts did not include Africa, a continent which is under-researched.

Besides being investigated in ESL and EFL contexts almost entirely outside Africa, LTSE beliefs have also been explored in first language contexts, typically with a focus on literacy instruction or specifically the development of reading or writing skills in English. The majority of these 14 studies are set in North America, with a further two originating in the UK, and one in Australia. Another two, studies by Locke et al. (2013) and Locke and Johnston (2016), are set in New Zealand; besides featuring teachers of English, they feature teachers of other subjects, including some teachers of other languages.

The emphasis on English in the literature seems to reflect the language's dominance in a globalising world. However, besides the studies predominantly focused on English teachers, there has also been some limited research (seven studies) specifically into the LTSE beliefs of teachers of other languages (Arabic, French, German and Spanish). Five of these studies, all apparently involving both native and non-native speakers, were conducted in North America, while the other two were sited in Turkey and Malaysia. Conducting research with such diverse groups might provide opportunities to explore how threats to LTSE beliefs vary according to the language taught, the learners' perceived need for the language within their own cultural context, and the teacher's confidence in using the target language for

instructional purposes. However, much would depend on the research methodology employed.

The majority of the 115 studies are of in-service teachers; some of these compare novices (variously defined as having less than 3 or 5 years' experience) with their more experienced colleagues. These studies are set in all kinds of educational institutions, including universities, with private language schools featuring frequently in studies from Iran. However, 24 of the studies focus on pre-service teachers, a majority of these (14) set in Turkey. In such studies, the 4th year practicum is often a focal point, as it provides initial teaching experiences that can impact relatively undeveloped LTSE beliefs.

Another feature of the 115 studies is that the majority are quantitative (71), with others employing either mixed methods (24) or qualitative designs (20). No fewer than 38 of the 41 studies from Iran are purely quantitative, many of these using very similar research instruments, which are thus replicated throughout the context. I now discuss research methodology further.

Ways of Eliciting LTSE Beliefs
Quantitative Means: Surveys

Over two-thirds of all the studies (68/95) that have elicited at least some quantitative data have done so employing either the short or long form of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). This has sometimes been translated into other languages, particularly when the linguistic competence of respondents is in doubt. It has also been modified, so that the target language is explicitly being referred to. Conducting research with English language teachers, Chacón (2005, p. 263), for example, adapted the TSES through items such as "How much can you use a variety of assessment strategies *in your English class* (her addition in my italics)?" Other researchers have blended use of the TSES with other instruments. For example, Choi and Lee (2016, p. 62) also use items from Dellinger et al.'s (2008) 'Teachers' Efficacy Beliefs System – Self' (TEBS-Self) measure, such as the following: "I can implement teaching methods and materials that accommodate individual differences among my students".

Unlike some items in the TSES, those in Dellinger et al.'s (2008) instrument, such as the one above, align tightly to an agent-means conceptualisation of TSE beliefs that is central to the construct (Wheatley, 2005). Some of Tschannen-Moran and Woolfolk Hoy's (2001) survey items, in contrast, together with their definition of TSE beliefs, veer towards the agent-ends, therefore being insufficiently specific about what teachers do to affect outcomes (Wheatley, 2005; Dellinger et al., 2008; Wyatt, 2014). For example, Tschannen-Moran and Woolfolk Hoy (2001, p. 800) ask: "How much can you do to get students to believe they can do well in schoolwork?" There might be a myriad ways through which to achieve this. Therefore, a teacher considering how to answer this particular question may reflect not only the strength of their LTSE beliefs in relation to the different strategies they might employ to help students believe they can do well (and their outcome expectations for these different strategies, in this particular case, their beliefs about what works in motivating students); they may also base their answers on their self-beliefs regarding the motivational impact of their own personality traits and thus not really need to reflect on pedagogical methods at all.

Criticizing the TSES, Dellinger et al. (2008, p. 756) emphasise that survey items "should clearly and accurately reflect the meaning of self-efficacy". Otherwise, they explain, extraneous factors are likely to be confounded with TSE beliefs, leading to "theoretical and psychometric issues that may invalidate findings" (p. 755). While, to a certain extent, this is an issue with the TSES because some items are insufficiently task-specific, to a much greater

extent it is an issue with instruments that had preceded it. These suspect instruments include a teacher efficacy scale developed by Gibson and Dembo (1984). Drawing on theoretical frameworks besides Bandura's (1986), this instrument elicited beliefs about the possibility of teachers in general getting through to students in the face of environmental challenges (labelled 'general teaching efficacy beliefs') as well as beliefs about impacting student performance (labelled 'personal teaching efficacy beliefs'). Researchers including Bandura (1997) have since dismissed the first of these constructs as being irrelevant to TSE beliefs, while items employed by Gibson and Dembo (1984) in measuring the second are generally regarded as too broad (Klassen et al., 2011); they elicit agent-ends rather than agent-means beliefs (Wheatley, 2005). Nevertheless, while the Gibson and Dembo (1984) instrument was still popular with researchers of TSE beliefs two decades later (Klassen et al., 2011), fortunately perhaps, given its questionable construct validity, it seems to have influenced only four of the 115 studies focused on LTSE beliefs under review.

Other researchers have developed instruments of their own, some of which are highly domain-specific. Faez and Valeo (2012, p. 462), for example, include items such as: "Teach ESL literacy", "Teach grammar", "Teach speaking skills". However, these items, despite their domain-specificity, seem insufficiently task-specific. For example, there may be different ways to teach grammar, perhaps deductively or inductively, and a researcher could elicit LTSE beliefs for strategies that relate to one or the other, for example for drilling grammatical structures to support memorization or for using elicitation techniques to encourage self-discovery. Framed in such ways, the focus of survey items would be on eliciting task-specific beliefs.

Similarly, one might ask what is involved in teaching speaking skills. Chan et al. (2010, p. 160) cover the development of speaking skills with four different items, all of which seem insufficiently task-specific: "Guide to speak appropriately", "Teach to help engage in conversations", "Teach to speak clearly and coherently", "Teach to speak accurately". Researchers clearly conceptualise the task of teaching or facilitating the development of speaking in different ways. Akbari and Tavassoli (2014) distinguish between teaching and correcting errors in speaking, while Cooke (2013, p. 56) includes an item: "Provide activities that support meaningful communication in French". This last item has a clear agent-means component (provide *communicative* activities), which other items listed in the paragraph above lack.

Cooke's (2013) study distinguishes between different stages of a teaching task, including items that elicit LTSE beliefs for reflecting, giving feedback and "planning lessons that reflect theories of second language acquisition" (p. 56); this exhibits a degree of sophistication that perhaps gets closer to the complexities of teaching than do many quantitative instruments. Likewise, Ganjabi et al. (2013) present a highly focused instrument designed to elicit LTSE beliefs in adapting course material to make it more compatible with learners' needs. Items include: "How much can you do to make the textbook's content relevant to real-life contexts (for example for making phone calls or going shopping)?" Of course, there is an assumption in the phrasing of such an item that respondents are likely to find such a specific task personally meaningful in relation to their work.

