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The Application of Mindset Theories in English Language Education: A Synthesis of Recent Research

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Abstract: Mindset theories have been applied to study motivation in various domains, with researchers talking about different mindsets in diverse academic domains. The domain specificity of mindsets has led second language researchers to suggest distinct mindsets concerning language ability and learning outcomes. While there is no lack of research on the application of mindset theories, a systematic synthesis of the literature on mindset theories focusing on the language education domain has remained relatively unexplored. The literature in this study was identified by conducting keyword searches in Scopus and EBSCOhost research databases using a combination of the following terms: “mindset theories”, “English as a foreign language”, “English as a second language”, and “teacher training”. The search results were limited to research articles published in English-medium refereed journals from 2013 to 2023. We scrutinized the titles and abstracts of 128 articles in the initial round of screening and did a second round of close reading for relevance to the synthesis focus. This chapter synthesizes 40 research papers on the application of mindset theories in the domain of language teaching and learning, including 1) studies on language skills such as writing, 2) studies related to language teachers’ role and teacher training, and 3) theoretical and practical applications of mindset theories. The conclusions drawn will be used to recommend future directions in research and practice. The chapter will contribute to the field of mindset theories in language education in terms of research and practice for educators and researchers.

Keywords: *Language education, language skills, mindset theories.*

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Introduction

Mindset theories have been applied to study motivation in diverse educational domains (Dweck et al., 1995; Dweck & Yeager, 2019) as a psychological concept (Lou & Noels, 2016, 2017; Mercer & Ryan, 2010) and in terms of goal orientations, emotional and behavioral responses (Lou & Noels, 2017). L2 researchers (e.g., Lou & Noels, 2016; Mercer & Ryan, 2010) have suggested distinct mindsets concerning language ability and the need to conceptualize language learning (L2) mindsets. Lou and Noels (2019a) reviewed studies on mindsets about language learning ability to suggest research for mindsets in foreign and second language learning and teaching in terms of language-mindsets and other motivational factors, influence of context on language mindsets, growth-mindset interventions and adaptive learning and support of educators in mindset growth such as the role of teachers.

Zarrinabadi and Lou (2022) have raised these questions regarding mindsets in language education “Which propositions in the mindset theory work and are applicable in second language acquisition (SLA)? What are important directions for mindset research?” (p. 206). Leung (2021) traced existing studies on L2 mindsets and the use of interventions to influence L2 learners’ mindsets to conclude that adapting and implementing interventions on learners’ L2 mindsets is an emerging field in SLA. Leung (2021) and Lou and Noels (2016, 2017, 2019a, 2020) contributed the majority of research on changing learners’ L2 mindsets and measuring L2 mindset constructs. While Leung (2021) has looked at language in general, the present study reviews studies regarding the conceptualizations of language-mindsets specifically for teaching and learning English as a first language (L1), English as a Second Language (ESL), and English as Foreign Language (EFL) for diverse educational levels in terms of specific language skills.

Language educators see approaches and methods in language teaching in terms of the four skills of listening, speaking, reading, and writing (Richards & Rodgers, 2022). Husain (2015) also sees listening, speaking, reading, and writing as four fundamental language skills while the teaching of oral communication skills involves the integration of speaking,

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listening, and pronunciation (Murphy, 1991). According to Lou and Noels (2020), to understand the “domain-specificity of language mindsets and ... motivational processes across different language abilities... [there is the need to examine] ... different mindsets about different aspects of linguistic skills (e.g., writing, communication, pronunciation, and grammar)” (p.25) such as growth mindset for one skill and fixed mindset for another. To Lou and Noels (2020), a language skill is a specific outcome (e.g., writing), and learners’ mindsets are best assessed in the same domain (e.g., mindsets about writing) rather than generically, and there is a need to research different language-skill mindsets. In their exploratory study of ‘fixed mindset’ (or entity theory) and the ‘growth mindset’ (incremental theory) (Dweck, 2006) of five Austria and four Japanese university EFL learners, Mercer and Ryan (2010) suggest that in the foreign languages domain, there might be distinction at the skill-domain level with implications of a further sublevel of skill-specific mindset beliefs too. These researchers have highlighted an important research gap: the need to look at specific studies on language mindsets related to these language skills such as oral communication, reading, writing, and writing and feedback (Research Question 1).

Lou and Noels (2019a) have suggested looking at the support of educators in mindset growth such as looking at the role of language teachers on learners’ language mindsets. In the educational domain, Mesler et al. (2021) found teachers with growth mindsets in social-emotional learning (SEL) intervention had an impact which was statistically significant on developing their students’ growth mindsets, particularly for boys. Gutshall (2016) found students’ mindset beliefs (Dweck, 2006) seemed to be impacted by teacher mindset and mediated by students’ perceptions of their teachers’ mindset. Rau (2016) explored the shift in four 4th grade students’ mindsets as a result of a language teacher teaching process-oriented language using a student mindset survey (adapted from Mindset Works, Inc., 2013). Laine and Tirri (2023) conducted a literature review of 64 articles published between 2012 and 2023 to find connections between “teachers’ mindsets, growth oriented practices, and/or students’ mindsets and learning” (p. 1). They highlighted only three studies on the English language focusing on differences in mindsets of English and Turkish pre-service teachers, Chinese and Finnish teachers’ mindsets, and pre-service teachers from the United Kingdom and East Asia. As the studies reviewed were on educators’ impact on mindsets for learning in general or using other mindset surveys, there is a need to review specific studies related to English language teachers’ role and teacher training based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) (Research Question 2).

