

ISSN: 2642-4002

Volume 4, December 2023



**International Journal  
of Literacy, Culture,  
and Language Education**



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The *International Journal of Literacy, Culture, and Language Education (IJLCLE)* is an open-source peer-reviewed international journal dedicated to publishing research in the field of literacy, culture, and language education from multi- inter- and transdisciplinary perspectives. Its mission is twofold: (1) to promote exchange of ideas and dissemination of research, and (2) to facilitate academic exchange between scholars from diverse fields of study worldwide. Authors are invited to submit manuscripts describing scholarly research on a wide range of topics related to language, literacy, and culture in education. (ISSN: 2642-4002)

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## Focus and Scope

The *International Journal of Literacy, Culture, and Language Education (IJLCLE)* is multi-, inter- and transdisciplinary and focuses on all aspects of language, literacy and culture in education worldwide. Theoretical and conceptual study, empirical and applied research using qualitative and/or quantitative methodologies, critical papers, special issues and book reviews are all invited. Contributions from a host of disciplines such as sociolinguistics, sociology of language, psycholinguistics, educational linguistics, applied linguistics, linguistic anthropology, raciolinguistics, literacy studies, cultural studies, language and gender studies, language and political economy, media and technology, language education, teacher education, educational policy, semiotics, pragmatics, language policy and planning,

language revitalization, and linguistic landscapes are very welcome. The intended audience of *IJLCLE* is researchers, scholars, educators, and graduate students from around the world.

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## Introduction

Serafin M. Coronel-Molina

The *International Journal of Literacy, Culture, and Language Education (IJLCLE)* is an open-source, peer-reviewed international journal dedicated to publishing research in the field of literacy, culture, and language education from multi-, inter-, and transdisciplinary perspectives. Its mission is to promote the academic exchange of ideas and dissemination of research among scholars and researchers from diverse fields of study worldwide. Authors are invited to submit manuscripts describing scholarly research on a wide range of topics related to language, literacy, and culture in education. Theoretical and conceptual studies, empirical and applied research using qualitative and/or quantitative methodologies, critical papers, special issues, and book reviews are all invited. Contributions from a host of disciplines such as sociolinguistics, sociology of language, psycholinguistics, educational linguistics, applied linguistics, linguistic anthropology, raciolinguistics, literacy studies, cultural studies, language and gender studies, language and political economy, media and technology, language education, teacher education, educational policy, semiotics, pragmatics, language policy and planning, language revitalization, and linguistic landscapes are very welcome. The intended audience of *IJLCLE* is researchers, scholars, educators, and graduate students from around the world.

This fourth volume contains four articles and three book reviews chosen from an array of submissions for our 2023 publication. The first article, titled “The Relationship and Attributive Impact of Self-Regulation, Language Learning Strategies, and Second Language Anxiety to Second Language Learning of Grade 11 Students: Inputs to Recommended Strategies for Second Language Teaching” written by Angelie Lyn B. Cordero and Bayani N. Santos Jr., investigates that learning a second language (L2) poses a multifaceted challenge for language learners, as exemplified by the inadequate performance of Filipino learners in English writing and reading. Drawing on various studies that underscore the influence of self-regulation, Language Learning Strategies (LLS), and L2/ESL anxiety on L2 acquisition, this current descriptive-correlational study explores the relationship and attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning within a specific Philippine university context. A total of 447 Grade 11 participants contributed to the study through the completion of questionnaires. The collected data underwent analysis using mean, Pearson’s correlation coefficient, and multiple regression analysis. The results indicated a weak positive correlation between self-regulation and L2 learning, while LLS and L2/ESL anxiety showed no significant relationship with L2 learning. In terms of attributive impact, the findings suggested a direct proportionality between self-regulation and L2 learning, an indirect proportionality between LLS and L2 learning, and no significant impact of L2/ESL anxiety on L2 learning. These findings serve as the foundation for recommended strategies for second language teachers.

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The second article, “Indigenous Language Endangerment as the Hearse of Democratic Culture among the Yoruba People of Nigeria,” by Samson Olusola Olatunji, examines the well-established and complex interconnection between language and culture. Many Yoruba political office holders exhibit varying levels of proficiency in the English language, indicative of their exposure to English-medium Western education. One might logically assume that this educational background would lead to the adoption of democratic behavior. However, numerous instances of undemocratic conduct have been observed among Nigerian politicians of Yoruba descent, raising questions about how they managed to avoid assimilating the democratic values associated with Western cultures. It is plausible to deduce that the traditional Yoruba political figure may struggle to internalize democratic principles due to the longstanding influence of the monarchical system of governance. This study aimed to investigate the presence of democratic values in Yoruba precolonial government. Data from 200 respondents were gathered using a combination of accidental and stratified sampling methods, with a four-item interview guide administered by the researcher. The findings highlighted that the Yoruba language is rich in proverbs, aphorisms, and idioms that can promote democratic values. To preserve these democratic values and enhance a deeper understanding of Western democratic literacy, the paper recommends the comprehensive implementation of mother-tongue-based multilingual education, extending up to the completion of secondary school.

The third article, “In the Trading Zone: Rethinking Science Education through Collaborative Curriculum Practices and Research *with* Bilingual Latino Students and Educators,” by Max Vazquez Dominguez and Lourdes Cardozo-Gaibisso, attempts to analyze the negotiations and procedures involved in implementing a science curriculum-based research project that engaged multiple stakeholders. This included an 8th-grade science teacher who also served as a soccer coach, along with 24 student-participants from a middle school in the Southeastern United States. Utilizing the theoretical concept of trading zones, the authors concentrate on the negotiations, commitments, and collaborations essential to: (a) instruct science to Latino students within the framework of an after-school soccer program, (b) formulate curriculum, and (c) execute a research program acknowledging the significance of both material elements and physical spaces in this undertaking. This study elucidates these experiences and processes in connection with the attributes of the human and non-human components involved. The authors wrap up with a set of recommendations for both pre-service and in-service science teachers who are designing science activities as part of a broader curriculum, particularly when teaching science to middle school students in multilingual, multi-ethnic, and multicultural environments.

The fourth and final article, “Response to Intervention in Reading: A Literature Review and Critical Synthesis” by Amanda R. Hurlbut, Jemimah Young, Catherine Boggs and Jamaal Young examines the existing literature on the application of Response to Intervention (RTI) in reading, critically assessing the methodologies, instruments, and findings in the context of the broader literature. According to the authors, RTI remains a central focus in both special education research and practice, covering aspects such as intervention effectiveness, fidelity of implementation, and methods for gauging responsiveness to intervention. They demonstrate that various research studies on RTI suggest that tiered or scripted intervention programs may contribute to academic progress for students identified as at-risk, as evidenced by pre- and posttest measures. However, these studies also reveal a consistent issue: students identified as at-risk often lack the necessary instructional support to address reading-related opportunity gaps. In response to this concern, the authors conducted a systematic review of the RTI reading literature. The results underscore a diverse array of screening and progress monitoring tools used in reading research, potentially explaining the considerable variation in efficacy observed across studies. Furthermore, researchers express concerns about validity, reliability, and replicability when determining true responsiveness to an intervention amid the

abundance of available resources. The authors emphasize the need for consensus in the literature to identify the best screening and progress monitoring instruments, enabling the distinction of true responsiveness and the determination of optimal methods for designing, studying, and replicating intervention programs that sustain academic performance among at-risk learners through an RTI-based tiered intervention model.

This fourth volume of *IJLCLE* ends with two book reviews. The first review is by Jaeho Jeon of the book titled *Language is Politics: Exploring an Ecological Approach to Language* by Frank van Splunder; and the second is by Vesna Dimitrieska of the book titled *Language Teacher Identity in TESOL, Teacher Education and Practice as Identity Work* Edited by Bedrettin Yazan and Kristen Lindalh.

## **Acknowledgments**

*IJLCLE* is a project very near and dear to my heart. Even though I have devoted a great amount of time in taking care of the entire production process by formatting and editing the whole content of this volume in close communication with the respective authors, I could not have done it alone.

Many thanks to all the *IJLCLE* Editorial Team members for their invaluable help in their respective roles among them Xin Chen (Associate Editor), Ebrahim Bamanger and Suok Kwon (Managing Editors), Melody Lynch-Kimery, Christina L. Cooper, Amy Walker, and Emily Yetka (Assistant Editors). Their assistance has been extraordinary throughout the process.

I also owe a debt of gratitude to institutions, friends, colleagues, and social media venues from Indiana University and from around the world for their help in publicizing the *IJLCLE* website, the Facebook page, and the Call for Papers locally and globally. I am also deeply grateful to my colleagues in the Literacy, Culture, and Language Education Program in the Department of Curriculum and Instruction in the School of Education at Indiana University, and colleagues from around the world for their continue support and service on the Editorial Board.

Finally, I am profoundly grateful to all the contributors to this volume for choosing *IJLCLE* to publish their work. My deepest gratitude also goes to IUScholarWorks for hosting the *IJLCLE* website and for supporting this new publication venue through their online platform. My profound thanks also go to the blind reviewers for their detailed and rigorous feedback, which led to a rich, insightful exchange with the authors. Without the generous assistance of all these great people and institutions, this *IJLCLE* volume would never have become a reality.

## **Disclosure Statement**

No potential conflict of interest was reported by the author.



## **The Relationship and Attributive Impact of Self-Regulation, Language Learning Strategies, and Second Language Anxiety to Second Language Learning of Grade 11 Students: Inputs to Recommended Strategies for Second Language Teaching**

Angelie Lyn B. Cordero  
Bayani N. Santos Jr.

### **Abstract**

Second language (L2) learning is a complex process for language learners, which is evident in the language performance of Filipino learners who are performing poorly in writing and reading in English. Based on several studies with findings that corroborate the influence of self-regulation, Language Learning Strategies (LLS), and L2/ESL anxiety on L2 learning, the present descriptive-correlational study aimed to determine the relationship and attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning in a defined Philippine university. The data were collected from 447 Grade 11 participants using questionnaires. The collected data were analyzed using mean, Pearson's correlation coefficient, and multiple regression analysis. The findings revealed that self-regulation has a weak positive significant correlation with L2 learning, while LLS and L2/ESL anxiety have no significant relationship with L2 learning. As for the attributive impact, the findings suggested that self-regulation is directly proportional to L2 learning, and LLS are indirectly proportional to L2 learning. As for L2/ESL anxiety, it has no significant impact on L2 learning. The findings became the basis of the recommended strategies for second language teachers.

**Keywords:** Self-regulation, Language Learning Strategies, L2/ESL anxiety, L2 Learning, Second language, Second Language Teachings, Recommended Strategies, Correlation, Multiple Regression

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## **Introduction**

Second Language (L2) learning is a complex and challenging process for language learners (Ahsanah, 2020; Krashen, 1981, as cited in Demir & Zaimoglu, 2021), which is evident in the performance of Filipino learners. In 2018, the Organization for Economic Cooperation and Development (OECD) conducted a Program for International Student Assessment (PISA), and Filipino learners ranked last in reading among 79 countries in Asia. In addition, the Philippine Institute for Development Studies (PIDS) also mentioned that Senior High School Students (SHS) have difficulty writing in English. Furthermore, in 2020, Education First (EF) released a report about the Philippines' English Proficiency Index (EPI), indicating that the country dropped seven spots from its previous ranking (Baclig, 2020).

Carroll (1977) mentioned that several factors such as verbal intelligence, motivation, and auditory ability should be considered for language learning success. Similarly, Chomsky (2006) suggested considering the learners' differences in language learning. Learners process the information based on their affective, cognitive, social, and physiological characteristics together with their methods and approaches (Cesur, 2008, as cited in Yelgeç & Dagyar, 2020). Affective factors include motivation and self-efficacy. Cognitive factors, on the other hand, include learning style, proficiency, and metacognitive awareness. These factors are all examples of individual differences that make learning different from one learner to another (Boydak, 2008; Horwitz, 1986, as cited in Yelgeç & Dagyar, 2020).

Growing numbers of studies in English as a Foreign Language (EFL) settings suggest that self-regulation (Ardasheva et al., 2017; Bai & Wang, 2020; Choi et al., 2018; Fukuda, 2018; Seker, 2016; Shing & Rameli, 2020; Yabukoshi, 2018) and language learning strategies (LLS) (Mahib ur Rahman, 2020; Pongsukvajchakul, 2021; Salam et al., 2020; Tieocharoen & Rimkeeratikul, 2019; Zarei & Baharestani, 2014; Zarei & Rahmani, 2015) positively influence language learning. In addition, several studies in the EFL context were conducted to determine the contribution of language anxiety to language learning (Al-Khotaba, et al., 2019; Bosmans & Hurd, 2016; Demir & Zaimoglu, 2021; Ozer & Ispina, 2021; Zheng & Cheng, 2018). Thus, self-regulation, LLS, and language anxiety could predict learners' success in language learning. However, no local studies were conducted in an English as a Second Language (ESL) setting particularly in the Philippines. Moreover, no studies have determined which of the factors mentioned above is the strongest predictor of language learning.

Based on the given information, the present study aims to determine the relationship and attributive impact of self-regulation, LLS, and L2/ESL anxiety on the L2 learning of Filipino learners. The present study provides crucial insights into the performance of L2 learners that could serve as a basis for teachers in planning, selecting, and designing appropriate classroom activities to make L2 learning successful. Attributive impact refers to the predicting characteristics of self-regulation, LLS, and L2/ESL anxiety on L2 learning.

## **Review of Related Literature**

The following literature and studies explain self-regulation, language learning, L2/ ESL anxiety, and the relationship of the said factors to language learning.

## Self-regulation

One factor that could positively influence language learning is self-regulation, which refers to an individual's systematically planned actions, thoughts, and feelings to achieve a particular goal (Boekaerts, Pintrich, & Zeidner, 2005). However, self-regulation should be categorized neither as an academic nor a mental skill because it is a process that guides a person in altering one's thoughts to attain one's goals (Zimmerman, 2001, as cited in Gorgoz & Tican, 2020; Schunk, 2001, as cited in Ozer & Ispina, 2021).

In education, self-regulation refers to an active and constructive process in which learners can identify their learning goals. Self-regulated learners actively engage in the learning process while controlling their behavior, thoughts, and motivation (Pintrich, 2000, as cited in Tran & Phan Tran, 2021; Zeidner, Boekaerts, & Pintrich, 2000, as cited in Hawkins, 2018; Zimmerman, 2008; Zimmerman & Schunk, 2011, as cited in Hromalik & Koszalka, 2018). It refers to the process of learners wherein they control and manage complex academic activities in their learning experiences (Kaufman, 2004, as cited in Gorgonz & Tican, 2020; Pintrich, 2000, as cited in Tran & Phan Tran, 2021)

The self-regulation process is composed of four steps: *planning* is the articulation of what a learner would like to accomplish; *monitoring* is keeping track of the progress of what the learner has accomplished in their plan; *adjusting* is the implementation of particular strategies when the learner does not meet a specific goal; finally, *reflecting* is evaluating what worked and did not work in the plan (Gaumer Erickson & Noonan, 2016; Gaumer Erickson & Noonan, 2018; as cited in Gaumer Erickson & Noonan, 2021).

Self-regulation became an essential concept in education because of the emergence of a learner-centered approach in which learners are expected to be responsible for their learning (Uredi, 2005; Zimmerman, 1990, as cited in Yelgeç & Dagyar, 2020). Consequently, learners' ability to regulate their cognition and behavior is connected to educational outcomes and achievements (Zimmerman, 1990; Zimmerman & Schunk, 2011, as cited in Broadbent, Fuller-Tyszkiewics, 2018). Self-regulation, as metacognitive knowledge, can be regarded as an indicator of intelligence that could determine academic achievement (Hrbackova & Safrankova, 2016, as cited in Gorgoz & Tican, 2020). For this reason, self-regulation is considered a vital learning competence that learners must possess to learn content knowledge (Gan et al., 2020, as cited in Ozer & Ispina, 2021). Thus, self-regulated learning plays a significant role in education, particularly in achieving life-long success and learning skills (Boekaerts & Cascallar, 2006, as cited in Gorgoz & Tican, 2020). Though a relationship exists between lifelong learning skills and self-regulation, the learner's choice and control that they exert are the defining aspects of self-regulation, which play a critical role in learning (Zimmerman, 2001, as cited in Al Fadda, 2019).

Self-regulated learners are motivated and responsible for their success and failure (Gaskill & Woolfolk, 2002, as cited in Gorgoz & Tican, 2020; Hirvela, 2007, as cited in Al Fadda, 2019; Pintrich, 1999, as cited in Gorgoz & Tican, 2020; Zimmerman 1986, 2015, as cited in Broadbent & Fuller-Tyszkiewics, 2018). These learners also have behavioral, cognitive, and motivational abilities to accomplish tasks and engage in the learning process (Cobb, 2003, as cited in Gorgoz & Tican, 2020; Zimmerman, 2001, as cited in Al Fadda, 2019). They also plan, monitor, adjust, and reflect on their learning processes to attain their learning objectives, and consider themselves autonomous, adequate, and sufficient in learning (Gorgoz & Tican, 2020; Hirvela, 2007, as cited in Al Fadda, 2019). These learners also create a conducive learning environment to achieve their goals. They manage their time well, choose the appropriate learning strategies based on their learning objectives, adjust their strategy,

and reflect on their choices if these choices help them attain their goals (Akdogan, Velipasaoglu & Musal, 2016, as cited in Gorgoz & Tican, 2020).

By providing feedback, collaborative work, and social modeling, teachers could help learners regulate their learning (Broadbent & Fuller-Tyszkiewics, 2018; McInerney, 2008, as cited in Ozer & Ispina, 2021; Zimmerman, 2015; Zimmerman & Schunk, 2011). Teachers could also motivate the learners by helping them in mastering skills, tasks, or goal orientations and using new strategies (Winne, 1995, Pintrich, 2000, as cited in Tran & Phan Tran, 2021).

Experts conducted several studies to determine the relationship between self-regulation to language learning.

In a study conducted by Bai and Wang (2020), monitoring and effort regulation were significant contributors to language learning. The said result is similar to Seker (2016) finding that self-regulation is an essential predictor of foreign language learning and has a significant relationship to language achievement. In Yabukoshi (2018), self-regulation has a potential relationship with language learning. Finally, Ardasheva et al. (2017) indicate that using self-regulated learning strategies has effectively increased language learning outcomes in the L2 classroom.

Researchers in the EFL setting conducted studies to understand the contribution of self-regulation in EFL learning.

Choi et al.'s (2018) study shows that the framework of self-regulated learning could be utilized in understanding the relationship among motivation, LLS, and vocabulary learning. Furthermore, Fukuda (2018) finds in their study that self-regulated learning, particularly effort regulation, coping with problems, and metacognitive strategies, are predictors of a learner's language proficiency. Finally, Shing and Rameli (2020) indicate that self-regulation significantly influences learners' language proficiency in English.

### **Language Learning Strategy**

Like self-regulation, LLS positively influences language learning. LLS are planned behaviors or processes used by learners to improve their L2 learning (Oxford, 2001, as cited in Balci, 2017). For example, learners use a particular language learning strategy to solve a problem (Brown, 2000, as cited in Balci, 2017), to improve their understanding of the second language (Cohen, 2003, as cited in Zarei & Baharestani, 2014), and to understand, process, and retain new learnings (O'Malley & Chamot, 1990, as cited in Marashi & Assgar, 2019; Al-Khaza'leh, 2019).

Various researchers categorize LLS into different taxonomies. For example, O'Malley et al. (1985), as cited in Al-Khaza'leh (2019), posited that learners use three main language learning strategies: metacognitive, cognitive, and socio-affective. As for Rubin (1987), as cited in Al-Khaza'leh (2019), learning strategies, communication strategies, and social strategies are the three classifications of LLS. Oxford (1990), as cited in Al-Khaza'leh (2019), believes that communicative competence is the primary goal of LLS. So, Oxford divides LLS into two main taxonomies: direct (memory, cognitive, and compensation strategies) and indirect (metacognitive, affective, and social strategies). Stern (1992), as cited in Al-Khaza'leh (2019), divides LLS into five groups: management and planning strategies, cognitive strategies, communicative-experiential strategies, interpersonal strategies, and affective strategies.