Meanwhile, exploring LTSE beliefs concerning culturally responsive teaching behaviour in an American ESL context where many students in urban schools are from ethnic minorities, Siwatu (2011) elicits from respondents, who are typically white and female, LTSE beliefs about using the learners' mother tongues, for example to greet and praise their English language learners. Interestingly, these items reflect a contemporary assumption that the learners' mother tongue can be a valuable teacher resource, useful, for example, for establishing and maintaining constructive relationships (Littlewood & Yu, 2009), and is therefore something to embrace rather than suppress. In contrast, items developed by other

researchers reflect older assumptions about first language use, for example that it is to be avoided at all costs in line with the 'monolingual principle' (Howatt, 1984) that still informs policy in many parts of the world. Such a culturally-embedded attitude prompts Lee (2009, p. 60) to ask: "How well can you teach English using English only?" Thus, the researchers' implicit ideologies in these cases underpin their phrasing of items. If these ideologies are too obvious, there is clearly a risk of eliciting socially desirable responses.

Another issue with self-designed instruments is that, unless the researcher remains fully focused on the agent-means nature of LTSE beliefs, conceptually flawed items can creep in (Klassen et al., 2011), and this is a problem with several of these studies. Al-Na'abi and Al-Mahrooqi (2014, p. 13), for example, include the following item in their survey: "I have good relationships with students, teachers and the principal", and it is not at all clear how this item relates to LTSE beliefs, as they claim. Rather it seems to be eliciting a sense of relatedness, which is central to another theory: SDT (Ryan & Deci, 2000). While '*establishing* a positive rapport with learners' could be framed as an LTSE belief, particularly if there was some indication how, the mere existence of the good relationships themselves cannot. Items need framing carefully.

A further issue with some LTSE beliefs studies, as Choi and Lee (2016) highlight, is that language proficiency has been misconceptualised as a discrete sub-component of LTSE beliefs by several researchers. Swanson (2013), for example, elicits self-confidence in tasks such as reading and understanding a newspaper in the language of instruction, and describes results in terms of LTSE beliefs. However, reading a newspaper is not a teaching task; Swanson appears to be confounding learners' and teachers' self-efficacy beliefs. Modelling how to extract information from a newspaper could of course be framed as a teaching task, though, and it could be argued that, in order to do this, a teacher needs to be able to read. Such a connection between being able to enact useful learning behaviour and being able to teach is made by Locke et al. (2013), in a mixed methods study which focuses on LTSE beliefs in another skill: writing. On the assumption that "to teach writing, you need to be able to write" (p. 56), they set out to support research participants' development as both writers and writing teachers, assessing developing self-efficacy beliefs in the process. A quantitative instrument that emerged from this body of work (Locke & Johnston, 2016) included items such as the following: "Demonstrate the processes of brainstorming and mind-mapping" (p. 8). Such an item aligns tightly to the agent-means conceptualisation of LTSE beliefs (Wheatley, 2005; Dellinger et al., 2008; Wyatt, 2014) discussed above. Unfortunately, though, too many other quantitative instruments in the field of LTSE beliefs remain conceptually problematic, which is also the case in the broader TSE beliefs literature (Klassen et al., 2011).

Qualitative Means: Interviews

Eliciting LTSE beliefs through qualitative means such as semi-structured interviews also presents conceptual challenges, and these are evident in the 44 studies under review that collected some qualitative data. However, these 44 include 24 mixed methods studies, most of which did not really engage with the challenge of eliciting LTSE beliefs directly, since they used qualitative research methods primarily for another purpose, to collect background or contextual information. Nishino (2012, p. 384), for example, reports asking "each participant about his or her learning experiences, professional history, beliefs about language teaching, teaching context, and lesson procedures" in the 40-60 minute interviews conducted with each teacher. Nevertheless, within the interviews Nishino conducted, incidental data related to LTSE beliefs did emerge. In the context of her English class, one of the participants

informed Nishino, for example: "I manage the classroom adequately when students are doing group / pair work" (p. 398).

Of course, while statements relating to LTSE beliefs can simply emerge in this way in the course of semi-structured interviews covering a range of issues, it is also feasible to elicit them more directly through open questions designed to capture the forward-looking capability that is central to the TSE beliefs construct (Bandura, 1997): for example through 'can you…?' structures (Wyatt, 2015a, 2016). There are examples of such a strategy in the 44 studies. Mills and Allen (2007, p. 234) ask, for example, in the middle of their 'TSE interview': "How well do you believe you teach language / literature?" This is a very large question, though, inviting respondents to generalise their efficacy from all of their teaching experience rather than focus on specific tasks within the domain. One might ask, for example, which language skills are we referring to (listening, speaking, reading, or writing) or areas of knowledge (vocabulary, grammar or pronunciation), and are we primarily concerned with instructional strategies, classroom management or student engagement, and which specific tasks are we referring to in relation to these dimensions of a teacher's work (for example using the whiteboard to present grammatical structures or setting up peer feedback activities)? Or can we assume that all teachers feel equally good at everything? Unfortunately, none of the other questions Mills and Allen (2007) ask gets more specifically focused on LTSE beliefs. Also perhaps focusing too broadly on the big picture to elicit task-specific beliefs, Wang et al. (2016, p. 183) ask: "How do you think of your competence in instructing / managing / engaging low-achieving students?" Merc (2015, p. 45) attempts to probe, but asks quite technical psychological questions of pre-service teachers that they might not fully understand, for example: "Is there a relationship between your perceived teaching efficacy and the anxiety level you experience?" So the challenge of eliciting LTSE beliefs through qualitative interviews has not been negotiated very successfully by some researchers.

Nevertheless, several researchers do seem to have found ways of getting closer to specific beliefs; for example Phan (2015) asks about 'strong points', thereby inviting teachers to identify specific ways in which they are efficacious. Probing in a similar way, Ucar and Yazici Bozkaya (2016) invite participants to think about difficult tasks and challenging situations. These researchers suggest, therefore, ways of guiding the conversation into areas where statements relating to LTSE beliefs are more likely to occur. Hastings (2012) goes beyond this. She defines self-efficacy beliefs for her Australian participants in language they should understand, distinguishing between these beliefs and self-confidence in general; she then provides a clear example to illustrate how teachers might feel more efficacious for some tasks than others. She then encourages reflection, eliciting LTSE beliefs relating to literacy instruction, which might provide not only data, of course, but also support reflective learning.

Use of Observational Data

One of the imbalances in LTSE beliefs research is that observational data are rare. This is unfortunate since, with such data, researchers can draw, in subsequent stimulated recall interviews, on observed teaching tasks; without such data, it can be harder for researchers to relate LTSE beliefs to actual teaching practices. A further disappointment is that, even when observational data have been collected within this research field, they have often not been fully exploited. For example, Lee's (2009, p. 85) purpose in using observation was simply "to obtain a contextual understanding of the routines in an English class in a [Korean] elementary school". Accordingly, observations of a total of 5 lessons, each taught by a different teacher, did not inform interviews, which were treated completely separately.