Researchers have designed, developed, and tested various measures for mindsets. Dweck (2000) developed the first context-general measure of mindset - the Implicit Theories of Intelligence Scale. As mindsets can be related to goal orientations and emotional and behavioral responses, Lou and Noels (2017) developed a Language Mindsets Inventory (LMI) adapted from Dweck (2000) as a psychometric assessment for measuring L2 mindsets quantitatively and linking mindsets to L2 learners’ motivation (Leung, 2021). There are reviews such as Zhang (2022), who reviewed studies measuring mindset in general using Dweck’s implicit theory of intelligence, but they were not specific to language. The present study aims to identify mindset measures based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) for specific English language skills (Research Question 3).

As a systematic synthesis of research literature on mindset theories focusing on the language domain has remained relatively unexplored (see Leung, 2021) and given suggested research areas (see Lou & Noels, 2019a; Mercer & Ryan, 2010, Zarrinabadi & Lou, 2022), forty papers on the application of mindset theories were selected for synthesis in terms of these research questions: 1) What are the specific studies on language mindsets related to these language skills: oral communication, reading, writing, and writing and feedback? 2) What are the studies related to English language teachers’ role and teacher training? and 3) What mindset measures based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) have been utilized to research specific English language skills? Conclusions drawn from the analysis of the data are used to make recommendations for future directions in research and practice for mindset theories in language- specific domains.

Methodology

We followed Gough’s (2007) process for a systematic review of our three research questions/focus areas. To retrieve research items on mindset theories in language-specific domains, a systematic search of the literature was conducted using the digital resources in the Nanyang Technological University library. The databases used were Scopus, Web of Science, and EBSCOhost. The literature in this study was identified by conducting keyword searches using a combination of the following terms: “mindset theories”, “mindset theory”, “theories of mindsets”, “growth mindset”, “fixed mindset”, “English as a foreign language”, “English as a second language”, “English teacher education”, “English in-service teachers”, “English pre-service teachers” and “teacher training”. Since the notion of L2 mindsets of EFL learners based on Dweck’s (1999) growth mindsets was initiated by Mercer and Ryan (2010), the search results were limited to research articles published in English-medium refereed journals the past ten years from 2013 to 2023. This yielded an initial reference list of 1224 research items. The titles and abstracts of these were scrutinized to identify 255 articles in the initial round of screening.

In the second round of close reading for relevance to the synthesis focus, these inclusion criteria were applied: 1) only research items published in English-medium peer-reviewed journals were included; 2) the paper was about English as a first language, ESL or EFL; and 3) the paper utilized works based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) pertinent to answering the research questions. These were excluded: 1) papers with no relevance to the research

questions; 2) master's or doctoral dissertations as the focus was on published peer reviewed papers; 3) unpublished literature or "grey literature" given the focus on peer-reviewed papers; and 4) papers on mindset not based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000). We independently read through the 128 articles (after removing duplicates) in full and collectively decided on the inclusion of 40 articles after discussion to exclude articles on mindset but not related to works based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000), articles not about English language but other languages (e.g., German and Japanese) and articles on general English language teaching with no reference to language skills of reading, writing, oral communication (listening and speaking) (see Figure 1 The screening procedure).