Unlike the other taxonomies that focus on cognitive concepts, Oxford's LLS is considered the most comprehensive and consistent learner's language learning strategy, as she considers the four macro skills (reading, writing, listening, and speaking) as well as the communicative and linguistic

aspect of language learning. (Ellis, 1994, as cited in Balci, 2017; Hsiao & Oxford, 2002, as cited in Balci & Ügüten, 2018).

Oxford further discusses that learners use direct strategies (memory, cognitive, and compensatory) to deal with the target language and use indirect strategies (metacognitive, affective, and social) to manage their learning process (Erdogan, 2018).

Cognitive strategies involve analyzing, summarizing, and reasoning, which help learners understand their language materials. Memory strategies include mnemonics, rhyming, imagery, and grouping, which assist learners in storing and retrieving information. Compensatory strategies are the uses of synonyms and new words to aid learners in bridging their knowledge gaps. Metacognitive strategies involve planning and practicing, which guide learners to regulate their learning. Affective strategies are used for building confidence, aiding in thoughts and emotions expression, and for self-encouragement. Finally, social strategies involve interaction with others, such as asking questions, listening for feedback, and collaborating, and for understanding the target language (Hismanoglu, 2000, as cited in Pongsukvajchakul, 2021).

The strategies mentioned above can facilitate and improve learners' language learning (Karatas, Balyer, & Alci, 2015, as cited in Canbay, 2020). Moreover, researchers (Embi, Long, & Hamzah, 2001, & Wu, 2008; as cited in Mohammadipour, Rashid, Rafik-Galea, & Thai, 2018; Kayaoğlu, 2013; Yılmaz, 2010, as cited in Canbay, 2020) conducted studies to determine the differences between the performances of high-performing language learners and low-performing language learners. Studies found that high-performing language learners utilize LLS more frequently than low-performing language learners. Furthermore, Rahimi and Katal (2012), as cited in Canbay (2020), indicated that learners who are conscious of their learning and use various strategies are likely to be more successful. However, multiple factors such as attitude, motivation, personality, and anxiety could affect learners' LLS (Oxford, 1989, as cited in Zarei & Baharestani, 2014). It was also noted that teachers play a crucial role in guiding, facilitating, and modeling the appropriate use of LLS (Canbay, 2020; Hawkins, 2018). Similarly, the findings of Marashi and Assgar (2019) show that a teacher's effective classroom management has a positive correlation with the LLS being used by learners.

Several studies were conducted to determine the influence of LLS on language learning, and the findings related to LLS playing a crucial part in supporting and simplifying the language learning processes of learners (Mahib ur Rahman, 2020). For example, Pongsukvajchakul's (2021) study shows that learners utilized memory, cognitive, compensatory, and metacognitive strategies in writing English. Salam et al. (2020), show that successful language learners utilized cognitive and compensation strategies. As for the study conducted by Tieocharoen and Rimkeeratikul (2019) in Vietnam and Thailand, the findings show that Vietnamese learners frequently use more LLS compared to Thai learners. Zarei and Rahmani (2015) found that metacognitive and affective strategies were a predictor of EFL learning. Similarly, Zarei and Baharestani (2014) concluded in their research that cognitive strategies could be a predictor of language proficiency in an EFL setting.

## **L2/ESL Anxiety**

Still, one of the psychological pressures that could negatively influence L2 learning is anxiety (Marashi & Assgar, 2019). Anxiety is an emotional state wherein an individual experiences a sense of weakness when danger is sensed (Aydin & Zengin, 2008, as cited in Yelgeç & Dagyar, 2020). Anxiety also includes feelings of low self-esteem and incompetence (Tuncel et al., 2020). Language teachers, researchers, and learners have been interested in this phenomenon (Horwitz, 2010; Koteková, 2013, as cited in Aydin & Ustuk, 2020) as a complicated individual difference that could affect or hinder

L2/ESL learning (Horwitz, 2010; Koteková, 2013, as cited in Aydin and Ustuk, 2020). Anxiety has three types: state, trait, and situation-specific anxieties. Trait anxiety is a behavioral pattern in which an individual shows anxiety in various circumstances (Phillips, 1992, as cited in Gawi, 2020; Scovel, 1978, as cited in Aydin & Ustuk, 2020). State anxiety is when an individual experiences temporary anxiety in an actual situation (Spielberger, 1983, as cited in Aydin & Ustuk, 2020; Tuncel et al., 2020). Situation-specific anxiety is a type of apprehension connected to a particular event or situation (Phillips, 1992, as cited in Gawi, 2020; Shabani, 2012, as cited in Marashi & Assgar, 2019). Thus, L2/ESL anxiety is a type of situation-specific anxiety (Brown, 2000, as cited in Gawi, 2020; Horwitz, 2010, as cited in Aydin & Ustuk, 2020; Horwitz et al., 1986, as cited in Tuncel et al., 2020).

L2/ESL Anxiety or xenoglossophobia is the apprehension or tension of a learner when speaking, listening, reading, writing, or learning in a foreign or second language (MacIntyre & Gardner, 1994, as cited in Aydin & Ustuk, 2020; Zheng, 2008, as cited in Marashi & Assgar, 2019). In addition, L2/ESL anxiety refers to learners' beliefs, behaviors, feelings, and perspectives of L2/ESL learning, which is a unique part of the language learning process (Horwitz, E., Horwitz, M. & Cope, 1986, as cited in Ozer & Ispina, 2021). Horwitz (2010), as cited in Oruç and Demirci (2020); MacIntyre and Gardner (1994), as cited in Al-Khotaba et al. (2019), considered L2/ESL anxiety as a learners' adverse emotional reaction to different phases of L2/ESL learning.

L2/ESL anxiety is divided into three types: fear of negative evaluation, communication apprehension, and test anxiety (Horwitz et al., 1986, as cited in Toth, 2010). Communication apprehension is a type of foreign language anxiety connected with talking or conversing with people (Toth, 2010) in an ESL or L2 context, which could be observed when a person speaks in the target language in public. This phenomenon is also known as stage fright. Communication apprehension also includes receiver anxiety, which means the apprehension of misunderstanding or misinterpreting messages in an L2/ESL setting (Toth, 2010). Furthermore, test anxiety is a type of anxiety wherein individuals are worried about frequent testing on their language proficiency (Toth, 2010). Lastly, fear of negative evaluation refers to the fear of academic assessment based on the learner's L2/ESL performance (Toth, 2010).

Learners with any of the types of foreign language anxieties might experience their L2/ESL learning having a negative impact (Demirdaş & Bozdoğan, 2013; Cheng et al., 1999; Horwitz et al., 1986; MacIntyre & Gardner, 1994; Krashen, 1985; Öner & Gedikoğlu, 2007; Horwitz & Young, 1991, as cited in Yelgeç & Dagyar, 2020). Sparks and Ganschow (1991), as cited in Marashi and Assgar (2019), state that anxiety could be a factor of poor language learning among learners.

In the literature, several studies identify the influence of foreign language anxiety on language learning. Al-Khotaba et al. (2019) found that learners with low language speaking anxiety have higher achievement in their speaking tests compared to learners with high language speaking anxiety. Ozer and Ispina (2021) found that language anxiety is a significant predictor of foreign language achievement. Thus, the higher the anxiety of the language learners, the lower their foreign language success. Zheng and Cheng (2018) confirmed in their research that cognitive test anxiety negatively predicts a learner's language achievement. Bosmans and Hurd (2016) discussed that low levels of foreign language anxiety and good pronunciation skills have a significant relationship with each other. Finally, Demir and Zaimoğlu (2021) found that learners' foreign language anxiety is negatively correlated with the learners' decision-making strategies.

Several studies also determined the influence of self-regulation, LLS, and language anxiety on language learning. The cited studies suggest that self-regulation and LLS positively contribute to L2 learning, and L2/ESL anxiety negatively contributes to L2 learning. These studies also suggest the

crucial role of teachers in helping learners regulate their learning and emotions and in modeling the appropriate use of LLS. However, most of the cited studies were conducted in an EFL setting. No studies have been conducted to determine which of the factors mentioned above could be the strongest predictor of language learning in an ESL setting.

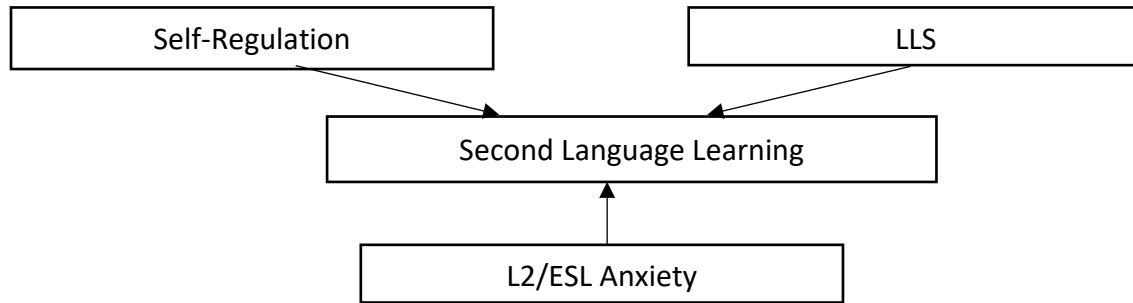
When considering the influence of self-regulation, LLS, and L2/ESL anxiety on L2 learning, several essential theoretical assumptions should be noted. The Social Cognitive Theory (SCT) of Bandura highlights the crucial role of the self-system in an individual, which learners could use in controlling their feelings, thoughts, and actions (Schunk & Pajares, 2010). This theory examines how learners should be guided in monitoring and achieving their academic objectives. In addition, SCT explains that a learner's learning process lies in interaction, behavior, and environment. Therefore, its success is based on how learners regulate their behavior and cognition (Hiller, 2017). By planning, monitoring, adjusting, and reflecting on their learning process (Gaumer Erickson & Noonan, 2018), language learners manage and control their behavior and cognition to achieve their learning objectives (Aktan, 2012; Kauffman, 2004; Pintrich, 1999; Zimmerman, 1990; as cited in Yelgeç & Dagyar, 2020).

Another important theoretical consideration is cognitive theory, which focuses on the learner's active role in learning. Cognitivism emphasizes the importance of learners' thoughts in receiving, organizing, retaining, and using the information to learn a language. Thus, this theory places learners in the middle of the learning process by stressing that learning only occurs if learners comprehend what they are studying (O'Malley et al., 1990; Thompson et al., 1996, as cited in Al-Khaza'leh, 2019). Thus, cognitive theory views L2 learning as a conscious thinking process that involves the intentional use of LLS. Language learners deliberately use a particular language learning strategy in storing, retrieving, and using information to learn a second language (Cohen, 1999, as cited in Gorgoz & Tican, 2020).

Finally, Stephen Krashen's Affective Filter Hypothesis emphasizes how variables such as motivation, self-confidence, and anxiety play a vital role in L2 learning (Sutarsyah, 2017). This theory notes that for language learning to successfully occur, one must make sure that the input reaches the language acquisition device. A barrier that prevents the input from reaching the language acquisition device is called an affective filter. An affective filter acts like a gate that controls the number of messages delivered in a communication process. This filter opens and closes depending on the level of tension and anxiety surrounding the communicator. This process explains how learners with lower levels of anxiety have a less-affective filter to interrupt their language learning and why it is vital to provide stress-free learning environments for the learners to successfully practice and develop their language and communication skills (Schütz, 2019).

Based on the related literature, studies, and theories, Figure 1 presents the conceptual framework of the present study. The figure shows the possible relationship between self-regulation, LLS, and L2/ESL anxiety on L2 learning; and how these factors could predict second language learning.

The independent variables in Figure 1 are self-regulation, LLS, and L2/ESL anxiety, while the dependent variable is second language learning. The aforementioned independent variables could influence the L2 learning of learners. In particular, two of the independent variables—self-regulation and LLS could positively influence L2 learning. However, L2/ESL anxiety could negatively influence L2 learning.



**Figure 1.** *Conceptual outline of the relationship of LLS, self-regulation, and second language anxiety to second language learning*

Based on the presented research gap, the present study aims to determine the relationship and the attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning.

The following questions were used as a guide in the conduct of the present study:

1. What are the extents of the self-regulating processes of the participants?
2. What are the frequency levels of the LLS used by the participants?
3. What are the participants' L2/ESL anxiety intensity levels?
4. What are the L2 learning performance levels of the participants?
5. What is the correlative relationship of L2 learning performance level to the following:
  - 5.1. self-regulation
  - 5.2. LLS; and
  - 5.3. L2/ESL anxiety of the participants?
6. What is the strongest predictor of second language learning among LLS, Self-Regulating processes, and Second Language Anxiety of the participants?

The present study also tested the following null hypotheses:

$H_0$  = There is no significant relationship between the participants' L2 learning and their self-regulation.

$H_0$  = There is no significant relationship between the participants' L2 learning and their LLS.

$H_0$  = There is no significant relationship between the participants' L2 learning and their L2/ESL anxiety.

## Methods

### Research Design

To determine the relationship and attributive impact of self-regulation, LLS, and L2 anxiety on L2 learning, this study utilized a non-experimental quantitative research design. Specifically, it used correlational research design.

### Sample and Setting

The participants in the present study were Grade 11 Senior High School (SHS) students, male or female, who had studied English for Academic and Professional Purposes (ENGLAPP) at a university in Pampanga and whose ages ranged from 16 to 18 years old. The participants attended their English classes online and onsite (in-person). Specific weeks were scheduled for their online classes.

Participants were selected through random sampling due to the quantitative nature of the present study.

The total sample size is 447, taken from Grade 11's total population of 1342 with a 95% confidence level and 5% margin of error using the Raosoft Sample Size Calculator.

### **Instrumentation**

Three instruments were utilized to gather the needed data in the present study. Furthermore, these instruments were validated by three experts in language learning and education. The first instrument is the *Self-regulation formative questionnaire* (Gaumer Erickson, Monroe, Soukup, & Noonan, 2018), a self-report questionnaire with 22 items. In 2019, the said instrument had an internal consistency of  $\alpha = .894$ , tested from 12,882 students in elementary, junior high, senior high, and post-high school (Gaumer Erickson et al., 2018). The self-regulation formative questionnaire assesses the participant's self-regulation process: plan (items 1-5), monitor (6-11), adjust (12-17), and reflect (18-22). The Grade 11 students used the following rating scale: 1 – Not very like me to 5 - Very like me.

The second adopted instrument is *the Strategy Inventory for Language Learning* (SILL) (Oxford, 1989, as cited in Park, 2011). SILL is a five-point Likert scale instrument with 50 items, which can be publicly accessed. This instrument had an internal consistency of  $\alpha = .92$  (Marashi & Assgar, 2019). It identifies the types of strategies used by the Grade 11 students: cognitive, memory, metacognitive, comprehension, affective, and social. The Grade 11 students used the following rating scale: 1-Never or almost never true of me, 2-Usually not true of me, 3-Somewhat true of me, 4-Usually true of me, and 5-Always or almost always true of me. Items 1 to 9 assess the memory strategies of the participants. On the other hand, items 10 to 23 evaluate the cognitive strategies of the participants. Items 24 to 29 assess the Communication strategies of the participants. Furthermore, items 30 to 38 determine the metacognitive strategies of the participants. As for affective strategies, items 39 to 44 are utilized. Finally, items 45 to 50 identify the social strategies of the respondent.

The third adopted instrument is the *Foreign Language Classroom Anxiety Scale* (FLCAS), which can be publicly accessed (Horwitz et al., 1991). FLCAS is a five-point Likert scale instrument with 33 items and has an internal consistency of  $\alpha = .94$  (Marashi & Assgar, 2019). It is a self-report questionnaire for Grade 11 students to rate how anxious or nervous they feel in their English language classroom. Items 8, 10, and 21 assess the test anxiety of the participants. As for items 1, 3, 4, 5, 6, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 27, 28, 29, 30, 32, and 33, these items assessed the communication apprehension of the participants. Finally, items 2, 7, 19, 23, 25, and 31 are for fear of evaluation of participants. The Grade 11 students used the following rating scale: 1-Strongly Disagree, 2-Disagree, 3-Neither agree or disagree, 4-Agree, and 5-Strongly Agree. Some of the items in FLCAS are reversed scored: 2, 5, 8, 11, 14, 18, 22, 28, and 32.

As for the participants' L2 learning performance level, their academic performance or grade in ENGLAPP was asked and cross-referenced to their academic records. In Senior High School, three subjects are focused on the development, use, and application of the English language: English for Academic and Professional Purposes (ENGLAPP), Oral Communication (ORALCOMM), and Reading and Writing (READ/WRITE). ORALCOMM develops and assesses the listening and speaking skills of the learners, while READ/WRITE develops and assesses the learners' reading and writing skills. ENGLAPP focuses on developing and assessing the learners' communication skills, including listening, speaking, reading, and writing. L2 competence is beyond learning a language's grammatical properties (Canale & Swain, 1980; Hymes, 1971; as cited in Alonso Alonso, 2018). It is evident when language learners can comprehend and communicate effectively using the target

language (Canale & Swain, 1980; Hymes, 1971; as cited in Alonso Alonso, 2018; Krashen,1981; as cited in Bailey & Fahad, 2021;). So, the academic performance or ENGLAPP grade represented the L2 learning performance of the participants.

**Ethical Considerations**

In conducting the present study, the researcher took precautionary measures to guarantee that no ethical codes were violated and that the rights of the research participants were given priority throughout the process. Notably, the present study ensured that no harm, intended or unintended, afflicted to the participants before, during, and after the conduct of the present study. The present study also sought the approval of the Holy Angel University-Institutional Review Board (HAU-IRB). Furthermore, the related literature and studies used in the present study were summarized and paraphrased. The references were given proper citations in the references section, which helped avoid any form of plagiarism that violated the intellectual property rights of the respective authors of the cited materials. Before collecting the data, informed consent was obtained from the parents or guardians of the participants, who are mostly minors. In addition, both parents or guardians and participants were informed of the following: the background of the present study, the procedure of the present study, provisions for injury or related illness, possible benefits for the participants, voluntary participation, confidentiality, data management, feedback, and researcher's contact information (name, contact number, and e-mail). Specifically, participants' participation is voluntary. If participants feel a little uncomfortable answering the questionnaire, they can withdraw before, during, and after the conduct of the survey without any consequences.

**Data Analysis**

To identify the participants' L2 learning, self-regulation, LLS, and L2/ESL anxiety, descriptive statistics such as percentage and mean were utilized in describing the participants' L2 learning performance level, extent of self-regulating processes, frequency level of the LLS used, and L2/ESL anxiety intensity level. Pearson’s Product Moment Correlation Coefficient and Multiple Regressions Analysis were used to measure the relationship and the predicting quality of self-regulation, LLS, and L2/ESL anxiety on L2 learning of the participants Tables 1, 2, 3, 4, and 5 show how the data were interpreted for self-regulation, LLS, L2/ESL anxiety, and L2 Learning.