Nor do Nishino's (2012) observations of four Japanese teachers (3 of each teacher, 12 observations in total) appear to have fed into the interview questions she asked.

In contrast, other researchers have managed to make observations more central to their research to differing extents. Phan (2015) would have liked to gain more observational data, but only two of the eight Vietnamese teachers who participated in her study agreed to being observed; they were subsequently observed twice each. It is unfortunate she could not gain more observational data because Phan (2015) did aim to use observations closely in relation to interviews, both to feed into them and to contextualise information she learned from them. Wyatt (2008) was more fortunate in this respect, since he was able to observe the five teachers in his multi-case study 5-6 times each over three years (27 observations in total) and interview them immediately afterwards. This allowed him to elicit LTSE beliefs in relation to observed teaching behaviour, which itself provided clues as to teachers' efficaciousness; it allowed him to focus the individual cases on the particular topic areas that concerned the teachers in their own learning teaching: LTSE beliefs in using communicative tasks to develop speaking skills, in the case of one, or using group work to support low-achievers, in the case of another. This allowed the LTSE beliefs focus to be on tasks that were deeply meaningful to the teachers.

Other studies have sought to quantify classroom behaviour through observation. This has allowed observed behaviour to be compared to self-reported LTSE beliefs and pedagogical orientations, for example towards communicative language teaching or approaches to supporting reading. Ortaçtepe and Akyel (2015) employed the Communicative Orientation of Language Teaching (COLT) Observation Scheme (Spada & Frönlich, 1995) for such a purpose; this involves quantifying in real-time and afterwards (with the help of audio recordings) classroom events at the level of episode and activity, and communicative features of verbal exchanges. They observed 20 Turkish English language teachers, before and after a professional development programme, exploring changes in beliefs and practices. Meanwhile, Karimi et al. (2016) video-recorded reading lessons taught by 22 different Iranian private school English teachers (to specially constituted groups of 10-12 students); each lesson utilised the same two carefully chosen reading passages that had been identified as suitable for intermediate students. Video-stimulated recall sessions then helped the researchers identify which theoretical approaches to teaching reading, text-based or competence-based (Lau, 2007), seemed to underpin the teachers' work, and they used this information to assess whether teachers who reported differing levels of LTSE beliefs supported reading skills development in different ways.

The Focus of LTSE Beliefs Studies and What We Can Learn from Them
An Overview

Several of the studies referred to above (for example Wyatt, 2008; Karimi et al, 2016) explored LTSE beliefs in relation to teacher cognition. All 115 studies, whether quantitative, qualitative or mixed methods, have examined LTSE beliefs in relation to other factors, such as knowledge and beliefs. I highlight some of the trends in the data below, focusing, in Table 2, on themes and sample research questions.

Focus: LTSE beliefs and…	Sample research questions	Source
Student outcomes	What is the relationship between the teachers' sense of efficacy in teaching Spanish and their students' (exam) scores?	Swanson (2014)
Training programme implementation and student outcomes	To what extent are implementation fidelity and teacher efficacy related to student gains in reading achievement?	Cantrell et al. (2013)
Emotional intelligence	Is there a relationship between Turkish EFL pre-service teachers' emotional intelligence and their sense of efficacy?	Koçoğlu (2011)
Emotional intelligence, burnout and teaching style	Is there any significant relationship among teachers' efficacy, burnout, teaching style, and emotional intelligence?	Akbari and Tavassoli (2011)
Critical thinking and gender	Are there differences in teachers' self-efficacy beliefs and critical thinking dispositions according to gender?	Yüksel and Alci (2012)
English proficiency, pedagogical strategies and demographic factors	What are the correlations among EFL teachers' sense of efficacy for engagement, classroom management, and instructional strategies and reported English proficiency, use of pedagogical strategies, and demographic variables such as years of English experience, experience studying/traveling abroad, and staff development?	Chacón (2005)
Attitudes and English proficiency	What are the relationships between the teachers' sense of efficacy and 1) the teachers' attitudes toward the English language and 2) English proficiency-related variables (the current and desired minimum English proficiency, and the perceived gap)?	Lee (2009)
Native/non-native speaker status	Does native versus non-native speaker status relate to TSE in foreign language instruction?	Mills and Allen (2007)
Language used for instruction	Does the extent to which English is used as the language of instruction correlate with Japanese teachers of English foreign language teacher efficacy beliefs?	Thompson (2016)
Teaching anxiety	Is there a correlation between the level of teaching anxiety experienced by pre-service Turkish EFL teachers and their teaching efficacy?	Merc (2015)
Sources of efficacy information	Which sources of self-efficacy information do Vietnamese teachers rely on to construct their self-efficacy beliefs?	Phan and Locke (2015)
Context	What is the difference in preservice teachers' self-efficacy appraisals for teaching in an urban school compared to a suburban school?	Siwatu (2011)
Culture	Does Vietnamese culture have any influence on EFL teachers' sense of self-efficacy in teaching the English language?	Phan and Locke (2016)
Changes through a practicum	To what extent does a typical year-long practicum affect Turkish pre-service teacher efficacy?	Atay (2007)
Changes through action research	Is there a difference in student teachers' teaching efficacy beliefs after their participation in action research?	Cabaroglu (2014)
Changes through peer coaching	To what extent can peer coaching develop self-efficacy of peer-coached student teachers?	Goker (2006)
Changes in practical knowledge	To what extent did growth in a teacher's self-efficacy beliefs in using group work with young learners appear to mirror growth in his practical knowledge?	Wyatt (2010)
Changes over time	To what extent did a teacher of English overcome low teachers' self-efficacy beliefs in teaching English to young learners?	Wyatt (2013)
Changes in professional identities and pedagogical practices	What is the impact of sustained involvement in 'Writing Workshop' experiences on the professional identities and self-efficacy of participating teachers, and does this impact flow through to more effective pedagogical practices around writing in primary and secondary classrooms?	Locke et al. (2013)

Table 2. Themes and sample research questions in LTSE beliefs research

I now explore trends in the data in more detail, making some use of numerical analysis in the process. However, I should explain beforehand that, in totalling up, I focused only on factors identified in the research questions provided in the studies or (if these were absent) the clearest statement of research aims. Since it is possible that additional factors may have been addressed in some of these studies, these figures are not necessarily complete, and are provided here primarily for indicative purposes.