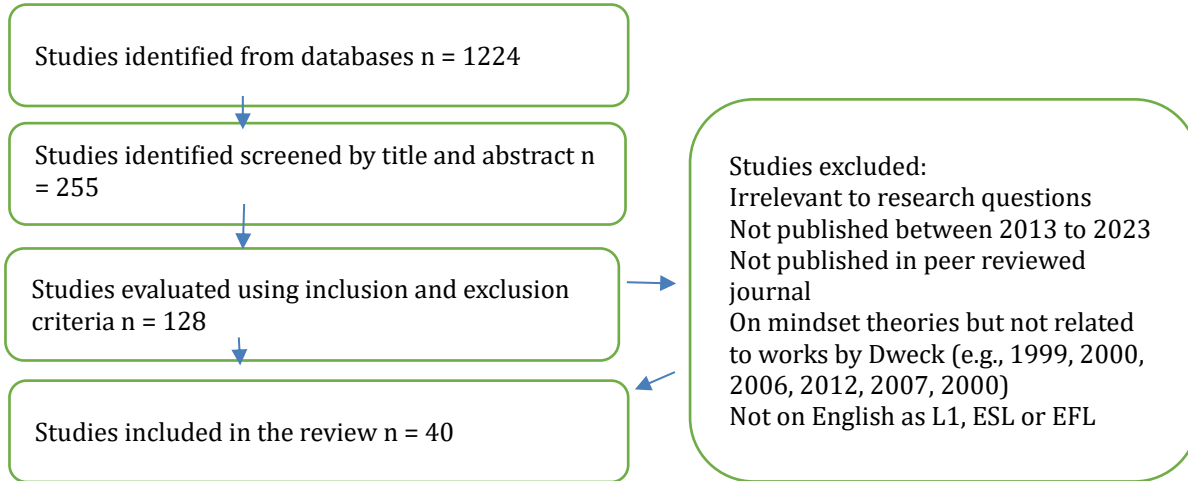


Figure 1. The Screening Procedure

The 40 articles were read in detail for content analysis and coded in terms of the three research questions for language skills (oral communication, reading, writing, writing and feedback), educational level, whether the study was on L1/ESL/EFL or language teachers, outcome(s) measured, and mindset measure(s) for language skills. The first author extracted and coded the data. The second author checked the coding and a consensus through discussion was reached in cases of disagreements in the coding. An example of the data extraction form used where key points were extracted and summarized from relevant quotations for each category for research questions 1 and 2 is shown in Table A1, while Table A2 presents the synthesized findings in summary form for the three research questions.

Findings

Out of the 40 studies, there were 35 studies on mindsets for language skills: oral communication, reading, writing, and writing and feedback, and five studies related to language teachers' role and teacher training for application of mindset theories (See Table 1). The types of mindset measures based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) for the 40 studies are summarized in Table 2.

Research Question 1: Studies on language skills: Oral communication, reading, writing, and writing and feedback

Table 1. Number of Studies for Language Skills and Language Teachers(n=40)

	Number of studies
Language skill: oral communication	12
Language skill: reading	9
Language skill: writing	8
Language skill: writing and feedback	6
Language teachers	5

There were 35 studies on specific language skills. Twelve studies were on oral communication, nine on reading, eight on writing, and six on writing and feedback.

Oral Communication

For the 12 studies on oral communication, five studies used Language Mindsets Inventory (LMI) (Lou & Noels, 2017). Lou and Noels (2019b) conducted two studies on 292 ESL university students in Canada using LMI. Those with entity beliefs (vs. incremental beliefs) had language-based rejection sensitivity (RS) in intercultural communication - expecting rejection from native speakers due to lack of language proficiency, and they were less adaptable cross-culturally. Lou and Noels (2020) used LMI to conduct three studies on 581 migrant university students to find growth in language mindsets,

reduced perceived language-based rejection, and improved lower-competence ESL students' intercultural interactions. Conversely, in daily interactions with native speakers, those with fixed language mindsets perceived more rejection, and they interacted less in English with peers. Sato (2022) used LMI to pair 61 EFL university students in Chile according to Growth-Growth (G-G), Growth-Fixed (GF), and Fixed-Fixed (F-F) mindsets. The study found that growth-mindset learners tended to initiate language-related episodes (LREs) (where learners solved linguistic issues collectively), G-G pairs resolved the most LREs, and F-F pairs had the least LREs. However, learners with growth mindset might not be involved in collaborative interaction and even exhibit negative perfectionism. Wang et al. (2021) looked at the Willingness to Communicate (WTC) of 168 Chinese ESL undergraduates using LMI. They found a positive association of language mindset with willingness to communicate both in and out of class and with both enjoyment and pride whereas students with fixed language mindset were more likely to experience boredom in English class. Zarrinabadi et al. (2021) looked at the WTC of 392 Iranian EFL university students using LMI. Students with growth language mindsets were more willing to use English in class as they perceived their teachers as more supportive of autonomy and themselves as competent.

There were seven studies on growth mindset using other measures. Using a public speaking mindset adapted from Limpo and Alves (2014) which was based on Dweck (2000), Stewart et al. (2017) found 317 university students with a growth mindset had the tendency to have lower apprehension about public speaking and higher self-perceived competence. Nordin and Broeckelman-Post (2019) used the Communication Mindset Scale adapted from Dweck's (1999) Implicit Theories of Intelligence Scale to show that for 1,037 university students, growth mindset was "correlated with higher speech grades, higher interpersonal communication competence, and lower public speaking anxiety" (Nordin & Broeckelman-Post, 2019, p. 22). Denker et al. (2022) measured 251 undergraduate students from a public speaking class using the Communication Mindset Scale (Nordin & Broeckelman-Post, 2019) modified from Dweck's (1999) Implicit Theories of Intelligence scale. They found a positive association of communication growth mindset with four engagement variables: "student interest-emotional, student interest-cognitive, participation, and class rapport" (p. 178). In the study by Zhang et al. (2022), 437 undergraduates in Iran completed an online survey regarding the ideal L2 self, boredom, WTC, and growth language mindset (Papi et al., 2019) based on Dweck (2000). They found learners with a growth mindset did not significantly show WTC in the classroom, though effects of boredom affected WTC. Lee and Taylor (2022) surveyed 160 EFL primary school students' willingness to communicate in a second language (L2 WTC) both in and outside the classroom in Hong Kong through "positive psychology constructs (classroom enjoyment, grit, and growth mindset) and Extramural English" (p. 1). L2 WTC in the classroom could be predicted by classroom enjoyment, grit, and Extramural English while Extramural English predicted L2 WTC outside of the classroom. Using growth and fixed mindset questionnaires adapted from Dweck (2006), Zarrinabadi and Afsharmehr (2024) studied 213 EFL Iranian undergraduates' for the relationship between L2 learners' fixed and growth mindsets and L2 pragmatic norms to find motivation matters as "learners' beliefs about the malleability of pragmatic ability significantly predict their recognition, evaluation, perception, and conformity to the norms of polite speech" (p. 12). According to Zarrinabadi et al. (2021), a growth mindset measured through Dweck (2006) had a great impact on 213 Iranian EFL learners' motivation and pragmatics behaviours.