**Table 1.** *Interpretation of mean for Self-regulation*

Mean	Description
1.00-2.49	Limited Self-regulation
2.50-3.49	Moderate Self-regulation
3.50-5.00	Substantial Self-regulation

**Table 2.** *Interpretation of mean for LLS*

<b>Mean</b>	<b>Description</b>
1.00-2.49	Low LLS Use
2.50-3.49	Medium LLS Use
3.50-5.00	High LLS Use

**Table 3.** *Interpretation of mean for L2/ESL Anxiety*

<b>Mean</b>	<b>Description</b>
1.00-2.49	Low Intensity Anxiety
2.50-3.49	Medium Intensity Anxiety
3.50-5.00	High Intensity Anxiety

**Table 4.** *Interpretation of L2 learning performance based on Student's Handbook*

<b>Grade</b>	<b>Description</b>
97-100	Outstanding
94-96	Excellent
91-93	Superior
88-90	Very Good
85-87	Good
82-84	Satisfactory
79-81	Fairly Satisfactory
76-78	Fair
75	Pass
Below 75	Failed

**Table 5.** Interpretation of Pearson's Correlation Coefficient

Coefficient, $r$		Strength of Association
Positive	Negative	
$0.0 =  r $		No correlation
$0.0 <  r  < 0.2$	$-0.0 <  r  < 0.2$	Very Weak Correlation
$0.2 \leq  r  < 0.4$	$-0.2 \leq  r  < 0.4$	Weak Correlation
$0.4 \leq  r  < 0.6$	$-0.4 \leq  r  < 0.6$	Moderately Strong Correlation
$0.6 \leq  r  < 0.8$	$-0.6 \leq  r  < 0.8$	Strong Correlation
$0.8 \leq  r  < 1$	$-0.8 \leq  r  < 1$	Very Strong Correlation
$1.0 =  r $	$-1.0 =  r $	Perfect Correlation

## Results

The tables below show the research findings from the collected data, which contains the participants' extent of self-regulating processes, frequency levels of LLS used, intensity level of L2/ESL anxiety, the variables' correlative relationship, and their attributive impact on L2 learning.

**Table 6.** Extents of Self-regulating Processes of the Participants

	Mean	SD	Interpretation
Self-Regulation	3.86	.50	Substantial Self-regulation

Table 6 depicts the extent of the self-regulating processes of the participants, with a mean of 3.86 (Substantial Self-regulation).

**Table 7.** Frequency Levels of LLS Used by the Participants

	Mean	SD	Interpretation
LLS	3.57	.57	High LLS Use

Table 7 depicts the frequency levels of LLS used by the participants. It has a mean of 3.57, which means high LLS use.

**Table 8.** *Participants' L2/ESL Anxiety Intensity Levels*

	Mean	SD	Interpretation
ESL Anxiety	3.16	.66	Medium Intensity Anxiety

Table 8 depicts the participants' L2/ESL anxiety intensity levels, with a mean of 3.16 (Medium Intensity Anxiety).

**Table 9.** *L2 Learning Performance of the Participants*

L2 Learning Performance	f	%
Pass	3	1
Fair	8	2
Fairly Satisfactory	9	2
Satisfactory	19	4
Good	32	7
Very Good	59	13
Superior	112	25
Excellent	114	26
Outstanding	91	20
<b>Total</b>	<b>447</b>	<b>100</b>

Table 9 depicts the frequency distribution of the participants according to their L2 learning performance. Among 447 participants, 114 have excellent performance in L2 learning. In contrast, 3 out of 447 participants have a passing performance in L2 learning.

**Table 10.** *Correlative Relationship of L2 Learning Performance to Self-regulation, LLS, and L2/ESL Anxiety*

		L2 Learning Performance	Self-regulation	LLS	L2/ESL Anxiety
L2 Learning Performance	Pearson Correlation	1	.285**	.056	-.025
	Sig. (2-tailed)		.000	.236	.593
	N	447	447	447	447
Self-regulation	Pearson Correlation	.285**	1	.504**	-.063

	Sig. (2-tailed)	.000		.000	.186
	N	447	447	447	447
LLS	Pearson Correlation	.056	.504**	1	-.110*
	Sig. (2-tailed)	.236	.000		.020
	N	447	447	447	447
L2/ESL Anxiety	Pearson Correlation	-.025	-.063	-.110*	1
	Sig. (2-tailed)	.593	.186	.020	
	N	447	447	447	447

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

Table 10 depicts the correlative relationship of participants’ L2 learning performance to their self-regulation, LLS, and L2/ESL anxiety. The relationship between L2 learning and self-regulation has a probability value of .000 and a correlation value of .285. These values mean that there is a significant positive weak relationship between self-regulation and L2 Learning. With a probability value of .236 and a correlation value of .056, L2 learning has no significant relationship with LLS. Similar to LLS, L2/ESL anxiety is not significantly correlated with L2 learning, with a probability value of .593 and a correlation value of -.025.

**Table 11. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.302 <sup>a</sup>	.091	.085	4.79517

a. Predictors: (Constant), FLCAS, Self-regulation, LLS

Table 11 depicts a weak correlation between the variables based on the correlation coefficient value of .302. The coefficient of determination indicates that the independent variable can explain 9.1% of the total variation of the dependent variable.

**Table 12. ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1025.421	3	341.807	14.865	.000 <sup>b</sup>
	Residual	10186.184	443	22.994		
	Total	11211.605	446			

a. Dependent Variable: L2

b. Predictors: (Constant), FLCAS, Self-regulation, LLS

Table 12 indicates that the regression model predicts the dependent variable significantly well, with a probability value of .001.

**Table 13. Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	83.319	2.253		36.986	.000
	Self-regulation	3.440	.525	.343	6.548	.000
	LLS	-1.042	.462	-.119	-2.254	.025
	FLCAS	-.128	.344	-.017	-.371	.711

a. Dependent Variable: L2

Table 13 shows the attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning. Self-regulation and LLS significantly impact L2 learning with a probability value of .000 and .025, respectively. However, the degree of impact between self-regulation and LLS differs, such as self-regulation positively impacts L2 learning (3.44), while LLS negatively impact it (-1.042). On the other hand, L2/ ESL anxiety and L2 learning have a probability value of .711, which means L2/ESL has no significant impact on L2 learning. The impact can be described in the regression equation below:

$L2 \text{ learning} = 83.32 + 3.44 (\text{Self-regulation}) - 1.04 (\text{LLS}) - .13 (\text{L2/ ESL anxiety})$

## Discussion

The findings in this study answered the following research questions:

1. What were the participants' self-regulating processes?
2. What were the frequency levels of the LLS used?
3. What was the intensity level of L2/ESL anxiety among students?
4. What were the L2 learning performance levels of the participants?
5. What were the correlative relationships of self-regulation, LLS and L2/ESL anxiety on L2 learning performance of the participants?
6. What is the strongest predictor of L2 learning performance among self-regulation, LLS, and L2/ESL anxiety of the participants?

### Self-Regulation

Table 6 presented the data for the first research question. It showed the extent of the self-regulating processes of the participants. Based on the findings, the participants' extent of self-regulating processes had substantial self-regulation ( $M=3.86$ ). Learners with substantial self-regulation would plan their tasks in a detailed manner, which involved reflecting on their past experiences for what worked and did not work for them. They would closely monitor their plan to see if they could accomplish their task concerning the established set of goals. They reflected on the effort, progress, and learning they exerted and attained. By doing so, they could adjust or modify their next plan (Gaumer Erickson & Noonan, 2021).

The participants of the present study attended their English classes online and onsite. They were given asynchronous activities, which showed that the participants had to accomplish their activities without the physical supervision of their L2 teachers. The physical absence of the L2 teachers in the online class and the number of asynchronous academic activities of the participants could

explain why the participants had substantial self-regulation. These explanations are congruent with the findings of Hromalik and Koszalka (2018), in which community college students managed and used self-regulating strategies to improve their learning outcomes in their online language course, and Tran and Phan Tran (2021), in which EFL high school students substantially applied self-regulating strategies to accomplish numerous activities.

### **Language Learning Strategies**

The second research question aimed to determine the frequency levels of the LLS used by the participants. The results in Table 7 showed a mean of 3.57 on the frequency levels of the participants' LLS, which demonstrated they have high LLS. Learners with high LLS can effectively learn the target language using various strategies. These groups of learners can remember and retrieve information by creating a word-meaning outline of the target language. They also receive and produce their message using the target language by forming internal mental codes. These learners replace words they do not understand with synonymous words or phrases. Learners with high LLS also plan, adjust, and monitor how they acquire the target language. If these learners have difficulty comprehending meaning in the target language, they ask other people. Simply put, these learners know how to adjust their language-learning strategies to match their language-learning needs (Oxford, 1990).

The participants of the present study were in their senior high school years. The participants accomplished various academic language tasks as senior high school students. Their grade level and language tasks could be one of the possible explanations for why these participants used high LLS. Like the findings of Erdogan (2018), senior high school students had higher LLS compared to first-year students, sophomores, and junior students. Ellis (1994) explained that learners use certain LLS for a particular task. Prokop (1989), as cited in Chen (2014), elaborated that language learners change their LLS to accomplish the requirements of different language learning tasks.

### **L2/ESL Anxiety**

The results in Table 8 for the third research question showed the participants' L2/ ESL anxiety intensity levels. Based on the analyzed data, the participants' L2/ ESL anxiety intensity levels had a mean score of 3.16, which showed that the participants had medium-intensity L2/ESL anxiety. Learners with medium-intensity anxiety sometimes avoid participating or interacting with other people using the target language. These learners also show symptoms like freezing up, forgetting their prepared materials, shaky hands, and avoiding eye contact (Ortega, 2014, as cited in Toubot et al., 2018). Learners with medium-intensity anxiety become nervous when speaking English in front of their classmates and English teacher in class. These learners also tend to panic when they are required to speak in English without preparation. They tremble, knowing that their teacher will call them to present their ideas using English, and feel embarrassed to volunteer in class because they are afraid that their classmates will laugh at them when they speak in English (Reyes, 2022).

In their online English class, the participants of the present study were required to use and speak English. In using the English language, they were evaluated by their L2 teacher in front of their classmates. Having to respond and be assessed using English could be one of the reasons for the participants' medium-intensity L2/ESL anxiety. This explanation is like the findings of Liu (2006) and Liu and Jackson (2008), in which learners experienced medium-intensity anxiety when they were assessed and asked to respond using the English language. Berowa (2018) explained that language learners with medium-intensity anxiety do not have negative feelings toward the target language. Instead, the language tasks involving the target language bring fear, pressure, or anxiety to language learners.

## **L2 Learning**

The fourth research question aimed to describe the L2 learning performance of the participants. The results in Table 9 showed that most of the participants had an outstanding, excellent, and superior performance in their English class, while some participants had a passing, fair, and fairly satisfactory performance in their English class. Learners with outstanding, excellent, and superior performance in L2 learning could use English for various purposes and situations. Specifically, these learners can understand most conversations in the target language and can accurately recount the conversation's details. These learners can also correctly ask and answer questions related to current issues and critically interpret messages and themes not explicitly stated in the text. They can also write a comprehensive, logical, and grammatical composition. Learners with passing, fair, and fairly satisfactory performance in L2 learning can use English. Specifically, these learners can understand some conversations in the target language. They can also ask and answer questions in the target language. They can also write a composition (Department of Education, 2017).

## **Correlative Relationship of Self-Regulation and L2 Learning**

Research question 5.1 aimed to determine the correlative relationship between self-regulation and L2 learning. The results in Table 10 regarding the participants' self-regulation showed that they had substantial self-regulation, and most of them have outstanding, excellent, and superior performance in their L2 class. Based on the analyzed data, the relationship between the two variables had an  $r$ -value of .285 and a  $p$ -value of .000, meaning they had a significant weak positive correlation. L2 learning positively correlated significantly with self-regulation. As the participant's self-regulation increased, L2 learning also increased. Based on the result of the study, the null hypothesis (there is no relationship between self-regulation and L2 learning) is rejected. This finding is in line with a plethora of EFL studies, which indicated that self-regulation had a significant relationship to language learning (Adigüzel & Orhan, 2017; Bai & Wang, 2020; Choi et al., 2018; Fukuda, 2018; Seker, 2016; Shing & Rameli, 2020; Yabukoshi, 2018). Al Fadda's (2019) study, conducted in an ESL context, and blended learning environment, yielded the same result.

## **Correlative Relationship of LLS and L2 Learning**

The results in Table 10 for research question 5.2 show the correlative relationship between LLS and L2 learning. The relationship between the two variables had a  $p$ -value of .236 and an  $r$ -value of .056. These findings showed no significant relationship between LLS and L2 learning. With this data, the present study failed to reject the null hypothesis: there is no significant relationship between participants' LLS and L2 learning. The result for research question 5.2 was in contrast to the findings of Pongsukvajchakul (2021), Salam, Sukarti, and Arifin (2020), Tieocharoen and Rimkeeratikul (2019), Zarei and Rahmani (2015), and Zarei and Baharestani (2014). The findings of the said studies indicated that language learning strategy is correlated with L2 learning. These studies were conducted in an EFL setting, while the present study was conducted in an ESL setting. The learning environment could be a possible explanation for why the current study's findings differ. This explanation is similar to Sie (2021) that the learning context played a role in the difference between EFL and ESL learners' use of LLS.

### **Correlative Relationship of L2/ESL Anxiety and L2 Learning**

Research question 5.3 aimed to determine the correlative relationship between L2/ESL anxiety and L2 learning. The findings in Table 10 show that the relationship between the two variables has a p-value of .593 and an r-value of -.025, which meant no significant relationship between L2/ESL anxiety and L2 learning. The present study fails to reject the null hypothesis (there is no significant relationship between L2/ESL anxiety and L2 learning). The result contradicted the findings of Bosmans and Hurd (2016) and Demir and Zaimoglu (2021). The said studies were conducted in an EFL setting, and their results indicate a significant relationship between language anxiety and language learning. The learning environment could explain why the findings of the current study differ from those of Bosmans and Hurd (2016) and Demir and Zaimoglu (2021). In an EFL setting, English is only utilized inside the learner's language classroom, which provides the language learners with limited exposure and opportunity to practice English in different discourse situations. These limitations do not improve the EFL learners' communication skills, resulting in stress, embarrassment, or anxiety when using the language (Tanveer, 2008).

### **Attributive Impact of Self-regulation, LLS, and L2/ESL Anxiety on L2 Learning**

The results in Table 13 for research question 6 show the attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning.

Self-regulation was shown to be directly proportional to L2 learning, which meant that as self-regulation increases, L2 learning would also increase. This finding is similar to Seker's (2016) and Fukuda's (2018) results, in which self-regulation predicted language learning, proficiency, and achievement. Learners could effectively increase their language performance by using self-regulated learning strategies (Ardasheva et al., 2017). Moreover, the self-regulated learning framework could be used to comprehend language or vocabulary learning (Choi et al., 2018).

LLS proved inversely proportional to L2 Learning, which means that as L2 learning increases, LLS decrease. This finding showed similarities with previous studies, in which LLS were shown as predictors of language learning (Balci & Ügüten, 2018; Zarei & Baharestani, 2014; Zarei & Rahmani, 2015). However, the degree of impact proved contrary to the findings of the present study, in which high-proficiency language learners frequently used more LLS than low-proficiency learners (Tieocharoen & Rimkeeratikul, 2019). Learners' preference in choosing and using a language learning strategy could explain the difference between the aforementioned studies and the current study's findings. Hismanoglu (2000) and Oxford (2003), as cited in Pongsukvajchakul (2021), explained the difference in learners' use of LLS. The use of LLS was shown behavior specific. Learners choose and use LLS that they deem useful in enhancing their language learning.

As for L2/ESL anxiety, it has no significant impact on L2 learning. This result was contrary to the findings of Ozer and Ispina (2021), Zheng and Cheng (2018), and Demir and Zaimoglu (2021), which indicated that L2/ESL anxiety was a negative predictor of language learning. Specifically, high levels of language anxiety proved negatively correlated with language achievement. Some possible explanations for why the current findings differ from the aforementioned studies could be the level of language anxiety and self-regulation. Most participants in the present study indicated medium-intensity L2/ESL anxiety, while in the other studies, their participants consisted of high-anxiety language learners and low-anxiety language learners. The participants of the present also proved to have substantial self-regulating processes, which meant that learners have the will and skill to regulate their learning, not just cognitively but also through other motivational factors like anxiety (Erdogan, 2018).

The attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning could be described using the regression equation below:

$$\text{L2 learning} = 83.32 + 3.44 (\text{Self-regulation}) - 1.04 (\text{LLS}) - 0.13 (\text{L2/ESL anxiety})$$

### **Input to Recommended Strategies in Second Language Teaching**

Based on the findings, the present study has shown that self-regulation and LLS significantly impact L2 learning. However, the findings also confirm the degree of impact between the two independent variables differed in that self-regulation was shown in this study as directly proportional to L2 learning, while LLS proved indirectly proportional to L2 learning.

Since self-regulation is a process (Zimmerman, 2001, as cited in Gorgoz & Tican, 2020; Schunk, 2001, as cited in Ozer & Ispina, 2021) and LLS is behavior specific (Hismanoglu, 2000; Oxford, 2003, as cited in Pongsukvajchakul, 2021), teachers could also play a crucial role in facilitating learners to regulate language learning and in using LLS (Gaumer Erikson & Noonan, 2022, & Hawkins, 2018).

Teachers could help learners regulate their learning by giving feedback, collaborative work, and social modeling. (Broadbent & Fuller-Tyszkiewics, 2018; McInerney, 2008, as cited in Ozer & Ispina, 2021; Zimmerman, 2015; Zimmerman & Schunk, 2011). Teachers could help learners in mastering their skills, task, or goal orientations by motivating them and using new strategies (Tran & Phan Tran, 2021).

Similarly, Gaumer Erikson and Noonan (2022) have suggested guided collaborative learning and independent practice with feedback in teaching students how to regulate their learning. Providing guided collaborative learning allows learners to explore and understand various perspectives in a nonjudgemental setting. By giving students independent practice with feedback, teachers could assist learners in reaching their personal endeavors or mastering skills.

As for the use of LLS by learners, teachers can model how to utilize LLS (Canbay, 2020). Hawkins (2018), as cited in Oxford (2011), suggested the use of informed strategy instruction in which language teachers would name the strategy, demonstrate when and how to use it, and guide language learners to consciously reflect and evaluate if the strategy works, or should it be used in another task.

### **Conclusion**

Several studies in EFL settings have indicated that self-regulation, LLS, and L2/ESL anxiety contribute to L2 learning. However, no studies have yet been conducted to determine which of the aforementioned variables would prove to be the strongest predictor of language learning in an ESL setting. To address this gap, the present study aimed to determine the relationship and attributive impact of self-regulation, LLS, and L2/ESL anxiety on the L2 learning of Grade 11 students.

The findings showed that Grade 11 students had substantial self-regulation, which means they could plan, monitor, adjust, and reflect on their L2 learning. They also had high LLS used, meaning they could effectively utilize various LLS in learning English. Grade 11 students had medium-level intensity L2/ESL anxiety. They sometimes could avoid or feel uncomfortable using the English language.

Most participants were classified as having outstanding, excellent, and superior performances in their L2 learning. These findings showed that Grade 11 students could communicate in English in different scenarios.

As for the relationship of the aforementioned variables to L2 learning, the findings of the present study showed that L2 learning had a weak positive correlation with self-regulation. Language learning and L2/ESL anxiety had no significant relationship with L2 learning. Such relationship between self-regulation and L2 learning, as found in the present research, proved confirmatory of the findings of other studies. However, the correlative relationship between LLS and L2 learning and the relationship between L2/ESL anxiety and L2 learning showed contrary findings in EFL settings. The learning environment seems to have a critical role in L2 learning. Learners in EFL settings are exposed to the English language inside their language class only, which provides limited opportunities to use it. In comparison, learners in ESL settings, as in the present study, had greater exposure to the English language inside and outside their classroom with opportunities to use it in various settings. These limitations to the use of the English language could have affected the communication skills of EFL students, which may lead to anxiety and preferences in choosing a language learning strategy.