LTSE Beliefs and Student Outcomes

A key justification for studying LTSE beliefs must be the intuition that efficacious language teachers are more likely than those who are inefficacious to find ways to have a beneficial impact on student learning. However, given the length of learning processes, finding evidence to support this assumption is not necessarily straightforward, and many researchers have avoided the challenge. Only six of Klassen et al.'s (2011) 218 TSE beliefs studies explored this relationship, finding, in the researchers' view, only "modest empirical support for the theorised connections" (p. 38). A higher proportion in this review (12 of 115 studies) have explored LTSE beliefs in relation to student achievement/outcomes or pedagogical success. They fall into two groups, with three of these studies focused on literacy instructors in North America, and the other nine focused on second or foreign language teachers in various, but mostly Iranian, contexts. Methodologically, this latter group of studies, most published in small journals that do not feature highly in international journal rankings, tends to be problematic. Only one of them (Swanson, 2014) even mentions limitations, specifically sample size and the self-report nature of the data. However, there might be other limitations. Swanson attempts to correlate LTSE beliefs with student achievement scores on tests, but some teachers had given the test to all their students and others just to volunteers (with those who had given it only to the best excluded). From such variability in test administration it might be difficult to generalise. For example, might those who gave it only to volunteers have been more concerned about positive self-representation and thus also more likely to rate their own LTSE beliefs highly? Similar threats to the objectivity that is generally prized in quantitative research are evident in another of these studies (one that does not consider limitations at all). Saeidi and Kalantarypour (2011) correlate LTSE beliefs scores with students' grades in their final exams which had been emailed to them by their teachers (and therefore not provided independently). It is entirely unclear how these grades were arrived at, but might not some cheerful teachers with a tendency to rate themselves positively also be more inclined to rate their students highly too? A more independent means of collecting data on student achievement is described by Poggio (2012), in the context of literacy instruction in North America; the state of Kansas keeps a record of reading assessments, and she was able to collect anonymised data on nearly 4,000 students supplied by assessment officers in different districts. She could then compare these reading assessment scores to their teachers' self-reported LTSE beliefs for literacy instruction.

As to her findings, though, unfortunately Poggio's (2012) results were slightly disappointing in that, while literacy instructors' self-reported LTSE beliefs did correlate positively with their students' achievement scores in reading, this was at a "practically insignificant" level (p. 163). Other studies, though, have found more positive relationships between the key variables. Swanson (2014), for example, found that the teachers of Spanish who were most efficacious in using their linguistic knowledge for purposes such as motivating students (self-rating in the top quartile) had students who achieved much better exam results than those teachers who self-rated in the bottom quartile. The mean average

difference on exam scores was 6.7%, which, Swanson points out, could be the difference between an A- and a B, according to the grading system employed in American schools. Swanson's items are not very task-specific, though; most of them elicit agent-ends beliefs. For example, one asks about LTSE beliefs in helping learners learn at the most advanced levels of the language. They are also treated in global terms; therefore, scores on the individual items are added up and averaged, with a view to identifying teachers most and least efficacious overall. Numerous experiences, unexplored in their research, may have contributed to these global self-efficacy (GSE) judgements, but, insofar as one can trust the findings, they do not contradict the following supposition: If teachers have become efficacious in specific ways, and have generalised their LTSE beliefs across tasks, as Bandura (1986) suggests can happen, there might be benefits accruing to their learners.

Quantitative Studies Eliciting Global Self-efficacy Beliefs, Personal Qualities and Demographic Factors

In the various quantitative studies generally, the focus has tended to be on GSE beliefs, typically with items on the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) relating to classroom management, instructional practices and student engagement added up to provide snapshots of efficacy across all aspects of teaching. Correlations have been sought between these GSE beliefs and the following: emotional intelligence (10 studies), critical thinking (4), metacognitive awareness (3), self-regulation, reflective thinking, intra/interpersonal intelligence, and achievement goal orientations. Demographic factors have also been explored in relation to GSE beliefs, with research exploring the impact of variables such as teaching experience (17 studies), gender (10), age (7), highest or specialist degree (5), travel abroad (2) and even marital status. Regarding the latter, Mashhady (2013) found that married teachers in his Iranian context tended to be more efficacious overall, although the implications are unclear. Finally, there is a group of five studies focused on GSE beliefs and negative change, specifically burnout. Of these studies, Akbari and Tavassoli (2011) concluded, as others have, that efficacious teachers are generally not burned out.

There has been little of surprise in most of these correlational studies, since one would anticipate that well-developed critical thinking skills, as explored by Yüksel and Alci (2012) for example, would support efficacious task engagement, and in both men and women. Similarly, a positive correlation between very well-developed interpersonal skills, including empathy, and GSE beliefs related to student engagement (Koçoğlu, 2011) is to be expected. In some studies (for example, Wossenie, 2014), the self-report scores provided are low, suggesting lower than average levels of GSE beliefs and emotional intelligence, but nevertheless agreement between them.

One of the more striking findings in this line of research is that, of the 15 components of Bar-On's (2000) instrument for eliciting emotional intelligence, one (emotional self-awareness – therefore, having the capacity to be aware of, identify and comprehend one's emotions) correlated negatively with GSE beliefs in Moafian and Ghanizadeh's (2009) study. This suggests, in other words, that if teachers are more emotionally self-aware they may be less efficacious. A plausible interpretation of this is that, in deriving considerable efficacy information through their senses (Bandura, 1986), these teachers may be more acutely conscious of their affective/physiological states, with this lowering their LTSE beliefs in the process; case study data (Wyatt, 2013) also suggest such a pattern can occur. As illustrated by Wyatt, experiencing low LTSE beliefs is not necessarily problematic, provided these beliefs are combined with a growth mindset (Dweck, 2000); high levels of emotional self-awareness combined with dissatisfaction about one's performance and the belief one can improve is a

concoction that can result in spiralling growth (Wyatt, 2013). If teachers, in contrast, have a high level of emotional stability, a construct that suggests they remain calm, not easily upset, research by Navidnia (2009) suggests they may be less efficacious in engaging with their students but more efficacious in managing them. Navidnia's view is that this is likely to result in teacher-centredness.

Navidnia (2009) does not discuss these findings very closely, though, with regards the subject area, and indeed, it should be noted that some of these studies feel as if they simply happen to be of *language* teachers. For example, in her study of 90 Turkish pre-service EFL teachers, Koçoğlu (2011) makes no attempt to explain findings concerning emotional intelligence and GSE beliefs with regard to the particular challenges and opportunities that language teachers face. Other quantitative studies, however, do consider the domain of language teaching in explaining results, at least to some extent. For example, in a study of 447 Iranian EFL teachers that found positive correlations between professional experience and GSE beliefs, Akbari and Moradkhani (2010) note that their participants scored particularly highly in items on the TSES relating to student engagement. Contrasting their TSES results with those of studies from outside the language teaching domain, these authors then suggest that encouraging class participation may be particularly important to language teachers engaging their students in communicative activities. So studies that in design much resemble those in other fields, like this one, can generate insights of relevance to the domain of language teaching, even though such findings can appear to be reported as almost incidental (not highlighted in the abstract, for example) in the context of these studies' main and much more general areas of focus.