Reading

Out of the nine studies on reading, six were related to mindset surveys by Blackwell et al. (2007) based on Dweck (2000) and Petscher et al. (2017). Petscher et al. (2017) looked at 195 fourth-grade students using the Student Mindset Survey (Blackwell et al., 2007) to find growth mindset (GGM) and reading mindset co-existed, and they strongly predicted reading comprehension and word reading when basic word reading skills were controlled. GGM was associated more with those with weak reading comprehension and reading mindsets than with those with stronger reading comprehension. Based on the Mindset Assessment Profile (MAP) (Blackwell et al., 2007), Petscher et al. (2021) categorized 431 fourth-grade students into sub-groups. They found Growth Mindset – High Effort profile having the highest reading comprehension scores while Fixed Mindset – Higher Effort had the lowest comprehension and vocabulary scores. Cho et al. (2019) used fixed mindset items adopted from Blackwell et al. (2007) to conclude that for 107 4th and 5th graders, struggling readers with a fixed mindsets were less likely to adopt mastery goals and more likely to pursue performance-avoidance goals and not engage in reading comprehension tasks. Similarly, Gesel et al. (2023) examined 650 fourth graders with reading difficulties using the Mindset Assessment Profile (MAP) (Blackwell et al., 2007; Petscher et al., 2017) to find they were more likely to demonstrate a fixed reading mindset. Tock et al. (2021) established the psychometric properties of the reading mindset (RM) measure based on seven items from Petscher et al. (2017) about student's beliefs about "their ability, learning goals, and effort" (p. 281) during reading among 430 fourth-grade students. The final five-item RM measure could predict reading comprehension outcomes beyond that of word reading. Wanzek et al. (2021) examined the effects of providing mindset intervention using the Student Mindset Survey in addition to reading intervention, only reading intervention and no intervention to 254 fourth-grade students with reading difficulties. They found "no significant differences [among them on] ... nonword reading, word reading, phonological processing, reading comprehension, or growth mindset" (p. 203).

There were three studies on reading and mindsets using other mindset theories. Y. K. Lee et al. (2022) looked at 206 fourth-grade students using a reading mindset (Dweck, 1998) to conclude the effects of mindset superseded self-efficacy

on reading-related outcomes. Cho et al. (2021) used growth mindsets (adopted from Dweck, 2000) to find a domain-general growth mindset did not predict the initial word reading level but did predict growth and end-of-year reading comprehension outcome, while a reading-specific growth mindset did not predict reading comprehension outcomes for 303 sixth grade students. Khajavy et al. (2022) used the language mindset scale from Papi et al. (2019) - adapted from Dweck's (1999) mindset scale - to measure L2 reading mindset for 489 Iranian university students to find individuals can have fixed L2 reading and growth L2 reading mindsets simultaneously. They found that a growth L2 reading mindset positively predicted L2 reading performance while a fixed L2 reading mindset predicted L2 reading anxiety.

Writing

The eight studies on writing found mindset has an effect on students' writing. Bai and Guo (2021) suggested growth mindset had strongly positive relationships with all types of self-regulated learning (SRL) strategies used in "writing, i.e., planning, self-monitoring and acting on feedback" (p. 382) for 523 4th grade Hong Kong primary school students. In looking at 511 fourth graders in Hong Kong, Bai et al. (2021) found high writing achievers reported "a higher level of motivation, i.e., self-efficacy, task values (i.e., interest and utility) and growth mindset in English writing than the low writing achievers" (p. 65) and used SRL strategies more frequently. Bai and Wang (2021) examined the relationships between motivational beliefs and the use of SRL strategies in English writing of 540 8th graders in Hong Kong. They found a growth mindset to be high and self-efficacy to be low. Using LMI (Lou & Noels, 2017), Lee et al. (2023) reported that for 319 undergraduates in the English for Academic Purpose (EAP) writing course, students with Growth and Mixed profiles did significantly better than those with Fixed profiles on the writing tests. Xu and Wang (2022) showed that growth mindsets (Papi et al., 2021; Waller & Papi, 2017) "positively predicted ideal and ought-to L2 writing selves and three SRL writing strategies" (p. 1) for 362 EFL undergraduates. Yao et al. (2021) looked at the perceptions of 520 Chinese university English major students in terms of Automatic Writing Evaluation (AWE). They found students in the experimental group had both a stronger growth mindset (Dweck, 2000) and a high level of motivation (Waller & Papi, 2017) over time and through peer assessment activities in L2 writing. Shirvan et al. (2021) explored six EFL adult learners' mindsets about L2 writing from "an ecological perspective based on the nested ecosystems model (Bronfenbrenner, 1993)" (p. 1065). Some of the participants saw mindsets about L2 writing as distinct from mindsets of other language skills. All the participants believed in both fixed and growth mindsets and that their teachers' positions towards efforts or talent in writing assignments played a crucial role in their mindsets. Liang and Turner (2021) found some of the 15 Chinese ESL international graduate students experienced writing anxiety in relation to low writing self-efficacy and fixed mindset (Dweck, 2000).