As for the attributive impact of the aforementioned variables, self-regulation and LLS significantly impacted L2 learning. However, in this research, the degree of the effect differed in that self-regulation positively improved L2 learning, while LLS negatively impacted L2 learning. ESL/L2 anxiety proved to have no significant impact on L2 learning. The study's findings are similar to other studies conducted in EFL settings, in which self-regulation showed a significant impact on L2 learning. However, the studies in the EFL setting indicated that LLS positively impacted L2 learning, and L2/ESL anxiety negatively contributed to L2 learning, which differed from the current research findings. This difference could be attributed to the learner's substantial self-regulating processes. Self-regulated learners chose a language learning strategy according to their preference and thereby regulated their affective factors, such as anxiety.

These findings confirmed the Social Cognitive Theory of Bandura, which highlighted the importance of individuals' self-system in regulating their thoughts, feelings, and actions in accordance with their learning environment. Similarly, Cognitive Theory placed importance on the active role of learners in the learning process. However, the findings of the present study constructively challenged Krashen's Affective Filter Hypothesis, in which L2/ESL anxiety played a crucial role in L2 learning.

The present study determined the correlative relationship and attributive impact of self-regulation, LLS, and L2/ESL anxiety on L2 learning. By doing so, it was able to identify the strongest predictor of L2 learning among the said variables. The study's findings suggest that self-regulation proved to be the strongest predictor of L2 learning among the aforementioned variables. Self-regulation is acquired and not inherent in an individual. Self-regulation is a learning process that teachers must nourish and continuously reinforce. By teaching students how to regulate their L2 learning, teachers can improve the L2 learning performance of the learners. Self-regulation is also strongly correlated with LLS. Teachers can also improve how learners use LLS by teaching them how to plan, monitor, adjust, and reflect on their L2 learning.

The present study had a few inevitable limitations. It only included 447 Grade 11 students from a single university in one ESL country. Another limitation of the present study was that it only included quantitative data. The present study was not able to obtain in-depth information. Therefore, the present study's findings should be cautiously generalized to different settings and populations.

## **Recommendations**

Based on the findings, conclusions, and limitations of the present study, the following recommendations are given:

### For Second Language Teachers

Second-language teachers should use strategies and create activities to help students become self-regulated learners. Teachers can help students in using appropriate LLS by modeling. Teachers should provide corrective feedback by communicating clearly to language learners the language performance standards they need to acquire

### For Future Researchers

To better understand the contribution of self-regulation, LLS, and L2/ESL anxiety on L2 learning, conducting mixed method research would provide a deeper understanding of the role of the aforementioned variables in L2 learning. The present study also recommends conducting a similar study in a different ESL setting, including a larger population from a wider demographic variety.

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## Indigenous Language Endangerment as the Hearse of Democratic Culture among the Yoruba People of Nigeria

Samson Olusola Olatunji

### Abstract

There is a proven intricate interconnectedness between language and culture. Most Yoruba political office holders demonstrate degrees of English language proficiency as evidence of English-medium Western education. It is thus logical to expect them to have become democratic in behavior. However, many that have held political posts in Nigeria have proved undemocratic. One then wonders how they successfully avoided being “infected” by the democratic values of Western cultures. One could logically conclude that a typical Yoruba politician is unable to learn democratic values from Western education because of the long history of the monarchical system of government. This paper, however, probed the existence of democratic values in Yoruba precolonial government. Data were obtained from 200 respondents through a mix of accidental and stratified sampling techniques. A four-item interview guide was administered to the respondents by the researcher. Among the findings is that the Yoruba language is replete with proverbs, aphorisms, and idioms capable of promoting democratic values. Comprehensive implementation of mother-tongue-based multilingual education up to the end of secondary school level is thus recommended for the preservation of the democratic values of their traditional cultures to facilitate adequate understanding of Western democratic literacy.

**Keywords:** cultural appropriateness, Indigenous-language-medium education, customized democracy, Yoruba democracy, Western democracy, linguistic heritage

## Introduction

Democracy has been defined and described in various ways by numerous academics, philosophers, and politicians. It is a pertinent subject of innumerable social discourses. A common consensus, however, is that it is a system of government in which every citizen has a voice, and all people have equal rights to determine how governance is carried out (Salami, 2006; Sampurna, 2016).

Democracy is often seen as the best form of government (Norris, 2017; Omotoso, 2018). It is said that the worst democracy is much better than the best of any other system of government. This is evident in the United Nations, the African Union and sister organizations' widespread condemnation of any disruption of any democratic process occasioned by military coups in a country, as well as the various stringent sanctions imposed on any government that is undemocratic or antidemocratic (Bernatskyi, 2018; Biersteker et al., 2018; Palestini, 2020). Blessing and Sheriff (2019), however, pointed out that the United Nation's decisions by veto power can sometimes be undemocratic and unfavourable to developing countries.

Taking a cue from Norris's (2017) observation of Anglo-American millennials' decreasing enthusiasm about (Western) democracy, it will be wise for Nigerian educational institutions to inculcate tailor-made democracy in its people, drawing heavily from their traditional resources. Also, since the United States is also at risk of "democratic backsliding," "constitutional retrogression" and the less likely "authoritarian reversion" (Huq & Ginsburg, 2018, p. 1), Yoruba people would do well to reconsider a sheeplike adoption of unmodified Western democracy.

In a true democracy, the will of the majority overwhelms the minority. This is the core beauty of this system of government. It empowers the citizenry to vote out any nonperforming elected officer. Every person who holds political office, therefore, has only one honorable decision to make: perform to the satisfaction of the majority while simultaneously doing their best to win over the minority. Thus, the strongest democracies enjoy the greatest degrees of fiscal and infrastructural development, while those with ailing democracies or undemocratic governments, at best, lag behind.

Dryzek et al. (2019), however, caution that demagogues and media manipulators can polarize unsuspecting citizens in a democracy if adequate precautions are not put in place. The politically illiterate majority can be manipulated to make unsound decisions by crooked political elites in a democracy. Olatunji and Kolawole (2010) thus assert that political literacy for all is mandatory if democracy is to flourish in any community.

Interestingly, countries that are guilty of pseudodemocracy are worse off than those that are unashamedly nondemocratic. False democracy (pseudodemocracy) is mouthed by political brigands while their actions are undemocratic, and many times outright antidemocratic. For example, Vatican City, Saudi Arabia, Brunei, Oman, North Korea and Eswatini practice absolute monarchy. China, Cuba, Vietnam, and Laos practice communism. There are varying degrees of human rights abuse, and sometimes appalling dehumanization of real or perceived nonconformist citizens in some of these countries. It is, however, pathetic that they enjoy greater indices of fiscal, economic, and technological development than most African countries, including Nigeria, that profess democracy but are actually pseudodemocratic.

Ovie Ejumudo (2011, p. 22) identifies pseudodemocracy as being the basic cause and reinforcement of "the prolonged and protracted environmental injustice that is yet plaguing the Niger Delta" region of Nigeria. Okuchukwu (2015, p. 13) asserts that prevalent ethnocentrism, colossal corruption, maladministration of public funds, electoral fraud and malpractice, blatant neglect for the rule of law, constitutionalism, and abuse of fundamental human rights by political office holders,

politicians and the police that still characterize Nigeria are “clear examples of pseudodemocracy.” The rule of law is an integral part of the foundation of democracy, but all three tiers of the Nigerian government have a penchant for disobeying court orders (Nwozor, 2021). Even President Muhammadu Buhari was observed to have flagrantly disobeyed court rulings at least 40 times from his assumption of office in 2015 to 2019 (Idhalama, Dime & Osawaru, 2021).

It could be noted that Nigerians in general and Yoruba people specifically have become progressively undemocratic over the years. The youths of Nigeria resorted to well-coordinated civil disobedience (END-SARS protest) that was poorly and viciously handled by law enforcement agents, thus resulting in civil unrest in 2020 (Gabriel, 2022). The antidemocratic activities manifest in incessant police brutality, and the reluctance of the executive and judicial arms of government to address the situation resulted in the END-SARS (FSARS was Federal Special Anti-Robbery Squad that was dehumanizing and exploiting the youths) protest that shook the western and eastern parts of the country to their foundations. This happened because all steps taken by the citizenry to get the reported cases redressed through democratic steps failed woefully and there was no respite in sight. It is noteworthy that the protest was much more pronounced in the Yoruba-speaking part of Nigeria.

The current study examines the possibility of using indigenous elements from Yoruba people’s historical and linguistic heritage to promote true democracy in the individual as well as the collective psyche of the people of southwest Nigeria, with the aim of eradicating the pseudodemocracy that has made the people less democratic than they were in their precolonial monarchies.

## **Theoretical Framework**

### **Theory of Nativism**

As far back as the 17th century, there have been serious debates on the theory of nativism (Rickless, 2007), which has been viewed from different perspectives, giving rise to such colorations as “racist nativism” (Huber, 2011, p. 379), “linguistic nativism” (Holloway, 2020, p. viii), “mad dog nativism” (Cowie, 1998, p. 227), “special nativism” in relation to second language learning (Eckman, 1996), and described as “hostility against foreign immigration” and against “various internal minority groups” (Payne, 2017).

Though nativism has often manifested as violence against foreign things or persons (Grohse, 2017; Ortmann, 2017), the elements of antielitism, intolerance and violence are not encouraged as parts of nativism in the context of the current discourse. Nativism is about situating modern positive concepts within a target population’s cultural roots and traditions, their peculiar realities and making sure that their yearnings for cultural self-respect and autonomy are not compromised (Kumar, 2012). This, to some extent, parallels what Betz (2019, p. 111) refers to as “symbolic nativism” with the primary focus on preservation of cultural identity. Therefore, it is positive nativism that shall be employed in addressing the topic of this current discourse.

### **Sociocultural Theory**

Socrates recognized the significance of innate knowledge, which makes an ostensive student quite different from an ostensive teacher. Each party has innate knowledge, but their difference arises from the differences in experiences. The establishment of a subterranean dialogic relationship between the two parties is what results in meaningful learning (Keehn, 2017). It is noteworthy that this relationship cannot be established if the teacher is too Western to acknowledge and exploit the student’s innate knowledge resulting from the latter’s peculiar sociocultural experience.

Socrates's observations are quite relevant to the sociocultural theory propounded by Lev Semyonovich Vygotsky (1986). This theory postulates that truly functional education or socialization occurs only through meaningful social interaction. Learning in this context is progressive and must be culture-based. Vygotsky sees an overt, conscious behavior as an offshoot of a covert root (disposition) from the depths of the unconscious part of the individual. This unconscious part is a product of historical, cultural, and social origins that precede the individual's consciousness (dos Santos & Dalla Vecchia, 2018). Therefore, the content and forms must necessarily differ to varying extents from one society to another as a result of variable degrees of differences in cultural orientations. The implications of this theory for the current study include the need to situate the curriculum of Yoruba children's democracy education as close to Yoruba culture and language as possible to ensure that the contents feature consistently in their social interactions in and out of the classroom. This is how what Vygotsky termed the "inner speech" (White, 2018, p. iii) of the typical Yoruba learner of democracy can facilitate the actualization of any democratic principle taught.

Ojo (2020) identifies three ways in which cultural tools can be transmitted from one individual to another. The first is by initiative learning, which happens when one person tries to imitate another. The second occurs through instructed learning, involving remembering and utilizing the instruction of the teacher for self-adjustment. The third is through involvement in collaborative exercises. Each of these processes requires a great deal of interaction. In the social context of a Yoruba person who necessarily must learn and practice democratic principles in collaboration with people who either suffer from Limited English Deficiency Syndrome or are completely English-illiterate, the easiest way to avoid miseducation and information distortion is the use of the medium of communication common to all: the Yoruba language.

## **Democracy in Nigeria**

Nigeria's first republic had its "democracy" truncated in January 1966 through a military coup. The second republic, which started in 1979, was toppled on 31 December 1983 with another military coup. The third democratic experiment, which commenced on 29 May 1999, the longest in the history of the country, is still far from being a success. Nearly every feature of electioneering and governance has been at best pseudodemocratic, laced with an unending series of outright autocratic acts. Political thuggery, assassinations for political reasons, abduction of political opponents and their family members, ballot box snatching, vote buying, alteration of election results, financial misappropriation with impunity, use of security apparatuses to harass voters and peaceful demonstrators, nepotism, religious fanaticism in assigning political appointees, and numerous other vices are the horrible norm in the country (Omotoso, 2018). Nigerians thus suffer abject poverty in the midst of unusually abundant natural and human resources.

A critical examination of Nigeria's current democratic structure reveals that, despite some obvious lapses, the legal framework for a successful democratic government is in place. However, the legal provisions for running Nigeria's democracy cannot suffice in the absence of the right mental attitude of those holding political office, as well as the electorate. The gross democratic deficit is largely a result of ethical and dispositional failure on the parts of both the governed and the governors. After all, attitude or disposition plays a more significant role than any other provision made towards the success of any enterprise (Uță & Mitu, 2017; Jacobs et al., 2018; Sawicki & Wegener, 2018). Unfortunately, most Nigerians are so politically illiterate and poverty-stricken that they readily sell their conscience and all resources to serve the selfish purposes of flagrant political gladiators (Olatunji & Kolawole, 2010; Ezenwa et al., 2021).

One significant impediment to the proper implementation of Western-type democracy in Nigeria can be deduced from Ilik et al.'s (2019) observation that the European Union (EU) is an organ used by European states to influence the cultures of their former colonies. Though the authors posit that the “second coming” of the European states being worked out through the EU is to be a platform for cooperation rather than a master–servant relationship, it can still be reasonably asserted that certain ideals being promoted by the EU cannot be devoid of a degree of imperialism and inappropriateness with respect to the peculiarities of developing member states from Africa (Manku, 2018). Therefore, the EU style of democracy may not always be appropriate for African countries. There may thus have to be a sort of hybrid democracy that appeals to the traditional cultural roots of African states.

Another major roadblock to true democracy in Nigeria is the gross political illiteracy of a majority of the governors and the governed. It should be noted that the conception of literacy has gone beyond basic literacy (the ability to read, write, and do arithmetic) to functional literacy (ability to apply one's knowledge to advance personal and societal wellbeing). This is why scholars now talk of literacies (Chaka, 2020; García & Kleifgen, 2020; Tan et al., 2020). No matter the kind of degree a person possesses, or the number of university degrees, the person is rightly described as politically illiterate without evidence of appropriate political decisions. Political literacy is the possession of adequate information about the political principles, actions, factors, situations, and circumstances in their communities and beyond, development of appropriate attitudes, and masterly deployment of corresponding actions according to personally as well as societally felt political needs and developments. Political literacy thus has cognitive, affective, and psychomotor aspects (Zulkifli, 2021). Those in government have failed to imbibe of such virtues and values as integrity, selflessness, equity, sportsmanship, team spirit, and so on. A majority of the electorate, too, lacks these competencies (Wilson, 2016), which are values that a formidable education system should inculcate in its beneficiaries.

It is noteworthy that the type of education to inculcate democratic values in people should be connected to their emotional and sociocultural roots. It should transcend the cognitive to cater to their development in the affective domain. Of the three types of education (formal, informal, nonformal), the informal is that which works best in the affective domain. The more of the content and methods of indigenous-language-mediated informal or traditional education that is blended with the formal, the better we can expect the results to be in terms of democracy education. The farther away the English-language-mediated formal education strays from the indigenous-language-based informal education system, the more terrible the failure to get democratic values rooted in the recipients.

It follows, then, that even the best efforts to instill democratic principles in people through imported education can achieve very little (Li & Dervin, 2018). To worsen the matter for Nigerians, the imported education system is haphazardly coordinated by halfhearted governments that pay lip service to the educational development of the citizenry, since the children of the people in government attend the best and most expensive of schools in foreign countries and private schools in the country (Aladejana, 2007; Adebayo, 2009; Maduewesi & Ihebereme, 2010; Nwokeoma, 2010). Just a few among the many authors that have used the expression “paying lip service to education” in describing the successive governments' handling of Nigerian education are Shehu (2018); Egbedeyi and Babalola (2019); Bolaji et al. (2019); Abari and Orunbon (2020); Abubakar et al. (2020); Omorobi et al. (2021); Umezulike (2021); Muhammed et al. (2022); Sijuola (2022) and Egbedeyi and Babalola (2023).

Also, the inappropriateness of using a nonindigenous language as the medium of school instruction has been emphasized by many scholars. The content of Nigerian education aimed at promoting a democratic culture is taught via English, which is not indigenous to them. Therefore, a



important than democracy itself’ because they were the societal ethical values that sustained traditional Yoruba society’s governance.

From the linguistic point of view, proverbs, aphorisms, idioms and other such sayings among Yoruba people will have to be examined to reveal or better understand the democratic values in their culture. The current popularity and rate of use of such expressions in the Yoruba nation will also have to be correlated with the rate of success in democratic governance in the land. If the sayings’ popularity is on the increase or decrease, does the democratic culture also move in the same direction?

The ethical concept of *omolúàbí*, meaning “the virtuous one” but loosely translated as “the ideal being” and vaguely interpreted into English as “gentleman” (Olanipekun, 2017, p. 219), was taught through proverbs and other witty sayings. Since ethics is an integral part of political theory (Olanipekun, 2017), it follows that any instrument used to effectively inculcate it cannot be divorced from their political literacy level. Familiar and culture-based words are immensely powerful raw materials for establishing a strong connection between a people’s sentiments and particular learning objectives. An intimate interaction between the affective system and the cognitive system is what results in lasting cultural intelligence (Fink & Yolles, 2018), which will form a good basis for dignifying participation in a democracy.

Cultural tools enhance autonomous learning behavior (Kaur, 2017). Exploiting material and linguistic cultural facilities to inculcate democratic values in students would thus be a highly profitable venture. Norris (2017) identifies cultural, constitutional, and behavioral factors as the determinants of the success or failure of democracy. Language is both a significant component of a people’s culture and probably the most significant means of cultural transmission, vertically and horizontally. Therefore, examining a people’s linguistic repertoire will show if they cherish democratic values in their culture and are transmitting such values across generations. If the promotion of democratic values is found in Yoruba people’s language, it means it is an integral part of their culture. It then follows that a culturally appropriate version of democracy that can be adapted to the peculiar needs of the Yoruba people can be fashioned.

Ojo (2020) has identified Yoruba folktales, an aspect of oral literature and the linguistic repertoire, as highly effective instruments for morality and sociocultural education that can foster democratic practices among the people. Moreover, according to Omobowale (2018), a typical Yoruba understands and interprets the social world through linguistic symbols. The acquisition of linguistic symbols, such as proverbs, idioms, dirges, and poems, among other things, begins informally at home.

Literature has established the reality of democratic practices in the monarchies that existed in the ethnonyms that constituted what is now known as Yorubaland as far back as 200 BCE (Ajala, 2009; Omobowale, 2018). It has also shown that the linguistic heritage of the people is replete with proverbs, idioms, dirges, poems, etc. that are strong enough to inculcate democratic values and virtues in a typical home. The widespread use of the same in the community could also fortify the values at the societal level, thus making efficient and effective democratic citizens of partisan politicians as well as of the voting populace. The remaining parts of this study will thus present the analysis of current trends as regards the people’s knowledge of the democracy-fostering linguistic symbols among the Yoruba people.

## Methods and Materials

The descriptive survey method was employed. Stratified random sampling was used to predetermine that 100 people below the age of 40 and 100 above 40 years of age were to participate in the study. The stratification along the age factor was a result of preliminary investigations that revealed that

Yoruba people who are 40 years and below are those most disconnected from their cultural roots through school curriculum changes that have either relegated Yoruba language and some other school subjects that inculcated distinctive Yoruba cultural elements to the background or completely removed them. The preliminary study also showed that most Yorubas who are 50 years and older attended public primary and secondary schools where speaking Yoruba was not outlawed, unlike nowadays, when private schools that forbid the use of Yoruba are exceedingly popular. However, chance/accidental sampling was used to select the actual participants until the predetermined sample size for each age group was fulfilled.

A four-item interview guide titled “Democratic Value-Laden Sayings in Yoruba Language Investigation Guide” was constructed for data collection and was personally administered by the researcher. Both quantitative (frequency counts and percentages) and qualitative methods were employed to analyze the collected data, which were used to answer five research questions.