Domain-Specific LTSE Beliefs Studies Considering Language Proficiency and Attitudes

Providing an overview of issues addressed by studies that have focused very specifically on the domain of language teaching, Phan (2015) highlights that these include the relationship of LTSE beliefs to language proficiency, attitudes and/or practices. Of those I have identified that examine language proficiency (15 studies), most have relied on self-reports of this, with instruments developed by Chacón (2005) and Butler (2004) the most used. These are quite different, though, with Chacón's (2005, p. 263) more focused on functions (for example "I can fill in different kinds of applications in English, such as credit card applications") and Butler's (2004), as adapted, for example, by Choi and Lee (2016, p. 61), more focused on skills such as speaking (for example "I can express myself using simple language but make mistakes and pause a lot when I try to express complex ideas" – a mid-range option suggesting an average level of self-confidence in speaking). Respondents in this latter study were asked to estimate their own level of proficiency and also indicate the minimum level they felt was required of a secondary school English teacher; this resulted in an identified perceived proficiency gap (Choi & Lee, 2016).

Similarly, in focusing on attitudes towards proficiency, Phan (2015), in a qualitative study, presents Vietnamese English teachers with very different ideas about the proficiency levels (as indicated by IELTS scores) required for teaching. While these teachers generally felt their English had deteriorated since college due to the lack of opportunity to practise it outside the classroom, they nevertheless generally seemed to feel it was adequate, in contrast to teachers in other studies set in Asia (for example Hiver, 2013), who have expressed a sense of inadequacy in relation to the perceived requirements. Of course, attitudes towards the proficiency believed required might relate not only to respondents' self-beliefs as to their own proficiency levels and beliefs regarding contextual requirements; these attitudes might also relate to the teachers' views of ways of assessing proficiency, their LTSE beliefs, and

additionally their attitudes towards the language itself, for example towards different varieties of English. This last theme was the focus of both Lee's (2009) and Mirsanjari et al.'s (2013) research; the former employed items such as: "American English is the best model for Korean learners of English" and "I don't feel embarrassed with my Korean accent when I speak English" (Lee, 2009, p. 63). Both these studies found that, where teachers respected varieties of English found around the world, such as Indian or Singaporean English, rather than just inner-circle norms, such as American English (Saraceni, 2015), tendencies to think their own English was bad were reduced. A link was identified, therefore, between viewing English as a family of languages and feeling more efficacious about using English (the target language) for instruction in the classroom.

Returning to language proficiency, other studies exploring this have inferred it on the basis of whether it is a first or second language, in both cases of French (Cooke, 2013; Mills and Allen, 2007), or tried to assess actual proficiency through use of a modified TOEFL test (Sabokrouh & Barimani-Varandi, 2013). However, the latter, excluding listening and writing (as well as speaking), to test just grammar and reading comprehension, might not, it seems, have covered all aspects of the language proficiency required for classroom teaching in Iranian private school contexts; this may have weakened the correlations found. In the smaller-scale studies of French teachers (Cooke, 2013; Mills & Allen, 2007), positive relationships between language proficiency and LTSE beliefs were identified; the native speakers of French reported feeling more efficacious.

Domain-Specific LTSE Beliefs Studies Considering Classroom Practices

Various studies (20 in total) have reported on the relationship between LTSE beliefs and classroom practices, with the latter usually self-reported. Both Chacón (2005) and Eslami and Fatahi (2008) developed surveys designed to elicit, principally, either Grammar-Translation Method (GTM) or Communicative Language Teaching (CLT) oriented practices; this is with an assumption that there is a need for the latter (since this prioritises the development of speaking skills through meaningful oral interaction, unlike the former, which is a traditional text-based approach generally associated with the 19th century). Similarly, Ghasemboland's (2014) survey distinguishes between communicative and 'mechanical' teaching strategies; the less-favoured latter relate to the Audio Lingual Method (an approach associated with a Behaviourist view of language learning that was prevalent until the 1950s). One might question, though, whether some of the GTM/mechanical strategies are really to be dispreferred, for example: "I use students' native language rather than English to explain terms or concepts that are difficult to understand" (Eslami & Fatahi, 2008, p. 11) or "I ask students to take notes during the lesson" (Ghasemboland, 2014). One might argue that these can both be seen as sound pedagogical practices and that a teacher is not necessarily anti-CLT in indicating adopting them. Indeed, Ghasemboland did subsequently delete the latter item, as it contributed to fuzzy results.

Perhaps the most striking finding in Ghasemboland's (2014) study was that there was a strong correlation between self-reported CLT strategies and scores on the (adapted for English) TSES for student engagement. So, teachers who were most efficacious in answering questions such as "How much can you do to help your students value learning English?" (Ghasemboland, 2014, p. 209) also tended more towards the self-reported use of CLT strategies. Chacón's (2005) and Eslami and Fatahi's (2008) findings were very similar in this regard (cf. Akbari & Moradkhani, 2010, above). However, an additional finding of Chacón (2005) was that the most globally efficacious teachers (across all dimensions of teaching) seemed to be oriented towards clear-cut strategies (whether CLT or GMT). So, their higher

levels of efficacy may have supported conviction regarding the use of particular pedagogical approaches.

Besides eliciting CLT and GMT practices through a self-report survey, Chacón (2005, p. 264) also elicited qualitative reactions in interview to vignettes that described the use in language classrooms of dialogues, songs, group work and problem-solving. While one would expect that such a research method might access deeper, more nuanced self-reports of practice than those achievable through surveys, Chacón found that her interviewees, whether they had reported high or low GSE beliefs, tended to report similar GTM practices centred on the use of dialogues. Of course, their actual practices may have differed.

Other studies have asked teachers to estimate the percentage of class time in which they used English, on the assumption that a high percentage is likely to be beneficial for language learning (Choi & Lee, 2016) or sought to access practice in other ways. Chan et al. (2010), for example, evaluated teachers' classroom work by using grades for pre-service teaching practice. One of their findings was that teachers who were highly efficacious in teaching speaking and writing "tended to be… doing well in classroom teaching" (Chan et al., 2010, p. 162). Meanwhile, using multiple regression analysis with interaction, Choi and Lee (2016) highlight not only a significant relationship between language proficiency and LTSE beliefs, but also indicate how these relate to action, in terms of the amount of self-reported English used in class. They suggest there is a threshold level, below which teachers in a Korean context struggle to use much classroom English at all, but above which language proficiency and LTSE beliefs magnify each other's impact on the quantity of English used. However, while these findings are highly instructive, the self-report data they are based on do need to be treated cautiously. Actual proficiency and practices may have been different.

There are also the studies noted above (for example Wyatt, 2008; Karimi et al., 2016) that have accessed classroom practices directly through observation. One might nevertheless question how authentic the lessons observed in Karimi et al. (2016) were, since the teaching material had been chosen by the researchers, who had also stipulated the size of the classes to be taught. However, these observations, and the stimulated recall sessions following them, did allow the researchers to explore the teachers' orientations towards teaching reading, specifically whether they adopted a more traditional text-based approach (involving a high proportion of teacher talk) or a more student-centred competence-based approach (which relates quite closely to CLT in general), and relate these findings to self-reported LTSE beliefs (which had been elicited through the TSES).