Feedback in Writing

There were six studies on mindset and feedback in writing. Vaghei et al. (2020) studied 150 Iranian intermediate EFL learners' language mindsets and feedback preferences in L2 writing through LMI (Lou & Noels, 2017) and the Feedback Preferences Scale by Saito (1994). They found fixed/entity mindsets were a significant predictor of feedback preferences for commentary and conferencing. Yao and Zhu (2024) used six items from Dweck (2000) to measure the growth and fixed mindsets of their English writing ability for 462 12th-grade students. They found differences in feedback preferences: growth mindset students preferred teacher feedback; learning-oriented growth mindset students preferred feedback monitoring, performance-oriented growth mindset students preferred feedback inquiry, and highly proficient fixed mindset students preferred feedback monitoring and inquiry.

Four studies found a growth mindset predictive of students' feedback-seeking orientation. Papi et al. (2020) looked at written corrective feedback (WCF) of 122 undergraduate and six graduate EFL students through a questionnaire measuring motivation using Dweck's (1999) theory of mindset. They found those with a growth language mindset valued feedback, and would engage in feedback monitoring and feedback inquiry. Waller and Papi (2017) administered a questionnaire based on Dweck (2000) to 142 ESL undergraduates and graduates to find the growth/incremental theory of writing intelligence positively and significantly correlated with students' feedback-seeking orientation, while the fixed/entity theory of writing intelligence significantly predicted feedback avoiding orientation. Xu (2022) surveyed 311 Chinese EFL university students' L2 writing mindsets using a questionnaire developed by Waller and Papi (2017) to indicate a positive correlation between growth mindsets with feedback-seeking orientation and "cognitive, metacognitive, social behavior, and motivational regulation strategies" (p. 1). Xu and Wang (2023) measured L2 learners' growth mindsets (Waller & Papi, 2017) in English writing for 362 Chinese EFL university students. The students had "moderate to a high level of growth mindsets, ideal and ought-to L2 writing selves, and academic buoyancy" (Xu & Wang, 2023, p. 1), which correlated positively with feedback-seeking behaviors.

Research Question 2: Studies Related to Language Teachers' Role and Teacher Training

There were five studies related to English language teachers' role and teacher training (see Table 1). Cutler et al. (2019) looked at three secondary school teachers based on teacher ecology (Buehl & Beck, 2014) and Dweck's (1999) theory of intelligence belief questionnaire, video-recorded observations, and semi-structured interviews to find teachers not always enacting their intelligence beliefs during instruction. This was because intelligence beliefs and practices could be

mediated by “contextual factors, such as pre-determined target grades, class sets (low, mid, high), beliefs about students and student behaviour” (Cutler et al., 2019, p. 59). In the study by Jorif and Burleigh (2022), although not all seven American public grades (9–12) secondary teachers were practising both “verbal affirmations of effort” (p. 30) and growth mindset (Dweck, 2018), they still believed in verbal affirmations and embedding growth mindset learning tasks within daily classroom instruction for sustaining growth mindset concepts. Oldaç and Aydın (2023) showed that more than half of the 162 EFL teachers/instructors from diverse schools and universities in Turkey had a fixed mindset, and teachers’ mindsets were irrespective of these nine factors – “age, gender, the highest level of education completed, department graduated in, being abroad for education, receiving in-service training programs, teaching experience, level taught, and institution” (p.1). Liu et al. (2023) tested a “structural model of teachers’ growth mindset, foreign language teaching enjoyment, teacher engagement, and teaching grit” (p. 8). They measured the growth mindset of 486 Chinese EFL teachers using six items from Dweck’s (2007) mindset questionnaire. Structural equation modeling (SEM) indicated growth mindset correlated significantly with teachers’ work engagement while “teacher grit mediated the effect of growth mindset on teachers’ work engagement” (p. 8). Meierdirk and Fleischer (2022) surveyed 118 full-time Post Graduate Certificate of Education (PGCE) students – 54.8% Language, 32.2% STEM (Science, Technology, Engineering and Mathematics) and 13.0% Social Sciences) on fixed and growth mindsets based on Henderson and Dweck (1990). They found the likelihood of student teachers with ‘satisfactory’ teaching grades having a more fixed mindset than those with ‘good’ grades (who were more likely to have a growth mindset).

Research Question 3: Mindset Measures for Language Skills

Table 2. Types of Mindset Measures for Specific Language Skills/Language Teachers

Language skills/ language teachers	Mindset measures	Number of studies
Oral communication	LMI (Lou & Noels, 2017)	5
	Dweck (2006)	2
	Communication Mindset scale (Nordin & Broeckelman-Post, 2019) modified from Dweck (2000)	1
	Dweck (2017)	1
	Dweck (2000)	1
	Limpo & Alves (2014) based on Dweck (2000)	1
	Papi et al. (2019) based on Dweck (2000)	1
Reading	Blackwell et al. (2007)	3
	MAP (Blackwell et al., 2007; Petscher et al., 2017)	2
	Dweck (2000)	1
	Papi et al. (2019) adapted from Dweck (2000)	1
	Dweck (1998)	1
	Petscher et al. (2017)	1
Writing	Dweck (2006)	2
	Dweck (2000)	1
	Dweck (2007)	1
	LMI (Lou & Noels, 2017)	1
	Dweck et al. (1995); Lou & Noels (2017); Lou & Noels (2019a)	1
	Papi et al. (2021), Waller & Papi (2017)	1
	Dweck (2000), Waller & Papi (2017)	1
Writing and feedback	Dweck (2000)	2
	Waller & Papi (2017)	2
	Dweck (2000)	1
	LMI (Lou & Noels, 2017)	1
Language teachers	Dweck (2000)	2
	Dweck (2000, 2006)	1
	Dweck (2014)	1
	Henderson & Dweck (1990)	1