## Findings and Discussion

### *Research Question 1: Do Yoruba people of southwestern Nigeria have any historical heritage of democratic practices?*

The answer to this particularly important question, as clearly shown from the literature reviewed about the ancient Oyo Empire, is emphatically affirmative. There were sacrosanct democratic principles and practices in the monarchical systems of government in ancient Yorubaland. Democracy is not a new introduction from Europe (Salami, 2006; Kanu, 2015; Oyeshile, 2017; Omobowale, 2018). The modest contributions of people from that region to the democratic process in Nigeria should thus not be a surprise.

One of the implications of this finding is that the failure of efforts to bring out the best of democracy in Yoruba people may be due to the imposition of a Western or European type of democracy, rather than fashioning a sort of hybrid from the people’s historical and cultural roots and selected elements of Western democracy found helpful and applicable. Rather than being a welcome improvement on the indigenous democratic values of the people, the wholesale imposition of Western-style democracy has created an imbalance in the Yoruba elites and common people alike. The same tenets of democracy that were strictly adhered to by the Yoruba of old are now found cumbersome to follow by an average modern-day Yoruba.

### *Research Question 2: Does Yoruba language have any sayings portraying elements of democratic values from their monarchical precolonial culture?*

The answer to this question, as can be seen in the following table, is that the precolonial monarchical Yoruba culture was replete with linguistic materials rich in values and virtues that can facilitate democratic disposition. They are among the sayings supplied by the respondents during interactions with them. The translation of each into English has been done in such a way as to make it as close to the original rendition as possible to retain as much of the cultural flavor as possible.

**Table 1.** Democratic Value-Laden Linguistic Elements from Yoruba Language Supplied by Respondents

S/N	Yoruba Saying	Translation	Democratic Value
1	Àgbájo owó la fi n sòyà	All five fingers are needed to beat one's chest in a boast.	Team Spirit/Strength in Unity
2	Òṣùṣù owò ló le gbálè mó.	A broomstick cannot sweep clean; A bunch does.	
3	Àjèjé owó kan kò gbèrù dórí	Two (not one) hands can cooperate to successfully lift a heavy load to great heights (the head).	
4	Àìkòwòórín omo ejò ní sekú pa wón; Bóká bá síwájú, tí pamólè tèlé e, tójòlá n wó ruru bò léyìn, ó ku baba eni tó le dúro domo ejò níronà.	Lone ranging endangers snakes' lives. If a python takes the lead, a serpent/viper follows, and a mighty python crawls majestically behind them, who dares accost them?	
5	Enikan kí jé "Àwa dé"; Òpò èyàn ní í jé jànmó-òn.	A single person does not make a congregation.	
6	Igi kan kò le dágboṣe	A (single) tree does not make a forest.	
7	Eni tó bá jalè léèkan, tó bá dárán borí léyìn ogún odún, aṣo olè ló dàbora.	A thief convicted twenty years ago cannot fault any suspicion that their newly acquired expensive clothes may have been acquired through theft. Once a thief, always a thief.	Honesty, Truthfulness, Dignity and Integrity
8	Òrò ò dùn lénu iyá olè	The mother (family members) of a thief cannot be exonerated from their child's ignoble acts.	
9	Omodé ò jobi; àgbà ò joyè	They that aim at prestigious positions must take care of even the youngest and seemingly insignificant sections of society.	Separation of Power, Interdependence and Specialisation
10	Owó omodé kò tó pepe; tàgbàlagbà kò wo kèrègbè.	Both the young and the old have their exclusive abilities. (A child's hand cannot reach the roof top while an elder's hand cannot enter a thin-necked gourd).	
11	Enikan ò ní gbín àlùbòsà kó hù èfó; ohun a bá gbín lóni ni yóo hù bó dola.	The law of cause and effect cannot be circumvented. Whatever a person sows they will certainly reap.	Karma, What Goes Around Comes Around, You Reap What You Sow
12	Bóo láyà, kóo ṣèkà; Bóo rántí ikú Gáà, kóo ṣòótó.	If bravery pushes you into wickedness, let your knowledge of Gáà (a one-time wicked head of Òyómèsi, who suffered ignoble removal and death) edge you into leading with kindness.	
13	Omodé gbón àgbà gbón la fi dá ilè Ifè.	The wisdom of both elders and the young expanded Ifè kingdom (the cradle of the	Wide consultation

		Yoruba race). (Wisdom is not exclusive to the elders.)	before decision making
14	Eni taa fi joye awodi, o ye ko le gbadiye.	Anyone imbued with authority must learn to exercise it gracefully.	Competent and Graceful Leadership
15	Akukuu joye san ju "enu mi o kaluu".	It's better not to be crowned than to be like a crowned toothless dog.	
16	Benu ba bu akara koja ohun to gba, yoo pofolo.	A mouth overstuffed with food definitely chokes.	Contentment against Greed
17	Olowo kan laarin otosi mefa, otosi di meje.	One rich person in the midst of six paupers is the seventh pauper.	
18	Tara eni lo n dunni ki je ka rogbon tan.	Anyone fixated on their personal problems cannot be wise.	Selflessness and Consideration for Others
19	Ka to domo eye lora, o ye ka fero ro ara eni.	Before hurting a bird, put yourself in the poor creature's shoes first.	
20	Ka too fada gegi nigbo, ka koko fi danra eni wo.	Before cutting a tree down to a bush, first imagine if you were the tree.	
21	"Awa yo" fira re gbodi.	He who says, "We are not hungry" without considering his fellows who may be hungry is a wicked person attracting hatred.	
22	Ibi ko ju ibi; Bi a se beru la bomo.	Both prince and pauper are equal in manner of conception and birth.	Equality and Equity before the Law as Preached by Common of Natural Circumstances of Birth
23	Omo to sole nu ti so apo iya ko	Whoever forsakes their home will eventually suffer terribly for the neglect.	Home is the best place to be. OR, There's no place like home.
24	A ki tori pe a n re Ede ka ba ede je	The wise do not destroy their homestead just because they are travelling to a more cosmopolitan place.	
25	Adie to n to si isaasun; oju ori re lo n baje.	A fowl that urinates in a soup pot is simply desecrating its final resting place.	

If these ethics are inculcated from childhood in a people's language, it is logical to expect that they would develop into sincere and dedicated democrats. For example, Team Spirit/the appreciation of strength in unity which numbers 1-6 are meant to impart could prevent the spirit of "I, me, mine and myself" that produces the "winner takes all" mentality in people that clinch political mandates. The principle of exclusion rather than inclusion robs political-office holders of much-needed cooperation from people outside their political affiliations. Even when the person in power tries to initiate an inclusive regime, the invited people with potential from other political blocs who have failed to internalize team spirit would rather stay aloof and wait for the incumbent to fail.

People either duly elected or who have stolen the people's mandate to occupy political offices in Nigeria have often been noted to distance themselves from the political constituencies they supposedly represent. Most of these who lived among the people from whom they got the mandate soon relocate to an extremely far distance outside the reach of the voters, to show up only when it is almost time for another election. Such politicians obviously lack a sense of the wisdom of working together with the people in their electoral constituencies. There are thus instances in which angry electorates mob their political representatives when the latter abscond for four years only to reappear when another election is imminent, with the aim of cajoling votes out of their former constituents, as usual.

Items 7 and 8 teach honesty, truthfulness, dignity, and integrity. They portray traditional Yoruba people's zero tolerance for stealing. Whoever was found guilty of stealing lost face forever (no. 7). Even their relatives that failed to train them in the path of honesty and did not expose the thief in time would not have a voice in the community (no. 8). This ideology of collective responsibility for one's relative's error is also obvious in the Yoruba saying, "E rójú olè, e ò mú un ni; omo yín ò sagbàfò, ó n káso wálé" transliterated "You know the thief, you simply refuse to expose them. Your child brings home many dresses without being a dry cleaner/lauderer." Relatives and neighbors of thieves also received their portion of the punishment in this cultural context. Unfortunately, in today's Nigeria generally and Yorubaland particularly, because such sayings are unknown, forgotten or ignored, politicians coming out of prison having been convicted of massive looting of public funds are given heroic welcomes by relatives and neighbors alike, thus unashamedly identifying with their thieving heroes and heroines. Such people are oblivious of the Yoruba saying, "Agbèpolájà ò jèbi bí eni tó bá a gbà á sílè," transliterated "He who steals a keg of palm oil from the rooftop is less guilty than he who helps him collect and put it on the ground."

Items 9 and 10 extol separation of power and specialization. Nigerians have had the misfortune to bear unpleasant consequences of unnecessary frictions between the executive and legislative arms of government since the return of the uncivil rule that commenced on 29 May 1999. The judicial arm of government has often been rendered ineffective by the executive, who has a default mode of disobeying court orders.

Items 11 and 12 inculcate awareness of the law of sowing and reaping that has been variously termed the law of divine retribution, the law of cause and effect, the law of Karma, and so on. When Yoruba people were able to properly relate to these and other similar sayings, they were convinced that whether an act took place out in the open or in secret, the actor could never circumvent the consequences. So, for the love of self and others, a typical Yoruba person would refrain from perpetrating evil presumptuously. However, nowadays, most Nigerians, politicians especially, commit unimaginably evil acts with impunity. After all, they are rich enough to buy undeserved favorable judgements and powerful enough to permanently silence any daring accuser with the bullets of expert assassins. The killers of the former Attorney General and Minister for Justice (late Chief Ajibola Ige) and late Funso Williams (an intimidatingly popular and highly promising gubernatorial candidate in Lagos State), among many others, are yet to be identified. And this reveals a lot of rot caused by total disregard for the law of sowing and reaping.

Item 13 advocates wide consultation before decision-making. It emphasizes the fact that even children have useful ideas. This virtue has been significantly replaced by conceit and self-serving tendencies. The recent #ENDSARS protest by Nigerians against the gruesome murders and unwarranted brutalization of Nigerian youths by men and officers of the now defunct Special Anti-Robbery Squad (SARS) is a clear testimony to this. It is noteworthy that this protest came against the backdrop of the government's inability to listen to previous outcries of the youths against several

proven instances of gross dehumanization. Items 14 and 15 extol the qualities of competent and graceful leadership. They advocate declining to assume leadership positions or voluntarily relinquishing such positions in the eventuality of inability to manage the community's affairs gracefully. An unbiased comparison of performance against campaign promises of most political office holders would show that they are either oblivious of the virtue of dignity strongly recommended by items 14 and 15, or they simply don't care. Otherwise, they would have toed the line of dignity by resigning. They would rather seek to have a second term, or more where allowed.

Even though the incumbent president of the country, retired General Mohamadu Buhari, is not Yoruba and may therefore be oblivious of these applicable Yoruba sayings, the Yoruba people that campaigned and voted for his second term have themselves displayed gross illiteracy as regards these sayings. Otherwise, since it is undeniable that he was not able to "kill corruption" (Dauda, 2022, p.10; Assay, 2023, p.68), stop the Boko Haram insurgency and herders' terrorism, or make a dollar equal to one naira as he promised before being elected (Joab-Peterside, 2020; Aruofor & Ogbeide, 2022; Idam & Emeh, 2022), they should have known that allowing him to complete the first term was too much generosity, much less supporting a second term bid from him. It is safe to conclude that such Yoruba people, too, would have sought a second term in similar situations, showing that they cannot relate to the words of native wisdom.

Where the virtues of items 16-21 are upheld, the practice of storing up hard currencies lying fallow inside private buildings and the purchase of expensive houses in foreign countries (Peel, 2006; Page, 2020) would remain unimaginable. This is the height of greed and lack of consideration for the more than 80 million Nigerians who barely survive below the United Nations' identified poverty line of less than one dollar per day (Osam, 2018). Any Yoruba among the perpetrators has certainly lost touch with the wise saying "Olówó kan láàrin òtòṣì méfà, òtòṣì dì méje." meaning a rich fellow in the midst of six paupers is actually the seventh pauper. Nigeria has been described as the "poverty capital of the world" (Otegunrin et al., 2019, p. 1) and the excessively rich Nigerian politicians have not ceased to be a part of that poverty stigma. A well-cultured Yoruba fellow whose life is guided by the rich moral principles in the culture and language of Yorubaland would strive not to be a seventh pauper and would thus do their best to raise wealthy people from among the six paupers around them. According to Ojukwu and Shopeju (2010, p. 15), corruption of the elites in Nigeria is "arguably one of the inherited colonial practices and ethos."

Similarly, item 22 teaches the equality of all mortals by virtue of the similarity of preconditions for conception and manners of birth. However, many Nigerian political leaders look down on the less privileged among the electorate. Such arrogant politicians are not guiltier than the members of the electorate who applaud them. They both act against the principle of equality of all humans that democracy upholds.

Against the ethics preached by items 23-25, most Nigerian politicians patronize foreign medical facilities for themselves and family members, enroll their children in the most expensive schools abroad and buy choice houses on which they pay exorbitant taxes in the developed countries of the world rather than upgrade the facilities in their homeland.

In contrast, the aforementioned items teach that charity must begin at home. It can only be hoped that their inability to access such foreign facilities during the scourge of the coronavirus pandemic helped them realize the wisdom of keeping the homestead in good condition.

It should be stressed that the typical Nigerian politician, including a typical Yoruba politician, is a product of their society. If they are found to lack some ethics of democracy, the society is largely to blame. Furthermore, if a person lacking such ethics is mistakenly elected to office, an adequately

cultured electorate would put him/her back on track. Many Yoruba people give their precious votes away and support politicians that lack democratic principles because they themselves are bereft of such qualities and cannot, therefore, hold the politicians accountable.

While it is rational to assert that the connection of some of the virtues and values promoted by the selected proverbs to democratic behaviors may not be obvious, it is equally valid to consider the fact that behaviors do have remote attitudinal factors that may even be more fundamental than the immediate precipitating variables that can be easily connected. No amount of direct teaching of the technicalities of democracy can be as effective as the impact of attitudes, dispositions and lifestyles naturally imbibed through informal acculturation. The cognitive as well as the affective dynamics of a proverb like “Omo tó solenù ti so àpò iyà kó” can go a long way in inspiring patriotism in politicians and the electorate, to the extent that anything that could hurt the development of their constituencies will be automatic and permanent anathema. The tone of finality and absoluteness as regards the unpleasant consequence of hurting one’s community that the proverb expresses can be a more effective deterrent to antidemocratic behavior than the teaching of a thousand principles of democracy from a foreign culture.

***Research Question 3: Are such sayings still widely known and spoken by present-day Yoruba people?***

**Table 2.** *Respondents’ rate of knowledge of democracy-promoting sayings in Yoruba language*

Age	Number of sayings supplied					Total
	20 & above	10 & above	5 & above	Less than 5	None	
Above 40	48	21	20	7	4	100
Below 40	15	9	13	50	13	100
<b>Total</b>	<b>63</b>	<b>30</b>	<b>33</b>	<b>57</b>	<b>17</b>	<b>200</b>

Table 2 shows a significant decline in respondents’ knowledge of the linguistic heritage for democratic values. The younger generation of Yoruba people knows little of their ethics-laden linguistic inheritance. This means that unless concerted efforts are made to preserve and propagate these linguistic treasures for future generations of Yoruba, the sayings will go extinct (Fakuade et al., 2018; Jerome & Voloshina, 2019).

***Research Question 4: Do Yoruba people think there is a decline in the manifestation of democratic values among their people?***

**Table 3.** *Respondents’ rating of manifestation of democratic values among their people*

Age	Declining	Increasing	Stable	Unsure	Total
Above 40	91	4	3	2	100
Below 40	70	11	10	9	100
<b>Total</b>	<b>161</b>	<b>15</b>	<b>13</b>	<b>11</b>	<b>200</b>

Table 3 shows that respondents from both the older and younger generations generally observed a rapid decline in the demonstration of democratic values among their people. As expected, a greater percentage of the older generation expressed a stronger conviction about this decline. This is understandable because the more elderly have the privilege of a longer period of hindsight.

***Research Question 5: Do Yoruba people think the rate of application of these sayings in speech and conduct impacts the success of democracy among their people?***

**Table 4.** Respondents' perception of the impact of democracy-promoting linguistic heritage on Yoruba people's actual democratic practices

Age	Has impact	No Impact	Unsure	Total
Above 40	97	2	1	100
Below 40	81	11	8	100
<b>Total</b>	<b>178</b>	<b>13</b>	<b>9</b>	<b>200</b>

Table 4 shows agreement between the two age groups that the farther removed from Yoruba the southwestern Nigerian are, the farther they slip into one of the conditions Bogaards (2018, p. 1481) refers to as “de-democratization,” “democratic deconsolidation, backsliding, regression, and erosion” and “diffusely defective democracy.” This thus corroborates the position that wholesale adoption of Western systems of government, rather than a hybrid of appropriate elements from former colonial masters' and traditional elements in African settings, is an aberration (Akinlabi, 2019).

## Conclusion

The irreversible fall of capitalism and the uprising against totalitarianism sweeping across Tunisia, Syria and other nondemocratic regions of the world indicate the imminent worldwide triumph of democracy (Sampurna, 2016; Koca, 2017). The earlier Nigerians transform their current pseudodemocracy into a true democracy and construct a good democratic foundation through appropriate education, the better for the country. This can be achieved by taking the people back to their historical and linguistic heritage through Yoruba-language-medium education from cradle to the end of secondary school. Otherwise, a total collapse may be inevitable, significantly caused by what Akwara (2019, p. 2) refers to as “the artificiality of western democracy.”

## Recommendations

1. The Nigerian government should change the existing policy that stipulates Yoruba language as a medium of instruction only up to the end of the fourth year of basic education in Yorubaland.
2. The use of Yoruba as a medium of school instruction should be extended to the end secondary education to enhance the mastery of democratic concepts in southwestern Nigeria.
3. The facts of the existence of democratic structures in ancient Yoruba monarchies, as well as the linguistic elements for the promotion of democratic values in Yoruba language, should be consciously and copiously promoted through appropriate school subjects throughout the primary and secondary school years to engrave the virtues in Yoruba children's hearts.

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## In the Trading Zone: Rethinking Science Education through Collaborative Curriculum Practices and Research *with* Bilingual Latino Students and Educators

Max Vazquez Dominguez and Lourdes Cardozo-Gaibisso

### Abstract

In this article, we describe and discuss the negotiations and processes of carrying out a science curriculum-based research project with multiple stakeholders, including an 8th grade science teacher/soccer coach, and 24 student-participants from a middle school in the South-eastern United States. Drawing on the theoretical notion of trading zones, we focus on the negotiations, commitments, and collaborations that took place in order to: (a) teach science to Latino students in the context of an after-school soccer program, (b) develop curriculum and (c) carry out a research program in which both material things and physical spaces are recognized as central to this process. Our study presents these experiences and processes in relation to the characteristics of the human and non-human elements involved in this work. We conclude with a set of recommendations for pre-service and in-service science teachers developing science activities as part of a broader curriculum and teaching science to middle school students in multilingual, multi-ethnic, and multicultural settings.

**Keywords:** bilingual students, trading zones, Latinos, school-university partnerships, science education

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## Introduction

The Latine<sup>1</sup> community plays an important and evolving role in United States society, contributing to cultural and linguistic diversity both in the workforce and in classrooms (Park, Zong & Batalova, 2018). Increased presence and visibility of Latine communities are occurring in regions like the ‘Deep South’ where the ethnic composition was relatively stable until the late twentieth century (Levine & LeBaron, 2011). This landscape coincides with societal demands for science knowledge and skills that are reflected in the current reform initiatives in science education (NGSS lead states, 2013; NRC, 2011), and are paralleled by calls for new science and engineering skills in the industrial sector (Gordon & DeBard, 2014). However, curricular changes in education have had only limited success in supporting Latine students in learning science, at least in part because their cultural practices are rarely addressed in frameworks that continue to view science “as culture-free” (Lee & Buxton, 2013). In the research described in this article, we<sup>2</sup> focused on cultural practices that have played an important role in the sociohistorical contexts of most Latin American countries; indeed, our understanding of these practices informed how we negotiated the implementation and adaptation of program activities. In this article we share parts of these activities to illustrate our approach, but we encourage readers interested in understanding the full structure of the science activities and other resources described here (e.g., use of bilingualism in science, translanguaging in science education) to refer to our work and materials in the following texts (e.g. Buxton et al., 2022; Cardozo-Gaibisso, et al., 2017 and Harman et al., 2022).