As to the findings, firstly the observed behaviour of the teachers with lower LTSE beliefs tended towards "significantly more text-based reading instructional practices" (Karimi et al., 2016, p. 163) than the teachers with higher LTSE beliefs, who, in contrast, tended much more to adopt competence-based practices. Secondly, these teachers with higher LTSE beliefs possessed theoretical orientations which correlated strongly with their instructional practices, regardless of whether these were text- or competence-based; this was in contrast to their counterparts with lower LTSE beliefs, for whom correlations between the same variables were weak. This second finding adds credence to that of Chacón's (2005), then, that higher LTSE beliefs may relate to stronger theoretical orientations to practice.

While Karimi et al. (2016) presented their findings in the form of descriptive statistics, in contrast, qualitative studies have provided 'thick description' (Geertz, 1973) of observed teaching practice related to developing practical knowledge and LTSE beliefs in specific areas (Wyatt, 2008, 2010, 2013, 2015a). For example, focusing on how an English teacher developed in his use of group work to help low achievers, Wyatt (2010) explored growth in his LTSE beliefs in relation to developing practical knowledge with regard to "learners and learning, the curriculum, teaching techniques, the school context and his own sense of himself as a researcher of his own practice" (p. 603). Although the teacher's growth

was uneven, a degree of fit was identified between dimensions of developing practical knowledge and LTSE beliefs; school policies were a constraining influence.

This kind of qualitative research methodology can be useful for providing insights into how knowledge is transformed into action, mediated by LTSE beliefs. Wyatt (2013), for example, explored how an English teacher of young learners, benefiting from in-service teacher education in Oman, drew reflectively upon her experiences to overcome low LTSE beliefs that were triggered by being asked to teach much younger learners as a result of curriculum changes.

Transformation is also the focus of Locke et al.'s (2013) mixed methods study of teachers of writing in New Zealand, some of whom were teachers of English. Taking part in a writing workshop boosted these teachers' LTSE beliefs; interviews revealed it helped them see writing more clearly as a process rather than a product, in which they could engage collaboratively with and alongside their learners in an expanded range of genres. Sources of efficacy information, such as mastery experiences gained from producing new genres themselves during the workshop, were identified.

LTSE beliefs studies can also explore why apparently limited cognitive change occurs during in-service teacher education. An example of this is in Wyatt's (2015a) study of a teacher seemingly over-efficacious in developing reading skills through techniques such as reading aloud around the classroom; this technique for supporting reading has been much criticised in the literature (Ur, 1996).

The knowledge possessed by teachers has also been assessed in quantitative studies, but more indirectly, for example through the TKT Test, which seeks to measure familiarity with different teaching methods, utilisation of resources, and understanding of aspects of lesson planning and of classroom management techniques (Zakeri & Alavi, 2011). A limitation of this test is that it is designed around multiple choice rather than open questions, and accordingly is more likely to elicit idealised cognitions rather than those that are situated in relation to actual practices, as Borg (2006) warns of such elicitation methods. Nevertheless, despite this limitation (which is not acknowledged), Zakeri and Alavi (2011) were able to conclude that "enhancing teachers' knowledge tends to have a positive influence on their sense of efficacy" (p. 418).

Positive Trends in the Research

Given criticisms, for example by Henson (2002), of the TSE beliefs literature from which they emerged, positive developments in the study of LTSE beliefs include a focus on the sources of these beliefs (18 studies), a recognition of how they are shaped by contextual factors (9) and a growing awareness of how these beliefs can change over time, supported by language teacher education (23). These developments are addressed below in turn.

Sources of LTSE Beliefs

Regarding sources of efficacy information, studies have explored issues such as the impact of the following on LTSE beliefs: peer coaching (Goker, 2006), oral and written peer feedback (Ince, 2016), feedback from learners, co-workers (Phan & Locke, 2015), mentors and family members (Brannan & Bleistein, 2012), vicarious experience gained through observation (Mills & Allen, 2007) and practical teaching experience (Liaw, 2009). Additionally, there has been a focus on the relationship between LTSE beliefs and affective/physiological states (Wyatt, 2013; Phan, 2015).

Several of these studies, for example Phan and Locke (2015), have highlighted the importance to language teachers of the kind of interactive experiences, which Bandura (1986) has labelled 'social persuasion'; indeed, for the Vietnamese teachers in Phan and Locke (2015), these were a more important source of efficacy information than 'mastery' or 'vicarious' experiences. There are contexts, such as theirs, where vicarious experiences might be less accessible due to an isolating school culture not encouraging activities such as peer observation. In school contexts where peer feedback is encouraged and provided, it is important that this is sensitively worded, as otherwise it can damage LTSE beliefs (Ince, 2016).

Physiological arousal can also be a source of negative LTSE beliefs. This is evident, for example, in the following recollections of an in-service English teacher in Oman, reflecting back on pre-service experience in Wyatt (2008, p. 166): "My mouth became dry, my heart was beating, I was very nervous and confused and sometimes I forgot lots of things". Teachers in such contexts need considerable support in developing positive LTSE beliefs, support that can come from various sources, including facilitative management teams in schools (Jones, 2016). Drawn upon as input at every stage of a reflective cycle, enriching sources of efficacy information can support spiralling growth in LTSE beliefs, as Wyatt's (2016) conceptual model illustrates.

Contextual Factors

The impact of contextual factors has been explored in various studies. Examined in relation to LTSE beliefs, these factors include: differences between an urban and a suburban school (Siwatu, 2011); the influence of national culture (Phan & Locke, 2016); the nature of the course taught, for example English for general or academic purposes (Khosravi & Saidi, 2014); the nature of the course material available (Ganjabi et al., 2013); and the status of the language taught, for example French (Cooke, 2013). The findings of these studies suggest that teachers feel less efficacious when the course taught is more demanding in itself, for example English for academic rather than general purposes (Khosravi & Saidi, 2014); or is more specialised, for example ESL literacy (Faez & Valeo, 2012). They can feel less efficacious when the learners might need more support, for example in American urban (as opposed to suburban) schools, where there are higher percentages of ESL learners (Siwatu, 2011), or when learners' challenges decoding print are framed in terms of 'dyslexia' rather than 'reading difficulties'; the former label can evoke essentialist beliefs (Gibbs & Elliott, 2015). They can feel less efficacious in curricular areas neglected in their course books, such as oral skills development in Iran, a context where course books tend to contain much decontextualized grammar (Ganjabi et al., 2013). And they can feel less efficacious if their culture and gender (in this case, Vietnamese and female) interact to make it harder for them to engage in activities, such as planning and reflecting, that could help them become more efficacious (Phan & Locke, 2016). Furthermore, if teachers work in a climate where the language they are teaching is marginalised by others on a regular basis, this can also negatively impact LTSE beliefs; Cooke (2013) found that teachers of French in Canadian schools where French was just another subject were much less efficacious than teachers who worked in French immersion programmes, where the language was more valued.