In terms of mindset measures for specific language skills and language teachers based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) (see Table 2), seven studies based on Dweck (2000) looked at diverse language skills: public speaking, reading comprehension, mindset motivation for reading and writing, writing and feedback-seeking behavior, teachers’ intelligence beliefs and classroom instruction. Five studies based on Dweck (2000) looked at public speaking apprehension, writing mindsets in terms of writing anxiety, self-efficacy, writing and feedback orientation, and teachers’ mindsets. Three studies based on Dweck (2006) were on pragmatic behaviours, writing motivation and teacher mindset, Dweck (2007) for writing, Dweck (2007) for teacher mindset, and two studies on WTC used Dweck (2000) and Dweck

(2017). All five studies based on Blackwell et al. (2007) were about reading. Six studies based on Lou and Noels (2017) Language Mindsets Inventory (LMI) were about WTC, language-based rejection sensitivity in oral communication, problem-solving behaviors during classroom interaction, writing competence, and feedback preferences in writing. All three studies based on Waller and Papi (2017) and one in conjunction with Papi et al. (2021) were about writing. Two studies on growth mindset concepts in instruction and pedagogical thinking and practice used Dweck (2000) and Dweck (2006). One study used Petscher et al. (2017) for the reading mindset measure, one used Dweck et al. (1995), Lou and Noels (2017), and Lou and Noels (2019a) for language mindset about L2 writing and one used Henderson and Dweck (1990) on mindset and resilience for language teachers.

Discussion

This study has surfaced 35 studies on the applications of mindset theories based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) for specific language skills – 12 studies on oral communication, nine on reading, eight on writing, six on writing and feedback reflecting interest in all skills for the English language as L1, ESL, and EFL. Many of the studies were congruent with existing literature indicating growth mindset has positive effects on the development of students' language skills, while a fixed mindset impedes language learning as a psychological concept (Lou & Noels, 2016, 2017; Mercer & Ryan, 2010) or in relation to goal orientations, emotional and behavioral responses (Lou & Noels, 2017).

Practical Implications for Language Teachers, Learners, and Policy-Makers

In terms of measures for mindsets for specific English language skills based on Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000), policy makers for teacher training programs can consider incorporating the teaching of diverse measures for mindsets for specific English language skills. Both policy makers and language teachers can adopt measures covering various language skills from seven studies based on Dweck (2000), three based on Dweck (2006), and seven Language Mindsets Inventory (LMI) which Lou and Noels (2017) adapted from Dweck (2000) as formative assessment practices to enable their learners to have a growth mindset for various language skills.

For oral communication, the studies have shown how growth mindset measures - Nordin and Broeckelman-Post (2019) based on Dweck (2000) and Language Mindsets Inventory (LMI) - could measure the correlation between growth mindset and reduction of perceived language-based rejection in intercultural interactions, public speaking and students' Willingness to Communicate (WTC) in English. These mindset measures of psychological, emotional, and behavioral responses in oral communication are important in informing language teachers about ESL/EFL learners' engagement or avoidance of spoken communication due to anxiety or apprehension in oral communication.

In terms of writing, the studies have mostly shown that a growth mindset has positive relationships with self-regulated learning (SRL) strategy used in writing (see Bai & Guo, 2021), while low writing self-efficacy and fixed mindset results in writing anxiety. Therefore, language teachers and policy makers can consider including self-regulated learning (SRL) strategy and training in growth mindset in writing curricula. Studies on mindset and feedback have shown how a growth mindset is predictive of students' feedback seeking orientation, though there are variations in the types of feedback preferred by students with fixed and growth mindsets (see Papi et al., 2020; Vaghei et al., 2020; Waller & Papi, 2017; Yao & Zhu, 2022). This has implications for designing writing curricula as it entails cultivating learners' growth mindset for writing so that they will be more willing to seek feedback to improve their writing.

Research Implications

Researchers interested in reading can consider Blackwell et al. (2007) (five studies) and LMI (Lou & Noels, 2017) for oral communication, writing competence and feedback preferences in writing (six studies). Future research should continue to adopt and adapt existing mindset interventions and measures to meet different language contexts and learner groups. The measurement of oral communication is complex, involving the accuracy of speech and fluency, such as communicative competence and appropriacy of verbal and non-verbal communication. Future research can consider these other aspects. Most of the oral communication studies were on university students, so there could be more studies on other educational levels.

Future research in L2 mindsets and writing interventions could be enhanced by longitudinal studies as most of the existing research was short-term or one-off interventions. Further studies can be conducted on the types of feedback that are preferred to inform ESL and EFL writing practitioners. Given only five studies on language teachers' role and teacher training for the application of mindset theories by Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000), this represents a potential area for research. Researchers can look at studies about language teachers' mindsets using innovative Q methodology (see Haukås & Mercer, 2022; Irie et al., 2018) not included in the review.