Our research focuses on how soccer and science can be used to engage Latine middle school students in thinking, learning, and communicating about their science ideas bilingually in an after-school program. We believe our approach provides examples of how science teachers can design activities based on their students’ interests and passions in the classroom. In a review of the literature related to culturally responsive science teaching, we have found no other studies using science and soccer for pedagogical purposes (Vazquez Dominguez et al., 2017). The soccer with science activities presented in this article follow a modified version of the Language-rich Inquiry Science with English Language Learners through Biotechnology (LISELL-B) pedagogical model (see Buxton, et al., 2016; Cardozo Gaibisso et al., 2022). Our earlier work on Latine emergent bilingual learners (EBLs) in soccer afterschool programs (Vazquez Dominguez et al., 2017) clarified how students engaged in planned curriculum activities, but it did not discuss key planning aspects that may help practitioners in developing collaborative science curriculum and resources with EBLs.

To address that gap, in this article, we explain: (a) How a teacher-research project changed over time through negotiations among the science teacher/soccer coach, researchers, and students; and (b) How the project continued to adapt according to shifting material conditions, such as the number of students, school facilities, weather conditions, and students’ feedback. As we discuss later, these modifications allowed us, in our multiple roles as science and language teachers/researchers/curriculum developers to consider and integrate institutional requirements, colleagues’ suggestions, and participants’ voices to make the curriculum-embedded activities more meaningful and engaging for the students, as well as relevant for the school context. With the aim of

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<sup>1</sup> In this paper, we use the terms Latine and Latino. We use the term *Latine* throughout the paper to include all those who identify or are identified as coming from Latin American or Mexican cultural heritage and Spanish linguistic heritage. However, when discussing our specific study, we use the term *Latino* because this was how the participants playing in the soccer team identified themselves.

<sup>2</sup> The word “we” is used in this article to refer to the two authors who collaborated in designing the study and analyzing and interpreting the data. The lead author collected the data. At points where the experiences in the field are being described, the term “I” is used to refer to the first author.

disrupting the artificial curricular divide between theory and practice our work is grounded in the notion that “one essential aspect of disciplining as well as of the concomitant homogenization and exclusion processes that are increasingly accepted as the norm since the rise of national schools is the artificial distinction between the practical and the theoretical. The critique here is that this distinction is perpetuated and entrenched in schools because theory is prioritized over practice” (Hestholm & Jobst, 2020, p. 271).

With the aim of elucidating the disruption caused by this theory-practice divide, we explore how the institutional requirements and negotiations among multiple actors derived insights for science teachers developing science curricula, conducting research, and teaching science to middle school students. Science teachers who are not doing all three processes, teaching/researching/developing curriculum, but are focusing on a single aspect, may also benefit from reading and considering the lessons learned from this project, while thinking about the challenges and affordances of teaching and learning in the trading zone, a concept we develop later in the paper.

## **Context**

As frequent visitors of the school in our role as researchers, we were familiar with the middle school before we started this project and knew many of the science teachers working at the institution. Many science and ESOL teachers have been participating in the LISELL-B project situated at a university in the Southeastern United States since the early stages of the project in 2009. From Fall of 2013, we participated in the LISELL-B project with Mr. C, the science teacher/soccer coach, with a special emphasis on the professional learning framework activities. During the project activities, Mr. C talked with us on multiple occasions about soccer and the challenges he faced as a goalie in local leagues. Furthermore, he also mentioned how he saw his responsibilities of teaching science and coaching the middle school soccer team as complementary ones, despite the artificial divide set by the school context. Mr. C also shared his preference for the Premier and Spanish leagues and other international leagues throughout the year and mentioned how it was common for him to talk about those games with his students between class periods or at the end of the day, just for the joy of sharing different topics with his students. Mr. C. always had something interesting to say about science, soccer, and his class, and the connections between these three components became clearer as his relationship with the research team deepened. It became clear that Mr. C., like many educators, was always carrying material and symbolic pieces of his personal trajectory to the classroom, and incorporating “institutional cultures, the academy, politics of inquiry, histories, languages, and ways we identify are a part of our teaching and learning” (Ulmer, Kuby & Christ, 2020, p. 5).

A vivid example of this can be linked to the first time we visited his classroom and were able to appreciate the myriad of resources displayed on the walls. This was not a regular science classroom, for you were able to find Newton and Einstein bubblehead toys in the original packages, Matt Groening’s framed artwork, vintage robot toys, and science cartoons around the room. However, Mr. C’s enjoyment of and interest in soccer and other components outside of the science field did not prevent him from establishing a rigorous discipline during the science class, soccer practices, and formal games with the students and student-athletes. In this light, the school policy about student-athletes, those students who are part of a sports club in school, was very clear in terms of expectations regarding their behaviour and academic performance. This meant that if a student-athlete was not performing and behaving as expected, then his/her/their place in any of the sport teams would be jeopardized or lost until their performance in the classroom met the required expectations. As shown by research there are positive effects associated with Latine student participation in sports and school performance (Bang et al., 2019).

Following this principle, communication between the coaches and teachers in the school was very effective, and if any student's infractions were detected in the school area or in the classroom, then the rest of the teachers and coaches would be informed through email. Indeed, we witnessed this when one of our student participants, Israel, was suspended because he misbehaved during math class which later prevented him from attending soccer practice. Soon, we learned the explicit rules and requirements for students both in the school and in Mr. C's class, which greatly aided us as we planned the research, curriculum development, and teaching process. Mr. C's familiarity with the LISELL-B project practices, our previous collaborations, and his interest in soccer, as well as his willingness to experiment with new things, contributed to facilitating the development of this soccer with science curriculum research project in his science classroom and soccer field spaces. Next, we will delve into the resources needed for this research, curriculum development, and teaching project, and the negotiations that happened during this process in the trading zone.

This study we present in this article is a sub-project which was part of a larger National Science Foundation-funded project, located and developed in the south-eastern United States. The project included a professional learning framework and pedagogical model for both teachers and EBL Latine students. The professional learning framework consisted of a summer teacher institute, student summer academy, grand rounds classroom observations, bilingual steps to college through science workshops, and teacher exploration of students' writing workshops. This framework had the unique characteristic of disrupting the usual top-down professional development approaches and positioned teachers, students and other collaborators (Cardozo-Gaibisso & Harman, 2019) so that they could "co-construct knowledge and resources that can be used to address the needs of diverse student populations" (Buxton et al., 2015, p. 9). By collaborating with science teachers, the main objective of the project was to experiment with instructional strategies that promote students' engagement with and communication about science activities and ideas. To achieve this purpose, we worked closely over several years with the EBLs (n= 1,600), their families, and the science teachers (n= 25), in the different contexts of the professional learning framework.

### **Framing the Study: Trading Zones in Developing the Soccer with Science Curriculum and Student Passions**

The notions of research-practice partnerships as *trading zones* guided our understanding of how participants in the soccer with science project negotiated their schoolwork, rules, and additional interpersonal and academic exchanges (Galison, 1997; Penuel, Coburn, & Gallagher, 2013). A trading zone can be defined as an environment where people have many cultures, different practices, and perspectives, in spite of which they converge in a place to collaborate, create, organize, and act as they look for a common ground and to fulfil a specific objective. Nevertheless, this common ground does not emerge without conflicts or tensions, as participants have diverse statuses and interests, and they are positioned differently within hierarchical social structures. In these collaborative environments where people's cultural tools intersect, there is the possibility for participants to create new forms and ways of practice through negotiation (Penuel et al., 2007).

In the soccer-with-science research project presented in this article, negotiations began from the moment the co-design process started among participants. This involved interactions and adaptations between university researchers and Mr. C, the science teacher and soccer coach, all with the goal of developing a set of activities that incorporated both soccer and science. Choosing soccer was a decision inspired by the idea that learning can be enhanced when classroom content is connected to student passions, and when teachers are able to create a motivating and exciting learning climate (Serin, 2017). Indeed, a review of the existing literature (Newell, 2003; Manuel, 2017; Ball, 2016)

confirms the notion that engaging and connecting students with motivating and culturally relevant content is not only advantageous but also necessary. Therefore, teachers and educators should attempt to design activities that fulfill this objective.

### **Materials and Methods: Negotiations When Planning and Carrying Out the Soccer with Science Curriculum Practices at Bear Hill Middle School**

Since the beginning of our involvement with the LISELL-B research project, and especially in the process of engaging EBLs in learning science, we started our research planning with the premise of linking a passion shared by several Latine students to science education. Our previous experiences with the project doing ethnographic work for more than four years in science education, immigration, secondary and post-secondary education with parents and students from Bear Hill Middle School allowed us to gather enough evidence to support the claim that soccer is a passion shared by many Latine students and parents from México, Central America, and South America who are now living in the southeast region of the United States for multiple reasons and under diverse circumstances (see Cardozo-Gaibisso et al., 2018). As Latine scholars and immigrants ourselves, it was clear that this passion for soccer was not just a superficial trait of our culture, but one that carries deep meaning and connections to our cultural roots that go far beyond the sport, connecting to the indigenous roots shared by members of the research team and the students who were part of the project (Blümchen, 2009). Indeed, soccer, as a driving force, seemed to be a perfect locus for the science activities we were developing as this sport practice has been a very popular tradition for students and their parents since soccer has intertwined historically with most Latin American countries (Vazquez Dominguez et al., 2017). Besides providing an important driving force, the popularity of the sport offers the advantage that most students possess vast previous knowledge and understanding of it, such as its rules, famous players, international tournaments, and iconic games. Additionally, the equipment needed to practice soccer is relatively inexpensive. These characteristics combined, as well as the conditions available to develop a curriculum project involving soccer and science encouraged us to link these two realms with the motivating idea that the connection of these two elements could offer: (a) science teachers the possibility to explore how to teach science by developing curriculum in a relatively straightforward and meaningful manner; and (b) EBLs the possibility to learn and expand on the language of science and the practices of doing science bilingually, in English and Spanish, while engaging in a well-known activity such as soccer in a familiar space such as the school (Vazquez Dominguez et al., 2017).

Despite the popularity of the sport and the fact that many students play it in schools, the connection between soccer and science for educational purposes has not been researched thoroughly or in a culturally sustaining way that builds meaningfully on students' passion for soccer. What is more, while many teachers working with linguistically and culturally minoritized students recognize the need to bring their experiential knowledge to the science classroom they are often not successful in doing so (Vazquez Dominguez et al., 2017). A predominant approach to this is to include a set of tools and practices in their classroom activities, usually known as the tourist approach. This approach often fails to acknowledge the potential of using students' backgrounds to create whole learning units and curriculum throughout the academic year instead of just adding isolated information about soccer sporadically or as a starting point of a lesson or learning unit.

To address this issue, our intervention explores the problems, including negotiations and adaptations of students' cultural tools and practices, while implementing them with the middle school science teacher and students as part of an afterschool program. The emphasis of our work with the focal teacher (Mr. C.) was soccer as the Latino students in the class were very explicit about their

interest in the game. Moreover, the science teacher/soccer coach recognized the importance of this activity for these students.

In terms of the demographics of the school, 84% of the student population was eligible for free/reduced lunch, and the ethnic composition of the 640 students in the school at the time of this research (2014) was: 52% African American, 2% Asian, 33% Hispanic, 3% Multi-racial, and 10% White. For this culturally and linguistically diverse group, we believe that creating meaningful opportunities for science content and the language of science learning was, and still is, crucial both in terms of equity and social justice (Harman et al., 2021). In this light, the curriculum activities we developed for this project were innovative in the sense that they used soccer as a driving force to engage students in studying and communicating about science throughout the year.

The structure of the soccer with science curriculum activities was very similar to those developed in the LISELL-B Project. They started with a Language Booster, which consisted of a one-page introduction to the science topic using what is usually known as academic vocabulary, in context. This was followed by a hands-on activity aimed at exploring the focal science concept while gathering scientific evidence and concluded with a summary template to guide students to connect the concepts they were learning with the investigation practices they were using. For this soccer and science project, we used an adapted version of the lesson framework from the LISELL-B project (see figure 1). Additionally, we included short videos of soccer stars making amazing plays that were followed by an introduction and questions about students' experiences as related to science. To support the inquiry approach to science meaning making, we linked the physical activity to soccer, students' data collection, and final science questions, which all resulted from the ongoing trading or negotiations with participants. This experimentation of including a video excerpt from a soccer match as an initial part of the activity offered both pedagogical opportunities and risks because if not planned and executed properly, it could easily lead to a focus on soccer play disconnected from science learning and the school curriculum. In the end, we settled on a structure where the students read about a soccer scenario first, then watched a short video and discussed a picture and a challenge for the students. Students were asked to predict who on the team would be able to best perform that soccer trick, then work together to gather data and finally to summarize their results using the science concepts. It took several sessions in what we consider the main trading zone for the collective group to settle on and apply this structure.

**Figure 1.** Soccer with science Activity #1- Kick-spin-air resistance-different balls activity

Watch this video about a free kick in soccer:

Ve el siguiente video acerca del tiro libre en el fútbol:

[http://www.youtube.com/watch?v=3ECoR\\_tjNQ](http://www.youtube.com/watch?v=3ECoR_tjNQ)

**Procedure**

You want to conduct an experiment in which you want to find out about different types of balls and if they curl like a soccer ball when kicked with the proper spin. Imagine that you ask Roberto Carlos (the one who scored a goal in the video) to repeat the same free kick with all the options you will try. What ball will curl the most and why?

**Procedimiento**

Quieres hacer un experimento en el que deseas obtener información sobre los diferentes tipos de balones y el efecto que tienen cuando se patean con el giro adecuado. Imagínese que le pides Roberto Carlos (el que marcó un gol en el video) para repetir el mismo tiro libre con todas las opciones que tratará. ¿A qué balón se le puede dar más efecto y por qué?

Materials:

- 1 Soccer ball size 5
- 1 plastic ball
- 1 tennis ball

Materiales:

- 1 balón de fútbol del 5
- 1 pelota de plástico
- 1 pelota de tenis



a) What is your hypothesis about your experiment? <i>¿Cuál es tu hipótesis acerca de tu experimento?</i>	b) What observations will you need to do in order to prove your hypothesis? <i>¿Qué observaciones necesitarías hacer para probar tu hipótesis?</i>

Addressing this issue openly, and due to these potential frictions, a theoretical framework that discusses how negotiations and adaptations are developed to address this possible conflict was selected to explain this research/teaching/curriculum development process. We introduce and describe this approach in the following sections.

**Positionality**

We would like to expand on our researcher positionalities by briefly stating our background. The first author is a Mexican science educator who has worked for the last eleven years in the United States with K-12 multilingual children, their parents/guardians, and teachers co-constructing science learning environments. The second author is a Uruguayan Latina language educator who has worked with Latine children and youth, their teachers, and their families on developing the language of science for the past nine years in the Southeastern United States.

**Planning and Developing Curriculum Resources**

The first step to carry out this project, was planning for the material elements and resources needed to perform this research and teaching plan. A clear advantage in the research context was material

space, as the school had two soccer fields and those were close and accessible from the school building. The school also had an indoor basketball court that served the soccer team in case of bad weather. In regard to the equipment, for a maximum we would need soccer balls, clipboards, pencils, and hardcopies of each activity for every student. Senior University professors helped with the clipboards and copies, and Mr. C let us borrow six additional soccer balls for a total of twenty. For the short videos, included for the activities for the second half, presented at the beginning of each soccer and science activity, we used the projector and internet available in Mr. C.'s classroom.

Mr. C. informed us that most students were either Barcelona or Real Madrid fans and followed the Spanish tournament '*La Liga*' and the European tournament '*Champions League*'. Barcelona and Real Madrid are two of the most famous soccer clubs in the world and they play in the Spanish tournament and often in the Champions league. Thus, we thought using videos of Messi, Neymar, Zlatan, Cristiano and Ronaldinho would be timely and effective in terms of catching students' attention.

### **Processes of Data Collection and Analysis: Negotiations and Adaptations at Institutional and Individual Levels**

Once the planning about materials and resources was considered, we then contemplated the social aspects, such as requirements and policies at the institutional and individual levels. It was at this level where most of the negotiations happened. At the institutional level, the research protocol had to follow the university Institutional Review Board (IRB), the county school district approval process, and middle school recommendations, which also affected the co-design process. For instance, the goals and activities had to be aligned with the school's mission and objectives. However, one additional step had to be met before writing the proposal: taking a mandated workshop in which a university liaison between the College of Education and the County School District explained the protocol for submitting a research proposal. This mandatory step for all researchers added a level of formality to the conversations with parents, especially because we did not know about their legal status in the country, and we felt that asking them to sign permission and consent forms could jeopardize the initial rapport we aimed at building trust between us.

At the school level, the middle school principal was very cautious and strict in considering which research projects would be authorized in the school since the teacher administrative load, as well as the student responsibilities did not allow any other activity that would distract students and teachers from the main curriculum objectives and the overarching school goals. However, the school's active participation in the LISELL-B project provided us with enough legitimacy and previous relationship-building so the soccer with science project could be considered a branch of the LISELL-B project. As the project unfolded, the negotiation involved many participants: Mr. C, university researchers, and, towards the end of the project we also added the focal participants' suggestions in the last two curriculum activities. Both Mr. C and the full research team reviewed every activity before they were implemented, making suggestions and comments.

Mr. C. discussed two possibilities for the student-athletes to do the soccer with science activities each week during this research project. The first option consisted of having one soccer with science activity during one soccer practice a week for a total of six weeks. This option would have allowed students to immediately link the video and the first written activity to the physical performance related to a science investigation, collect their data, and write their results. However, this would not have allowed enough time on those days for students and Mr. C to train and practice for their upcoming games. From our perspective, this option would have posed a risk to the level of student-

athlete attendance in the session where the research activities would have taken place. The second option was more viable as it required splitting each soccer with science activity into two parts, each one taking 30 minutes of two of the soccer sessions a week. This option would increase the continuity of the interactions between the student-athletes and the researchers, thus, facilitating the relationships between us. For our research purposes, in which interviews were scheduled at the middle and end of the research process, this second option seemed to work best for Mr. C, who responded “We can do the 1<sup>st</sup> 20 min of each practice” (personal communication, November 26, 2014). The 20 minutes were later extended to 30 minutes as we discussed activities and transitions. By the time the proposal was submitted to the county school district, Mr. C agreed to plan according to the second option.

The soccer try-outs day arrived, and Mr. C was in charge of the recruitment process. We helped him in distributing around 80 students around the soccer field and observing them. It must be noted that the middle school soccer team has had an important reputation in the district soccer tournament and a history of having great players on the field. Mr. C’s commitment to maintain the best players in the field was only paralleled by his emphasis and recommendations to the soccer players to keep good grades and be good students in the classroom. Thus, it was not an easy task to choose twenty-four students, since a good player does not always mean a good student, or at least what schools label as good students, and vice versa. Only twenty-one student-athletes comprised the list of official players, along with three 6<sup>th</sup> grade students who were in charge of the equipment (balls, waters, cones, and nets) and also played in training. At this point we did not know who and how many students from Mr. C’s 8<sup>th</sup> grade science class were considered to be part of the soccer team; fortunately, Mr. C emailed us the list of soccer players the following day and from these twenty-four participants there were four focal participants who were also in his science class: Israel, Esteban, Jose, and Enrique. All four focal participants were categorized as EBLs by their school.