The influence of contextual factors in shaping LTSE beliefs may also explain differences in the findings of other studies set in different geographical locations. For example, in Venezuelan and Iranian contexts respectively, Chacón (2005) and Ganjabi et al. (2013) report that teachers feel relatively inefficacious in involving children's parents in supporting language learning (which suggests the parents may be relatively inaccessible to

teachers in these contexts), while Atay's (2007) Turkish teachers score themselves highly on this task. In contrast, though, Atay's pre-service teachers score themselves low on providing alternative explanations or examples when students are confused, a task for which the in-service teachers in the Venezuelan and Iranian studies (Chacón, 2005; Ganjabi et al., 2013) indicate high levels of self-confidence. In Atay's (2007) study, efficaciousness in developing students' critical thinking skills is reported, while in Hassaskhah's (2011), also of pre-service teachers but in Iran, such efficaciousness is much less in evidence. Clearly, much might depend on factors within the context, such as teacher education.

Changes Shaped by Language Teacher Education

The impact on LTSE beliefs of specific kinds of language teacher education interventions, such as being engaged in action research during a pre-service course (Cabaroglu, 2014) or carrying out teacher research during a three-year in-service BA TESOL (Wyatt, 2008), have also been researched. Cabaroglu's (2014) study highlights, for example, how empowering engaging in action research can be for pre-service EFL teachers. While the teachers in her study were typically inefficacious in managing student behaviour at the outset, they were encouraged to take charge of their own learning, which led to insights. One reported, for example:

> it struck me that perhaps they (the students) misbehaved because of some of the mistakes I made in my teaching. Then, I reflected on my own teaching style. I tried to address different learner types like visual, kinaesthetic or aural. I tried to use my body language effectively. I noticed that I should give non-oral feedback… (Cabaroglu, 2014, p. 85).

This reflective process helped the teacher to adopt different strategies to manage a language class, and to become more efficacious in the use of these strategies.

Other studies that have examined change in LTSE beliefs amongst pre-service teachers include those that have conducted longitudinal research, with several then tracking the novice teachers through their first year (for example Sahin & Atay, 2010; Swanson, 2013). Most of these studies, drawing on quantitative data, have measured GSE beliefs at two time points, before and after the teacher education experience. However, several have done so at three time points, and these illustrate how GSE beliefs can fluctuate. Yüksel (2014), for example, found that GSE beliefs fell through the first semester of the practicum year, when the pre-service teachers, exposed to real classrooms for the first time as trainee teachers, were confined to observing, but then rose through the second semester, during which they gained supervised teaching practice, which provided valuable concrete experience. This led to an overall increase in reported GSE beliefs between Time 1 (prior observation) and Time 3 (after teaching), with a dip in between. Similarly, in Sahin and Atay's (2010) study, GSE beliefs rose between Times 2 and 3 (before and after teaching). However, they then fell after an induction year we can call Time 4, when the 'reality shock' that novice teachers often experience (Tschannen-Moran & Woolfolk Hoy, 2007) may have set in.

Qualitative comments found within before-and-after mixed methods LTSE beliefs studies of pre-service teachers include accounts of transformation, such as the following: teachers reflecting on overcoming "fear and uncertainty" regarding their lesson plans (Chiang, 2008, p. 1278), successfully addressing the "nightmare" of misbehaving students (Cabaroglu, 2014, p. 84), or simply managing to deal with incomprehension. For example, Atay (2007) quotes a pre-service teacher reflecting as follows:

> I felt terrible whenever I saw a student looking at me blankly after a question. I knew something was going wrong. I tape-recorded myself for one lesson and went over the tape-script with my university supervisor … my questions were

either ambiguous or too difficult for the students. For a while, I've been planning my questions, note them down and try to keep them in my mind ... it seems better now (p. 210).

Clearly, language teacher education can have a positive impact on LTSE beliefs, in both pre- and in-service contexts. Regarding the latter, Wyatt (2016) highlights how focusing on self-directed action research tasks helped Omani English teachers, reflecting and experimenting, grow in practical knowledge and LTSE beliefs longitudinally. Engaging in teacher research as continuing professional development helped Turkish English teachers in Wyatt and Dikilitaş (2016) become more efficacious with regard to the specific tasks that concerned them.

However, sometimes learning outcomes are disappointing and the various findings of LTSE beliefs studies carry implications for ways in which teacher education can be improved. In Siwatu's (2011) American context, for example, more work clearly needs to be done to raise awareness of how to strengthen the sense of cultural identity of ethnic minorities. In Lee's (2009) Korean context, awareness-raising as to the legitimacy of different varieties of English might strengthen LTSE beliefs. In Atay's (2007) Turkish context, support for elicitation techniques could clearly be enhanced, while in both Faez and Valeo's (2012) Canadian context and Wyatt's (2015a) Omani context more support in developing ESL literary skills might be required. At least, though, these teachers had support, unlike a majority of those teachers in Chacón's (2005) Venezuelan context, who reported that they had never received any organised continuing professional development. I now consider implications.

Implications for Research and Teacher Education

Having discussed findings of the 115 studies under review (no fewer than 60 of which have been cited in this article), I now consider implications for research and teacher education. It should be said firstly that, if it is to be most useful, research into LTSE beliefs needs to focus more than perhaps it has in the past on exploring how these beliefs develop in relation to teachers' lived experience in different contexts and how best the teachers in these contexts can be supported. Accordingly, there needs to be a focus on the local context to gain insights into teachers' developmental needs. These insights can be gained if research instruments, whether qualitative (as in Wyatt, 2008) or quantitative, focus sufficiently on domain-specific LTSE beliefs. Fortunately, there is increasing evidence of researchers honing in on domain-specific tasks, for example using the learners' mother tongue in greeting and praising ethnic minority students to protect their cultural identities in English lessons (Siwatu, 2011), adapting course book content to make it relevant to real-life contexts (Ganjabi et al., 2013), following a text-based or competence-based approach to developing reading skills (Karimi et al., 2016), employing pre-writing instructional strategies (Locke & Johnston, 2016). Research based on such instrumentation can inform pre-service language teacher education and continuing professional development by identifying real world needs. More of such research could be conducted in hitherto neglected contexts, such as Africa, where LTSE beliefs can be threatened by factors such as very large class sizes and lack of materials.

There also needs to be more focus in the research on the key reasons why LTSE beliefs are so important and worth investigating in a world in which ideas about what works in education are constantly changing. For example, it is often overlooked that it can be deeply problematic if teachers are over-efficacious in relation to specific aspects of their work, since these teachers can then become relatively closed to learning (Wheatley, 2005; Wyatt, 2015a). In this light, it is interesting that in the studies of both Chacón (2005) and Karimi et al.