Limitations

The present study has reviewed only 40 studies from 2013 to 2023 which could limit the scope. The comprehensiveness of the present review could be limited by focusing only on peer-reviewed journals with the exclusion of book chapters, non-empirical theoretical papers, conference proceedings, unpublished doctoral dissertations, and papers not written in English.

Conclusion

The present study has reviewed 40 studies to show the importance of the domain-specificity of language mindsets related to psychological, emotional and behavioral concepts. Educators and researchers in the last ten years have been researching language mindsets in English as L1, ESL, and EFL contexts in terms of growth mindset interventions by Dweck (e.g., 1999, 2000, 2006, 2012, 2007, 2000) for these language skills: oral communication, reading, writing, writing, and feedback. Looking at the rich diversity of mindset measures, future research can continue to adopt, adapt, and develop mindset interventions and measures to suit varying language contexts and learners. Based on the review, in the field of English language mindset research, there are rich areas for future research, such as more studies on how mindsets of English language educators influence learners and various educational levels, such as oral communication for non-tertiary students.

Authorship Contribution Statement

Ng: Conceptualization, analysis, writing. Cheung: Conceptualization, revision of manuscript.

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Appendix

Table A1. Example of Data Extraction

Author/Year	Level	L1/ESL/EFL	Focus of study: Language skill or language teachers	Outcome(s) measured	Mindset measure(s)
Research question 1 (1 st 4 columns) and Research question 3 (last column)					
Denker et al. (2022)	Undergraduate – “Participants were undergraduate students enrolled in the Introduction to Public Speaking course”	L1(81%) – “80.1% (<i>N</i> = 201) reported being White”	Oral communication – “students’ communication growth mindset on student engagement in the foundational public speaking course”	public speaking - student interest, classroom participation scale, modified rapport – “Measures - Communication Mindset, Student Interest (Cognitive and Emotional), Classroom Participation and Modified Rapport”	Communication Mindset scale (Nordin & Broeckelman-Post, 2019) modified from Dweck (2000) - “Communication mindset was measured using Nordin and Broeckelman-Post’s (2019) Communication Mindset scale, a modified version of Dweck’s (2000) Implicit Theories of Intelligence scale”.
Research question 2 (1 st 4 columns) and Research question 3 (last column)					
Cutler et al. (2019)	Secondary teachers – “Three secondary school teachers volunteered (two English and one Art teacher), all of whom were female”.	two English and one Art teacher– “Three secondary school teachers volunteered (two English and one Art teacher), all of whom were female”.	language teachers – “Three secondary school teachers volunteered (two English and one Art teacher), all of whom were female”.	teachers’ intelligence beliefs and classroom instruction – “The aim of the study was to examine the internal and external factors which may influence the belief-practice relationship, specifically as they pertain to teachers’ use of intelligence language (personal beliefs about individual children, self-reflection, policies and school ethos)”	Dweck’s (1999) theory of intelligence belief – “The questionnaire contained four entity items from Dweck’s (1999) measure”.

Table A2. Summary of findings

Language skill	Author	Level	L1/ESL/EFL	Outcome(s) measured	Mindset Measure(s) for Language Skills
Oral communication	Denker et al. (2022)	undergraduate	L1(81%)	public speaking - student interest, classroom participation scale, modified rapport	Communication Mindset scale (Nordin & Broeckelman-Post, 2019) modified from Dweck (2000)
	Lee & Taylor (2022)	primary	EFL	Willingness to communicate (WTC)	Growth mindset (Dweck 2017)
	Lou & Noels (2019b)	undergraduate	ESL	language-based rejection sensitivity	Language Mindsets Inventory (LMI) (Lou & Noels 2017)
	Lou & Noels (2020)	undergraduate	ESL	language-based rejection	LMI (Lou & Noels 2017)
	Nordin & Broeckelman-Post (2019)	undergraduate	L1 (41%) ESL (59%)	public speaking apprehension	Communication Mindset Scale adapted from Dweck (2000)
	Sato (2022)	undergraduate	EFL	language-related problem-solving behaviors during classroom interaction	LMI (Lou & Noels 2017)
	Stewart et al. (2017)	undergraduate	L1 (92.7%)	public speaking	Limpo & Alves (2014) based on Dweck (2000)
	Wang et al. (2021)	undergraduate	EFL	WTC	LMI (Lou & Noels 2017)
	Zarrinabadi, Lou, & Shirzad (2021)	undergraduate	EFL	WTC	LMI (Lou & Noels 2017)
	Zarrinabadi & Afsharmehr (2022)	undergraduate	EFL	pragmatic behaviours - L2 pragmatic norms, pragmatic competence, pragmatic motivation	mindset questionnaires Dweck (2006)
	Zarrinabadi, Rezazadeh, & Shirinbakhsh (2021)	undergraduate	EFL	pragmatic behaviours- L2 pragmatic norms, pragmatic competence, pragmatic motivation	Dweck (2006)
	Zhang et al. (2022)	undergraduate	EFL	WTC	Papi et al. (2019) based on Dweck's (2000) mindset scale
Reading	Cho et al. (2021)	4th grade	L1	motivational predictors of reading comprehension	Dweck (2000)
	Cho et al. (2019)	4th and 5th grade	L1	mindset, achievement goals, engagement-motivational predictors of reading comprehension	mindset items adopted from Blackwell et al. (2007) based on Dweck (2000)