Following the participant selection, our work with focal participants involved: (a) observing them in the science classroom and the soccer afterschool program; (b) conducting interviews and informal talks with them and their parents; (c) collecting and analyzing their written soccer with science activities; and (d) taking pictures of them while working on the soccer with science activities. Additional work with the other twenty secondary participants on the team included: (a) collecting and analyzing their written soccer with science activities; (b) taking pictures of them while working on the soccer with science activities.

Three focal participants took 8<sup>th</sup> grade science in 2<sup>nd</sup> period and the other focal participant was in 3<sup>rd</sup> period taught by the same teacher/soccer coach. Secondary participants were a mixture of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> graders from other science classrooms in the same middle school. In the original proposal, we had planned for a total of five focal participants, but after discussions and negotiations with all of those involved, we agreed that four focal participants would most likely be sufficient. Focal and secondary participants joined together from 4 to 5:30 pm in the soccer afterschool program on Mondays, Tuesdays, and Wednesdays from early February to mid-April. On Thursdays, official games were held at the school or at different settings around the county.

### **Findings: Negotiations with Focal Students and Curriculum Adaptations Portrayal of Focal Participants**

The first week was devoted to observing focal participants, which proved very useful in seeing how focal participants interacted both in the classroom and on the soccer field. Israel, a student from 2<sup>nd</sup> period, was very extroverted. In fact, it was typical to see him assessing if Mr. C’s mood would favour his talking and laughing with his friends. However, if Mr. C asked a question to the group, Israel was usually the first student to respond, and his answers were most times correct. From our observations,

it was also very common to see Israel procrastinate with his science work in the classroom and, as we found out later in the school year, with his homework and assignments for other courses as well. Another characteristic he would display was that his usual sitting assignment around the classroom. He had some formal education in Spanish and, when he arrived in the US, in English.

Eduardo, another student participant from 3<sup>rd</sup> period, was also very extroverted and usually watched YouTube videos of soccer stars on his cell phone during the science class. Thus, it was very common for him to not turn in class assignments, which, as a consequence, jeopardized his position on the soccer team on several occasions during the season. He was the official goalkeeper and leader on the field. Another recurrent characteristic was the ease with which he got in trouble in and outside the school. His formal education was in English only.

Esteban, from 2<sup>nd</sup> period, was very introverted in class but always had his assignments ready. He was one of the top students in his grade and was very close to Jose, another 2<sup>nd</sup> period student. Jose was very introverted as well, and it was also usual for him to turn in his class assignments on time. Esteban and Jose usually chatted and shared jokes, but these never disrupted the class nor disturbed Mr. C.'s instruction. His formal education was in English only.

Throughout the first part of each soccer with science activity, which started in the classroom, it was usual to see Jose with an apathetic face. However, a different version of Jose appeared for the second part of each activity when he went to the soccer field for the physical activity and data collection portion of the lesson. It could be observed that he enjoyed competing and testing his physical skills with the rest of the team, especially with those from his same grade level.

### **Trading Zones: First Negotiations with Students**

Except for the second half of the activities we taught, negotiations with students did not occur during the first part of this research project, but towards the second half we had a group conversation with the three focal participants in the school. The purpose of this meeting was to gather information about the soccer with science activities and to learn the boys' thoughts and their participation in the project. The conversation also functioned as a major trading zone where we discussed and adapted activities based on their insights about what they enjoyed and what they disliked. This feedback led us to include short YouTube videos about soccer stars and to decrease the length of the activities though still using science content, making them more effective. Jose, for example, was very direct in this matter: He suggested decreasing the length of each activity in order to have more time to perform the soccer moves in the field. He said, "I liked the Olympic goal activity because I scored once, and it was very challenging but there is a lot of writing." Esteban and Israel agreed, and Israel added, "I like the Ronaldinho and the Roberto Carlos activities." Esteban added, "I liked the goalkeeper activity because it was fun to design it." When students were asked about the science concepts they had learned in these activities, they mentioned "hypothesis, cause and effect." In this light and recognizing that they had been learning from and enjoying the soccer and science activities, we decided to adapt the length of the last activities and the amount of writing so there would be more time for students to do the physical performance and data collection portion of the activity. This was a crucial part of the implementation of soccer with science activities as the initial structure of the activities was not working as expected as students wanted to rush their answers to go to the field to play without making sense of the science-soccer connection. It was clear students were not engaged in the activities. However, it was after having the space where I met with the students and received their feedback that we could adapt the activities and experiment by including a short video of a soccer star and decreasing the length the activity. This trading zone was only possible by having this space where participants felt comfortable sharing their ideas about the activities.

## **Language Adaptations with Focal Students**

Regarding language adaptations, the written activities included the Spanish translation after every English paragraph, which followed the LISELL-B activity structure that has proven to work with the EBLs, including those of Bear Hill Middle School (Buxton et al., 2015). As both researchers shared ethnicity (Latinos), and languages (Spanish and English) with students, this mostly influenced the conversations and exchanges between us. In the last interview conducted with the focal students, they shared with us that they read, speak, and write in Spanish, but they decided not to answer the soccer and science questions in Spanish. However, the extent to which focal participants used Spanish varied in the interactions we had during this project. We paid special attention to their use of Spanish in the interviews and whether or not they read the Spanish parts of the activities, a question we addressed in our conversations. For instance, the activity where we encouraged the focal students to speak Spanish was in the individual interviews at the beginning of the project, and the group interview we had at the end of the project.

Enrique spoke Spanish many times to describe his experiences with soccer and science and we switched back and forth between the two languages during the 15-minute conversation. Enrique shared: “I read the Spanish parts to see if I could,” when we asked him about the soccer with science activities. Jose, a close friend of Enrique, spoke very little Spanish during the one-on-one conversations and described his soccer preferences and interests in English. When we spoke about his ability to read, write, and speak Spanish, we asked Jose if he read the Spanish parts of the soccer with science activities and he responded, “I didn’t have to.” Israel, who was very extroverted in class with his peers and the teacher, was also open to share many school and family anecdotes during our conversations in Spanish. Israel, as opposed to Enrique and Jose, elaborated more on his answers and touched on more topics such as his relationship with his father and whole family, his weekend activities, jobs, and goals in life. We asked him about the Spanish parts in the soccer with science activities and he said he read the Ronaldinho activity and the Messi one in Spanish. Esteban, who was very extroverted as well, initially spoke with us in English during the first informal conversations that took place in the dining room during the class periods in which we were not observing the science classroom. Often, he was sitting by himself in the dining room as he arrived late to school and was not allowed to go to his classroom. Consequently, we started talking while he waited for the next class period to start. After the first conversation, Esteban seemed to trust us and shared many personal issues and experiences in and outside school about his teachers, family, and friends, translanguaging in English and Spanish. These informal conversations were common even when he was suspended from the soccer team because of his behaviour in science class and he worried that his chances to return to play as a goalkeeper were slim. He said he did not read all the Spanish parts of the written activities.

All things considered, none of the four focal participants chose to use Spanish to write their answers in the soccer with science activities. Only two focal participants reported using Spanish when they read the activities. These two students used the Spanish text to complement their understanding of the English text, “just to see if I could,” each student answered.

It may be the case that Jose did not read the Spanish parts because of his urgency to play soccer, a situation that he later expressed during the last interview. Thus, language adaptations in the soccer with science activities with EBLs who are beginning to work with bilingual materials seemed to be helpful for some students, like Enrique, who was interested in testing his language skills to build disciplinary knowledge, or like Israel, who enjoyed the soccer activities and was very communicative and open of his experiences. On the other hand, for Esteban and Jose, who did not engage in the same manner than Enrique and Israel did with the Spanish opportunities provided but are also fluent

in Spanish, it may have been necessary to develop and establish a different relationship between their Spanish skills and science activities for them to use their language skills as a support to build knowledge in the science class.

## **Conclusions and Implications**

In this article, we reflected on trading zones as an approach that can expand our understanding of how to enact our multiple roles as science teachers, researchers, and curriculum developers. We also reflected on how to navigate processes of negotiations through environments that included material and expressive elements, with a goal of providing insights for other science teachers and researchers who might pursue investigations of teaching and learning with emergent bilingual students.

The process of developing a triad of curriculum/researching/ teaching science is very complex and requires the collaboration of many people and institutions in co-designing each step along the way. The complexity of collaborating in projects such as the one presented in this article, where many goals and processes existed, was very challenging for it included institutional and individuals' requirements just for the approval stage of the project, as more intricacies were added as the project unfolded. It must be noted that developing curriculum/researching/ teaching science was a single and dynamically interactive process, for many times we were not able to distinguish between the three roles as they constantly intertwined and overlapped in this project. Next, we explore the main findings and reflections emerging from the project.

## **Collaborating Partnership with the Science Teacher/Soccer Coach**

Having worked in the first iteration of the LISELL-B project for a semester and for three additional years, we had already established a professional relationship with Mr. C. It was during the LISELL-B project multiple teacher professional development activities that Mr. C had the opportunity to share his interest about soccer, such as international games, famous players, and upcoming tournaments, which facilitated our professional relationship as members of the same project. Developing this relationship with Mr. C during the LISELL-B project helped us in our roles as science teachers/researchers/curriculum developers and consequently made Mr. C welcoming of the soccer and science project in his classroom and in the afterschool program. Mr. C. also saw how relevant soccer was for his Latine students in the science classroom and how they could benefit from connecting their motivation for soccer to enhance science learning. When asked about the ethnic composition of his soccer team he answered, "almost 99% of the team is from Mexican descent" (personal communication, November 5, 2014). Put simply, to start a collaborative research process in a middle school it is important to find a teacher or group of teachers whose vision, responsibilities, and activities in the school match your goals and proposed activities as a researcher/science teacher/curriculum developer. In addition, developing a relationship before beginning the research process helps participants to facilitate communication and to adapt to the rules of the context (classroom and soccer field). For instance, when Mr. C shared the discipline in his classroom and afterschool program, he shared that, "If they failed 2 or more for the period, they lost eligibility to play. If they got in trouble twice, they missed a half. Three times, they missed a game" (personal communication, November 11, 2014).

Once the researcher/science teacher/curriculum developer is familiar with the contexts, then it is easier to imagine and plan what the research process may look like in the setting with the students and teacher.

## **Designing and Adapting the Soccer with Science Activities**

One of the parts where collaboration was crucial was designing the science activities used in this project. For this, we decided to use a modified version of the LISELL-B written activities that included a short video at the beginning of the activity showing a soccer star doing a soccer move to engage students in the activity before going to the soccer field, perform move, and gather data. Mr. C agreed with this, and the classroom resources made this a feasible modification. Thus, the only part we discussed with Mr. C was the implementation, as there were two possibilities available: to do each soccer with science activity in one afterschool session a week, or to divide each soccer with science activity in two parts to implement in two consecutive afterschool sessions a week. Mr. C decided to do the second option as the first one would have required his students to miss one entire session without soccer practice and the school's reputation in the soccer tournament was something he cared about a lot.

About the adaptation process, there were two situations that changed the research project: inclement weather and students' feedback. Inclement weather not only forced us to start one week later than planned but also made Mr. C begin the try-outs later. The length of the activities was also changed due to students' feedback. We were interviewing focal participants almost at the end of the research project when one of the students said that he liked the activities, but he did not like to write about them. This was a decisive adaptation process since Jose was being very open regarding the activities and his interests in soccer. As a result, we decided to reduce the amount of writing for the last two activities so that student in particular and others in general would feel considered and more engaged in their participation.

A third feature that was also crucial in designing this research project and developing curriculum activities is the material elements in the project. Acquiring equipment like soccer balls, cones, clipboards, and being familiar with physical spaces makes planning each activity key to implementation, especially if implementation time is limited. Along with the equipment and familiarity to the space, something to consider as part of an indoor/outdoor research project is how weather conditions may affect the development of the activities, which connects to the knowledge of the school facilities so that the teacher may use an alternate space.

Two important aspects should be noted as a result of designing and adapting these activities. On the one hand one, the researchers need to be flexible enough to get feedback from the different people involved (i.e., science teacher, participants, senior university professors, researchers) in each process (e.g., written activities, conversations) as the project begins and develops to match the host institution's goals and the people's vision, responsibilities, and interests (e.g., science teacher/soccer coach and the students) as well as other conditions (e.g., field, weather, internet access). The flexibility in including participants' feedback as part of the research project not only informs the researchers and their actions for the current project adaptations and future endeavours but also nurtures the roles of science teachers and curriculum developers working with other colleagues and students in the school context.

## **Future Directions and Limitations**

Overall, this research demonstrates the importance of using and emphasizing what could be referred to as secondary activities and elements in education, like the afterschool programs and the creative and dynamic use of physical spaces as part of the learning process. These could be secondary activities if one thinks of the science learning as the primary activity. Of course, these positions are relative to

where we, as science teachers, stand: the science classroom. For instance, the soccer training may be the primary activity for the soccer coach and science learning the secondary one.

Moreover, this study could serve as a gateway for using new theoretical approaches and practices for in-service teachers, teachers in training, and researchers in science education who are facing new challenges and opportunities posed by curricular reforms in science education and student demographic changes in their current schools. Furthermore, as in the case of many universities in the U.S. this theoretical framework encourages researchers to challenge current structures in post-secondary academic institutions to establish lines of research, to begin collaborative curriculum development programs with schools and communities, and to start other type of connections and work with minoritized populations in their path to higher education, using all the resources available.

Finally, a limitation we have identified in this study is the role of teachers in designing learning environments that lead to combined learning spaces within their school's academic and administrative constraints. Additionally, although soccer is an important aspect in the lives of the participants of this study, this may not be the case for many other students, for which another activity or topic would be of more relevance to their learning.

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## Response to Intervention in Reading: A Literature Review and Critical Synthesis

Amanda R. Hurlbut, Jemimah Young, Catherine Boggs and Jamaal Young

### Abstract

The purpose of this study was to review the existing literature on the use of Response to Intervention (RTI) in reading to critically analyze the methodologies, instruments, and findings within the context of the surrounding literature. RTI remains a key process in special education research and practice. Hence, studies range from intervention effectiveness, implementation fidelity, and methods for determining responsiveness to intervention. There are numerous RTI related research studies indicating that tiered or scripted intervention programs may help students identified as at-risk make academic progress on pre-and posttest measures. However, many of these same studies also indicate that students identified as at-risk do not receive the instructional support necessary to close opportunity gaps in reading. To address this concern, we conducted a systematic review of the RTI reading literature. The results indicate that a wide variety of screening and progress monitoring tools were utilized in reading research, which may account for the vast variation in efficacy across studies. Moreover, researchers cite validity, reliability, and replicability as main concerns in determining true responsiveness to an intervention when such a plethora of resources are available. We conclude that consensus is needed in the literature to determine the best screening and progress monitoring instruments to identify true responsiveness and distinguish the best methods for designing, studying, and replicating intervention programs that sustain academic performance by at-risk learners through an RTI based tiered intervention model.

**Keywords:** Response to Intervention, Special Education, Literature Synthesis, Specific Learning Disability (SLD)

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## **Response to Intervention in Reading: A Literature Review and Critical Synthesis**

Response to Intervention (RTI) is an established process designed to support struggling learners in general education settings. RTI is an approach in which identifies and supports students who are struggling with reading. The RTI framework involves a multi-tiered system of support, interventions are provided at increasing levels of intensity depending on the student's level of need. The goal of RTI is to identify struggling students early and provide them with targeted interventions that will help them catch up to their peers. In the RTI model, students are assessed regularly to determine their reading ability and progress. If a student is struggling with reading, they are provided with an evidence-based intervention that is designed to address their specific needs. The intervention is monitored closely to determine whether it is effective, and if not, adjustments are made until the student shows improvement. If a student does not respond to the first level of intervention, they may be moved to a higher level of support.

Educators use the RTI process to help students struggling with a lesson or skill. In practice, teachers implement interventions with struggling students to foster success, and it is important to note that RTI is considered a general education strategy. However, the RTI process, in which identifies and supports, is used in general education practice to intervene before a student is referred to special education. Thus, increasing the efficacy of RTI has substantial implications for student success in general and special education settings.

The RTI framework is grounded in the idea that all students can learn, and that early intervention is key to addressing learning difficulties (Fletcher & Vaughn, 2009). By providing targeted interventions at increasing levels of intensity, the RTI model allows schools to meet the needs of a wide range of learners. Research has shown that RTI can be an effective way to improve student outcomes in reading, and many schools have adopted the approach as part of their broader efforts to support struggling students.

Although RTI is not used to identify students with special needs, its connection to the special education identification process is important in supporting students who do not respond to previously enacted interventions. Moreover, suppose a student does not respond to initial interventions. In that case, many RTI teams will provide increasingly intense interventions that subsequently work to identify a Specific Learning Disability (SLD) if the student continues to be unresponsive to intervention (Special Education Guide, 2021). As defined within the Individuals with Disabilities Education Act (IDEA), “a specific learning disability is a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations.” (IDEA, 2004, p. 11-12). It is estimated that approximately 80% of all students qualified as having a SLD struggled with poor reading development (Penesetti, 2018). Therefore, much of the RTI research that exists is situated in the reading content area to support the growing number of struggling readers.

The effects of RTI often vary across implementation settings and contexts in the United States. In 2004, Congress reauthorized the Individuals with Disabilities Education Act (IDEA), formerly known as the Education for all Handicapped Children Act PL 94-142. This act had several new updates in regard to the identification and eligibility of students with SLD. These new federal education mandates gave state and local education agencies flexibility for evaluating children with suspected learning disabilities by no longer requiring states to utilize an intelligence quotient or IQ-achievement discrepancy formula. Under this standard, school districts were required to prove that a

significant gap existed between a student's ability or intelligence level and his/her achievement before the student could be identified as having an SLD. This gap was typically identified by indicating that a student's achievement was well below what was projected through a series of intelligence and norm-referenced achievement assessments. This process usually resulted in delayed SLD identification, which often facilitated an increase in academic differences. Many students had to wait several years before they were eligible for special education services based on predetermined achievement differences (Bradley et al., 2007; Ofeish, 2006). Thus, the IQ-achievement discrepancy model became known as the "wait-to-fail" model.

Research demonstrated that this model was not always accurate in identifying students with learning disabilities. The model tended to over-identify students who were not learning disabled, especially students from diverse cultural and linguistic backgrounds. At the same time, it also failed to identify students early on who truly had an SLD (Restori et al., 2008). The IQ-achievement discrepancy model's inability to efficiently identify students for special education led to the need for an alternative. The emergence of RTI as the primary alternative to the IQ-achievement discrepancy model can help literacy educators mitigate the learning loss effects for struggling readers who were without services during the evaluation period and possibly support struggling learners that do not have an SLD gain the skills to succeed in general education.

Researchers and lawmakers proposed RTI to remediate the over and under-identification of students with potential learning disabilities. In this model, at-risk students are identified through a series of screening efforts and then receive scientific or research-based instruction and interventions in the general education classroom. These interventions typically increase in intensity, frequency, and duration if a student continues to display academic struggles through RTI tiers or intervention levels. After some time, if a student fails to respond to scientifically based instruction, as shown through continuous progress monitoring, the student is considered for a special education evaluation to determine eligibility as a student with a SLD.

Given the prevalence of reading challenges present, RTI studies in this area must reflect the highest degree of reliability, validity, and implementation fidelity. Since the reauthorization of IDEA 2004, researchers have extensively studied RTI instructional strategies, intervention processes, methodologies, and instruments being used to determine SLD status. The increased implementation has resulted in numerous primary studies and systematic reviews of the literature (Barrio et al., 2015; Erchul, 2011). However, there is a large degree of variance in the efficacy of study results amongst these studies. Prior research syntheses focused on implementing RTI as a moderator of student responses to intervention (Cartledge et al., 2016; Fletcher & Vaughn, 2009). One of the few literacy-specific reviews of RTI focuses on the beliefs, assumptions, institutional structures, and divisions of expertise that have emphasized special education identification rather than remediation (Johnston, 2011). In the present study, we focus on the moderating effects of research practices on student RTI outcomes in reading intervention studies. This is a necessary shift because it is important to recognize that "methods matter," as these studies' results have implications for literacy instruction.