(2016), the most efficacious teachers were found to make the most clear-cut methodological choices: either for CLT or GTM in Chacón (2005); either for competence- or text-based approaches in Karimi et al. (2016). Since the resulting pedagogical practices are likely to be so different, and since some of these practices are likely to be dispreferred by teacher educators and administrators in those different national contexts, this demonstrates why it is important to understand how teachers perceive the task, not just how efficacious they feel about it (Wheatley, 2005; Wyatt, 2015a).

Besides problems relating to over-efficaciousness, the acute problems faced by inefficacious novice teachers (Atay, 2007; Chiang, 2008; Cabaroglu, 2014) and in-service teachers undertaking new tasks, such as a teacher in Wyatt (2013) who complained of sleep loss, also require more attention. The deeply emotive language produced by such teachers, when discussing low LTSE beliefs, illustrates the extent to which affective/physiological arousal (Bandura, 1986) can shape teachers' experiences. While such anxiety might be more acute in pre-service contexts, it may perhaps endure in cases where teachers tend towards being over self-critical or perfectionist, as in a teacher in Wyatt (2015a), and it has been argued that perfectionism is common in our profession (Mercer, 2016). These issues could also be explored in more depth in relation to constructs highlighted in this review that have emerged from quantitative studies: 'emotional self-awareness' (Moafian & Ghanizadeh, 2009) and 'emotional stability' (Navidnia, 2009). If teachers have greater levels of emotional self-awareness that undermines their LTSE beliefs, a role of language teacher education is to protect their LTSE beliefs; if teachers' emotional stability leads to complacency and over-efficacious behaviour, then encouraging reflective self-questioning is in order.

However, LTSE beliefs research can also address other issues. Learning language teaching can be deeply challenging, particularly if there is a lack of self-confidence in the subject matter knowledge to be taught (the language itself) or if there are stereotypes regarding the native/non-native speaker dichotomy to counter (Dörnyei & Ushioda, 2011). In certain contexts (for example private language schools), these are acutely sensitive issues and it is surprising that there are not more than five studies (amongst the 115 under review) that have explored attitudes towards English varieties and language proficiency. Non-native speakers of a language they are teaching, for example French, in the case of a teacher in Mills and Allen (2007), can worry at length about making linguistic mistakes. This, of course, might influence their willingness to use the target language, particularly if they have an inflated view of the desirability of 'native' models they feel they need to follow. Given that this issue clearly affects English teachers in some geographical settings, for example in Korean contexts (Choi & Lee, 2016; Hiver, 2013), awareness-raising about the legitimacy of World Englishes (Saraceni, 2015) could be beneficial.

However, it is also disappointing that there is such a dearth of research conducted with native-speaker teachers of English in EFL contexts, who, as noted above in the introduction, may have issues of their own, for example regarding explaining grammar. Borg's (1998) teacher cognition research in this area demonstrates that native English speaker teachers may lack self-confidence in this, but as yet there are no relevant LTSE beliefs studies.

Regarding other psychological constructs, LTSE beliefs could be explored more closely in relation to mindsets, which are increasingly seen as domain-specific (Mercer & Ryan, 2010); individuals might have growth mindsets in some domains of functioning but fixed mindsets in others. However, apart from in Wyatt (2013) and Jones (2016), Dweck's (2000) pioneering work is hardly referred to in the 115 studies. And yet it is relevant. In Phan and Locke's (2016) study, some teachers appeared to have fixed mindsets, as these are described by Dweck (2000), on the basis that they indicated they felt unable to adapt to new practices such as CLT. In Wang et al.'s (2016) study, teachers with low LTSE beliefs

appeared to have growth mindsets; they felt they could develop their teaching practices for the better, which perhaps is the most important thing. If teachers are inefficacious, key questions for teacher educator-researchers are: "Do these teachers have growth mindsets?" "If not, how can they be helped to develop growth mindsets for specific tasks?" "How can tasks be broken down in such a way that teachers with low LTSE beliefs can start to experience success with them?"

Regarding methodological choices, there is clearly considerable potential for quantitative, mixed methods and qualitative designs. Regarding quantitative methods first, recent innovative research designs are evident in Choi and Lee (2016) and Locke and Johnston (2016). The multiple regression analysis with interaction employed by Choi and Lee (2016) could be used to help explore relationships other than those that were the focus of their study. For example, rather than look at how language proficiency interacted with LTSE beliefs to influence target language use, it might be possible to investigate another variable, such as attitudes towards the target language. Locke and Johnston (2016) is innovative, not just for task- and domain-specific survey items regarding teaching writing that could also inspire researchers exploring LTSE beliefs in relation to other language and literacy skills, but also for employing factor analysis in this very specific domain. Such treatment can, of course, provide insights into how task-specific LTSE beliefs within a certain domain relate to each other, information that can help teacher educators.

Regarding mixed methods designs, if teachers indicate they are inefficacious in relation to particular tasks on quantitative instruments, as in Siwatu (2011), there is clearly the potential to follow this up in semi-structured interview. This allows deep investigation into areas of particular interest. However, gaining such qualitative data can require close cooperation with school teachers, and unfortunately university academics (unlike teacher educator-researchers) are sometimes at a disadvantage (which might explain the relatively limited number of studies by university academics that have adopted such an approach). One reason why university researchers can find it challenging to access state school classrooms in many national contexts is that these might come under the administrative remit of other government departments.

Even when limited access to schools is gained, this rarely extends to classroom observations, and this is unfortunate, since observational data, when combined with subsequently-gathered interview data, allow us to gain a more refined understanding of LTSE beliefs tasks from teachers' perspectives (Wyatt, 2008, 2010, 2013, 2015a; Phan, 2015; Karimi et al., 2016). Alternatives to observation might include a greater use of scenario-testing, as in Chacón (2005), or research partnerships with teachers, where the latter group are keeping research diaries and self-observation notes. There is certainly a need to break down some of the barriers that exist between academics and the classroom in ways such as these, so that teachers' situated cognitions (Borg, 2006) can become more apparent to LTSE beliefs researchers.

To summarise, research in this field needs to focus more closely on issues that matter, such as how to help inefficacious novice teachers overcome fear and trepidation in the classroom, and how to support teachers in under-researched and challenging contexts. It needs to engage more with teachers' attitudes towards language proficiency and language varieties and the way these attitudes relate to LTSE beliefs and practices. It needs to explore in greater depth the relationship between LTSE beliefs and mindsets, assuming the latter are also explored in a domain-specific way. Finally, to achieve these understandings, more refined use of cutting edge quantitative and mixed methods research instruments and greater use of qualitative data (for example through narratives employing 'thick description [Geertz, 1973]) are needed. As this review of the literature demonstrates, research into LTSE beliefs has developed considerably since 2005, but there are issues of great importance and relevance

to language teachers in this area that require greater exploration, and it is hoped that this review of the literature helps provide focus on these.

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