Table A2. Continued

Language skill	Author	Level	L1/ESL/EFL	Outcome(s) measured	Mindset Measure(s) for Language Skills
Reading	Gesel et al. (2023)	4th grade	L1	mindset of readers with reading difficulties	Mindset Assessment Profile (MAP) (Blackwell et al., 2007; Petscher et al., 2017)
	Khajavy et al. (2022)	undergraduate	ESL	L2 reading mindset	Papi et al. (2019) adapted from Dweck's (1999) mindset scale
	Lee et al. (2022)	4th grade	L1	reading mindset and self-efficacy	reading mindset (Dweck, 1998)
	Petscher et al. (2017)	4th grade	L1	global and specific mindset and reading outcomes	Student Mindset Survey (Blackwell et al., 2007)
	Petscher et al. (2021)	4th grade	L1	mindset subgroups and standardized measures of reading comprehension, vocabulary, and word reading	MAP (Blackwell, et al., 2007)
	Tock et al. (2021)	4th grade	L1	reading mindset, reading comprehension, word reading	reading mindset (RM) based on Petscher et al. (2017)
	Wanzek, et al. (2021)	4th grade	L1	reading achievement, real and nonword reading, phonological processing, fluency	Student Mindset Survey (Blackwell et al., 2007; Petscher et al., 2017)
Writing	Bai & Guo (2021)	4th grade	ESL/EFL	motivation (i.e., growth mindset, self-efficacy, and interest) and self-regulated strategy use	fixed and growth mindset (Dweck, 2007)
	Bai & Wang (2021)	8th grade	ESL/EFL	motivational beliefs (growth mindset) and SRL	growth mindset (Dweck, 2006)
	Bai et al. (2021)	4th grade	ESL/EFL	self-efficacy, task values, SRL and growth mindset in English writing	growth mindset scale (Dweck, 2006)
	Lee et al. (2023)	undergraduate	ESL	language mindsets and English writing competence	LMI (Lou & Noels, 2017) adapted from mindsets (e.g., Dweck, 2000)
	Liang & Turner (2021)	graduate	ESL	writing anxiety, self-efficacy, fixed mindset	Writing Mindsets (Dweck, 2000)
	Shirvan et al. (2021)	adult learners	EFL	language mindset about L2 writing	mindsets as domain-specific construct (Dweck et al., 1995; Lou & Noels, 2017; Lou & Noels, 2019a)
	Xu & Wang (2022)	undergraduate	EFL	growth mindsets, self-regulated writing strategies, ideal and ought-to L2 writing selves	growth mindsets (Papi et al., 2021; Waller & Papi, 2017)

Table A2. Continued

Language skill	Author	Level	L1/ESL/EFL	Outcome(s) measured	Mindset Measure(s) for Language Skills
Writing	Yao et al. (2021)	undergraduate	EFL	EFL writers' language mindsets and motivation to study English writing	Students' mindsets toward English writing ability (Dweck, 2000) Students' motivation to study English writing (Waller & Papi, 2017).
Writing & Feedback	Papi et al. (2020)	undergraduate and graduate	L1	motivation, theory of mindsets and feedback-seeking behavior (FSB)	motivation using Dweck (2000)
	Vaghei et al. (2020)	intermediate	EFL	language mindsets and feedback preferences	LMI (Lou & Noels, 2017)
	Waller & Papi (2017)	undergraduate and graduate	ESL	implicit theories of intelligence predict l2 writers' motivation and feedback orientation	incremental and entity theories of general intelligence (Dweck, 2000)
	Xu (2022)	undergraduate	ESL	L2 writing mindsets and FSB	mindsets questionnaire (Waller & Papi, 2017)
	Xu & Wang (2023)	undergraduate	ESL/EFL	growth mindsets and FSB	growth mindset (Waller & Papi, 2017)
	Yao & Zhu (2022)	Grade 12	EFL	language mindsets, writing competence and feedback preference	growth and fixed mindsets (Dweck, 2000)
Language teachers	Cutler et al. (2019)	Secondary teachers	two English and one Art teacher	teachers' intelligence beliefs and classroom instruction	Dweck's (1999) theory of intelligence belief
	Jorif & Burleigh (2022)	Grade 9-12 teachers	16 taught Reading and 2 English	sustaining growth mindset concepts in instruction	mindset inventory (Dweck, 2000, 2006)
	Liu et al. (2023)	EFL teachers	EFL	model of teachers' growth mindset, teaching enjoyment, work engagement, and teacher grit	Dweck's (2014) mindset questionnaire
	Meierdirk & Fleischer (2022)	PGCE students	54.8% Language student teachers (English and Modern Foreign Languages)	mindset and grades	fixed and growth mindset (Henderson & Dweck, 1990)
	Oldaç & Aydın (2023)	English teachers	EFL teachers/instructors	teachers' mindsets in foreign language classrooms	Mindset Instrument Dweck (2000)