For this literature review, we focus on research studies conducted evaluating students' response to specific, tiered interventions in reading that support the RTI framework as a research-proven way to provide intensive intervention to struggling learners. Additionally, this discussion will address methodologies and instruments used to screen, progress monitor, and determine responsiveness or define academic risk status and SLD identification. To address these goals, we will first review the design challenges present in RTI studies conducted in the reading content area. Then, we systematically review the most impactful RTI studies in the area of reading (i.e., the most cited

studies). Finally, we discuss the implications of the current research trends and major themes on the efficacy of RTI in the reading content area.

## **Design Challenges in Reading Intervention Studies**

Much of the research on reading RTI supports using a tiered model with increasing intervention intensity, frequency, or duration as students fail to show progress. Research in reading focuses mainly on early intervention and demonstrates an “inch deep, mile-wide” mentality in the scope of research completed. Additionally, various screening, progress monitoring, and IQ-achievement measurements are used to determine responsiveness and future interventions for students. This process's complexity requires that all of the possible moderators are examined and critiqued to maximize student learning and successful intervention implementation.

Since RTI is not a new topic in the literature, there is a wealth of information available. Moreover, research in early intervention methods is rapidly gaining momentum. Several research studies in RTI focus on a wide range of issues from Curriculum-Based Measurement (CBM), the tiered intervention model, intervention fidelity, intervention implementation, and responsiveness to intervention. Much more information in each of these areas is needed to corroborate emerging data's efficacy in these topics. In the sections that follow, we review the prior research on RTI in reading intervention studies to establish what is currently known in the field and lingering empirical concerns.

## **Tier Structure in Reading Intervention**

To provide appropriate interventions to students, teachers and other educators must accurately identify, monitor, and assess the students' ever-changing needs. Unfortunately, many students fail to respond to interventions, presenting challenges for parents, teachers, and schools. Understanding design and implementation factors that moderate the variance in RTI implementation is essential to reducing the number of non-responders to intervention. Here we review the key studies that have attempted to address the challenges of unresponsiveness in reading intervention studies.

Non-responders to interventions are a major concern. Thus, numerous studies have attempted to pinpoint the mediating factors that inhibit student responses to reading intervention. McMaster et al. (2005) distinguished students who responded to regular classroom instruction in reading from the non-responders to compare the growth of the non-responders to that of the typically developing peers. The researchers specifically examined performance after receiving varying treatments of intensive reading instruction. Additionally, McMaster et al. (2005) sought to identify non-responders through a dual-discrepancy approach and used a variety of instruments to determine responsiveness to intervention, including several subtests of the *PALS*, reading words of the *Woodcock Reading Mastery Test-R or WRMT-R* (Woodcock, 1987), spelling on the *Weschler Individual Achievement Test or WIAT* (Psychological Corporation, 1992), and Nonword Fluency Probes on the Dynamic Indicators of Basic Early Literacy Skills (*DIBELS*) assessment (Good & Kaminiski, 2002). Despite the innovative approaches, the study results revealed no statistically significant differences between the varying treatment types. However, the non-responders did make some gains as a whole, which is of practical significance.

However, McMaster et al. (2005) did find validity in using a dual discrepancy approach to identify and describe non-responders by using both growth and cut scores. This is substantial for future research considerations because it shows a need for a prolonged study period with more extensive research measures in place to compare intervention strategies. The findings of this study support broader research that intervention pullout methods are in many cases more effective than

general classroom instruction for some students (McMaster et al., 2005). Pullout tutoring is typically expensive because it often requires additional school support personnel, yet due to this strategy's effectiveness, it is gaining momentum in research and practice.

Results from a preventative reading study by Gilbert et al. (2013) corroborate the findings of McMaster et al. (2005) and reveal that students who do not respond to standard tier one classroom instruction can benefit from supplemental reading tutoring compared to students who remain in the classroom and receive no additional intervention. However, participation in this tier two level tutoring does not necessarily prevent future reading difficulties and the need for continued or future secondary or tertiary intervention (Gilbert et al., 2013). At the end of first grade, 41% of the students who received the supplemental tier two tutoring failed to score in the normal range on the Rapid Letter Naming task and the fluency probes of high-frequency words; this is consistent with the 45% of non-responders that McMaster et al. (2005) identified in their study, although the screening and progress monitoring instruments used were different. These results highlight the need to further investigate the effects of design and implementation differences on reading intervention effectiveness. Thus, in the next section, we examine the effect of sampling on student responsiveness to reading interventions.

### Sampling in Reading Intervention

Population sampling in reading interventions studies use a variety of characteristics and procedures to select sample participants in studies. These are crucial yet often underexamined considerations related to treatment efficacy in intervention studies. VanDerHeyden et al. (2007) examined developmental age when evaluating young learners' early literacy progress by considering development age as a factor in the research. In their study, preschool-aged students participating in a government-sponsored Head Start program demonstrated growth in the areas of rhymes, alliteration, fluency, and letter-naming on probes of the *DIBELS*. However, one possible mediating factor is that rather than a control group of peers at-risk for SLD not receiving the intervention, the experimental group was a cohort of public preschool-aged students. The effects of this sampling decision could afford or constrain the implementation of the results of this study.

The absence of a comparable control group was also a consideration in the outcome of a study conducted by Little et al. (2012), which compared kindergarten student achievement when using a commercial-based early reading intervention versus a school-designed intervention. Students were randomly assigned to either of the two intervention groups with no control group present. Findings from the study indicated that there were no statistically significant differences between the two intervention groups; however, effect sizes in the commercial intervention group differed on the measures of sound matching, nonsense word fluency, oral reading fluency (*DIBELS*), and written spelling with effect sizes ranging from (.34 to .59). It is important to note that this study's findings are divergent from previous studies, where statistically significant differences were found. Many students in both groups performed above the 30<sup>th</sup> percentile on all performance measures post-treatment. There are two limitations of this study, however, the first is the small sample size, and the second is the geographical region of the participants used for the study, which is different from previous studies in this area.

While in one of the few studies that applied random sampling assignment, Fuchs et al. (2008) assessed the long-term effects of small group secondary intervention tutoring on identified at-risk students, to determine how the instruments used to identify risk status influenced measures of responsiveness offering methods and measures that define responsiveness versus non-responsiveness with consensus needed in the broader literature. This study did not specifically discuss how students performed on each intervention and instrumental measure, but rather focused on the need for

instruments with more precise, “sensitivity, specificity, severity, and prevalence” (p. 433) to accurately define at-risk students and measure responsiveness. This leads us to the next possible moderator of effects—instrumentation.

## **Instrumentation in Reading Intervention**

The effects of RTI tend to vary based on the screening tool administered, how it is administered, and who it is administered to in the intervention. Tools used as screening instruments in reading intervention include the Harcourt Trophies Pre-K Beginning Sound Awareness (CBM) (Harcourt School Publishers, 2002) and the Beginning Sound Awareness subtest of the Phonological Awareness Literacy Screening for Preschool (PALS)-PreK (Invernizzi et al., 2002). Moreover, many of the instruments used in reading RTI interventions include IQ-achievement tests (Woodcock Reading Mastery Test (WRMT-R-R, Woodcock- Johnson III (WJ-III), Wechsler Individual Achievement Test (WIAT), etc.). These assessments often require parental permission before a school can administer the test to students and usually must be given in a one-on-one setting. Other screening and progress monitoring tools such as the DIBELS, Texas Primary Reading Instrument (TPRI), or Curriculum Based Interventions (CBI) are generally adopted as part of the regular, general education curriculum and, therefore, do not require parental permission to administer since they are used as screeners and academic progress monitoring tools. School professionals can typically administer these assessments to small or large groups of students without compromising test validity or reliability. These tests are often affordable ways for a district to collect data on student achievement and academic progress. Unfortunately, there is a consistency in the instrumentation efficacy of these results as the instruments mentioned above were associated with varying levels of success when implemented.

The DIBELS literacy assessment is one of the most popular screening tools, as evidenced by its extensive use in prior studies. A specific purpose of the study by Goffreda, Diperna, and Pedersen (2009) was to determine the predictive validity of a student’s DIBELS scores upon future reading proficiency in district and state standardized scores. The researchers used DIBELS data in first grade and then later compared student results to their performance on the TerraNova (CTB/McGraw-Hill, 2002) in second grade and the Pennsylvania State Assessment in Reading (PSSA) in third grade. Findings from the study indicate that the oral reading fluency subtest of the DIBELS was the only significant predictor of future TerraNova and PSSA at  $p < .001$ ; performance on the other DIBELS subtests did not statistically significantly increase the odds of predicting performance on the other two assessments. This study’s two major limitations were the limited sample size and the lack of representation among diverse ethnic and racial groups, as demonstrated by the campuses where the samples were drawn.

Additionally, screening results also indicated a sustained intervention effect based upon the administration of the DIBELS in kindergarten (Good & Kaminski, 2002). A severe limitation of this study is the fact that very young children develop at varying rates. Thus, the growth could easily be falsely attributed to the tiered interventions provided and not to the individual child’s development. Additionally, the study focused on the response to tier two interventions; it is unknown whether the non-responders continued to receive secondary intervention or considered more strenuous tertiary intervention. Other areas in reading development have been evaluated in the intervention literature and often require different instruments.

A study focusing on tier three reading interventions in fluency, decoding, and comprehension demonstrated that students made meaningful gains in these areas, based on the following measures Test of Word Reading Efficiency or TOWRE (Torgensen, Wagner, & Rashotte, 1999), Gray Oral Reading Test or GORT-4 (Wiederholt & Bryant, 2002), and the WJ-III (Denton et al., 2006).

However, it is important to note that these studies are distinct from other studies. Specifically, certified teachers and not graduate students or research assistants implemented the interventions. Thus, making the program unique in that practitioners rather than researchers delivered the instruments. Hence calling to question the external and internal validity of the results and possibility limiting the study's generalizability to prior and future studies.

## **Intervention Implementation**

One of the most important considerations related to the effectiveness of RTI is the fidelity of the implementation of the interventions. Koutsoftas and colleagues (2009) focused specifically on the nature of the interventions provided. The findings support the existing literature that many students make significant growth after being provided with intensive interventions and continuous progress monitoring in phonemic, phonological, and print awareness. The researchers observed that 71% of children responded to the treatment intervention through small group, scripted tutoring; however, the results were not compared to that of a control group. In contrast, Denton et al. (2011) sought to examine the effects of duration and scheduling on tier two intervention progress.

Unlike previous studies, Denton et al. found that a longer intervention time and modified schedules did not significantly impact intervention effectiveness and growth. However, student progress across the three intervention schedules was compared via a pretest-posttest design rather than against a control group. Approximately 77% to 83% of students demonstrated adequate instructional response on the screening measures' decoding criterion. However, the authors state that many students, both responders, and non-responders, may require more extensive intervention in the future.

Other studies also evaluated the relationship between the growth of non-responders and duration. Vaughn et al. (2009) examined the effects of intervention duration on response to secondary and tertiary intervention. One key element of the Vaughn et al. study was the total number of sessions that researchers completed using intensive reading instruction in second grade for non-responders receiving secondary and tertiary interventions and in the fidelity measures to ensure for validity and reliability of intervention implementation. The findings support the need for increased intervention time versus intervention variety by showing that non-responders demonstrated statistically significant differences in progress over time. The researchers also observed statistically significant gains for non-responders in word identification and passage comprehension but not in oral reading fluency. The authors suggest that more intensive and extensive interventions are needed for students with continued low or non-response to the interventions and conclude that more investigation of providing alternative or specialized interventions is needed.

The data presented from this literature review indicate that RTI can be an effective means to support students at risk for SLD. However, design and methodological considerations must be reconciled to support the efficient implementation of these reading interventions. The purpose of this paper is to provide a critical review of the research findings from high-impact studies in the reading RTI literature. We focus specifically on the methodologies and instruments used in reading RTI studies cited at least 20 times based on the Web of Science database's data.

## **Method**

Two distinct searches were conducted to locate relevant research studies for this literature review using computer database search engines. These databases include Academic Search Complete, Education Research Complete, Educational Resources Information Center (ERIC), PsycINFO, and

the Professional Development Collection. In the first search, the keywords of “response to intervention” and “reading” yielded 3,259 results and were reduced to 1,645 after requiring the articles to be peer-reviewed, published in academic journals, and published after the year 2004. The year 2004 was chosen since the focus of the literature review was targeting RTI related research after the reauthorization of IDEA 2004, as previously discussed. Specifying certain keywords and topic themes further narrowed these results. These keywords included quantitative, reading and reading intervention, education, school-based intervention, special education, and learning disabilities as related terms. This reduced the results to 157 articles for review.

To select studies that best met the purposes of this review, the researchers determined article eligibility by inspecting elements in more depth by reviewing the title and abstract to determine research purpose, full-text availability, age of the participants being studied (elementary vs. secondary) as an initial impression of appropriateness for the present review. If the title and abstract were insufficient, the article was retrieved and reviewed in its entirety. Studies conducted in elementary classroom settings or elementary learners were preferred, as RTI is often defined as an elementary intervention.

Articles that met these minimum criteria were stored in an electronic folder for further investigation. A total of 23 reading studies were initially recovered. Because we wanted to include the most impactful studies in the field, we only included studies with at least 20 citations. To account for the influence of the “vintage effect,” we only included studies that were conducted between 2004 and 2014. We retrieved our data between August 2020 and December 2020, allowing all studies at least five years to acquire citations to account for the vintage effects. The literature search yielded a total of 23 studies in reading intervention, 11 of which were chosen for closer analysis due to the purpose of the study, study design, instruments used to screen and progress monitor students, and results reporting. Many of the studies that were not included either differed substantially in the overall research purpose (determining an instrument for predictive validity) or did not demonstrate consistency with the purposes stated in this literature review. The full scope and description of each study is provided in table 1.

## **Results**

Table 1.1 provides a summary of the reading studies, and an overview of methodological and design approaches present in each of the studies. In the following sections, we examine trends that emerged across the following study elements: participant characteristics, methodology, instruments, and study results.

**Table 1.** *Methodological Summary of Reading Studies*

Author	Purpose	Participants	Method	Instruments	Validity/ Reliability	Results	Citation (f)
Compton et al. (2012)	To identify necessary data to predict at-risk failure to respond at tier 1 and 2 to bypass interventions to tier 3	N=485 first through fourth-grade students across three years (cohorts) across 15 schools in urban/suburban Nashville	Quantitative Comparative  Treatment vs. Control	CTOPP WJ-III WRMT-R TOWRE	Intervention provided by research team; Fidelity measures of intervention not discussed	Effect sizes reported for each instrument subtest and comparison regressions.  Tier 2 data may not always be necessary to predict unresponsiveness at tier 2 to accelerate intervention to tier 3; Data distinguished non-responders with 90% sensitivity and 80% specificity	109
Denton et al. (2006)	To study tertiary intervention in oral reading fluency	N=27 K – 3rd-grade students in 4 schools	Quantitative Experimental  Treatment vs. Treatment	TOWRE GORT-4 WJ-III	Small, heterogeneous sample size; no control group; Interventions provided by certified teachers	Effect Sizes reported as standard errors in each instrument subtest.  Intervention increased test scores; Reading ability remained lower than average. No indication of sustainability	405
Denton et al. (2011)	To study different forms of tier two intervention schedules	N=273 first grade students in 9 schools, 2 districts (1 large urban, 1 small rural in Texas)	Quantitative Experimental  3 treatment conditions	TPRI WJ-III CPMERS TOWRE GRADE	Treatment group results compared against each other; not compared to a control; Findings not consistent with prior research; Intervention provided by research staff	Results reported in Means and <i>SD</i> pretest, after 8 weeks, and after 16 weeks of intervention; Effect sizes for each subtest were reported.  Varying intervention schedules did not reveal significant differences in student growth. Pool of at-risk students decreases the actual sample size	72
D. Fuchs et al. (2008)	To determine long-term effects of secondary intervention; To study how the measures used determined student responsiveness to the interventions.	N=252 From 42 first grade classrooms in 16 schools in an urban and suburban school district in Tennessee; Half of the schools designated as Title I (low SES)	Quantitative Experimental  Treatment vs. Control	WIF and RLN from the CTOPP PALS DIBELS WRMT-R WIAT	Intervention provided by research staff	Effect sizes reported for each instrument subtest in addition to Means and <i>SDs</i> of pre and posttest batteries; Results revealed significant main effects on time; in other words, performance increased with added time.	247

Gilbert et al. (2013)	To study the effect of a preventative, multi-tiered intervention in the form of tutoring upon first-third grade achievement	N=437 students screened across two years; more than 95% of the sample was considered economically disadvantaged	Quantitative Experimental Treatment vs. Control	Researcher created fluency probes and rapid letter naming tasks	Short intervention duration; lack of program differences between tier 2 and tier 3 intervention; did not account for tier 1 intervention; Intervention provided by the research team	Varying tools have varying determinants of identifying responsiveness; Treatment group improved more than a control group on the raw score in WIF Results reported in pre, and posttest means and SDs; all made gains but some more than others; ES reported in standardized mean difference between treatment and control was .19	119
Goffreda et al. (2009)	To determine predictive validity in student's DIBELS scores upon future reading proficiency on state assessment	N=67 at a rural school in Pennsylvania; 21 student participants were economically disadvantaged	Quantitative Comparative Instrument predictability	DIBELS TerraNova-CAT Pennsylvania State Assessment	Sample was not representative of diverse racial and ethnic groups in the school population; generalizability	At-risk students benefited from a supplemental tier 2 reading program outside of the classroom; tier 2 responsiveness did not necessarily prevent later reading difficulties Effect sizes reported as Beta scores for each DIBELS subtest predictor; ORF category of the DIBELS was the only significant predictor of future TerraNova and PSSA proficiency (B=2.77, p=.001)	124
Koutsoftas et al. (2009)	To study secondary intervention in phonemic awareness and determine sustainability in kindergarten	N = 34 at-risk preschool students	Quantitative Experimental Pre vs. Post-treatment	Tropics PreK CBM PALS PreK DIBELS	Small sample size; no control group; No control on tier 1 intervention; Intervention provided by research staff	The ORF portion of the DIBELS is administered later in the year, while other portions are administered early on. Effect sizes computer for each child on the baseline, pre, and post-intervention Means and SDs used.	155
Little et al. (2012)	To compare kindergarten achievement on a commercial versus school developed	N = 90 students from 8 elementary schools;	Quantitative Comparative Experimental	Florida Assessment for	Small sample size; no control group; students in both groups were controlled for	Intervention increased scores. Results were sustainable on DIBELS in kindergarten ES range (.34 to .59) on students in the commercial ERI tutoring; however, not	21

	intervention program; to determine effects of tier 2 intervention	approximately 63-92% of students designated as economically disadvantaged	Treatment vs. Treatment	Instruction in Reading CTOPP DIBELS WRMT-R Peabody Picture Vocabulary Test Test of Written Spelling-4	intervention dosage and group size; Intervention provided by schoolteachers with research trained PD sessions	statistically significant; ES reported for each instrument subtest.  Students in both groups performed above the 30 <sup>th</sup> percentile on all performance measures post-treatment.	
McMaster et al. (2005)	To explore the validity of utilizing a dual discrepancy approach for determining responsiveness; to compare the achievement of students in varying treatment intervention programs	N = 496 students at 8 Metropolitan Nashville schools; 4 schools classified as Title I	Quantitative Experimental  Treatment vs. Treatment	PALS DIBELS CBM WIAT WRMT-R	Low statistical power of the study; effect sizes not statistically significant; small sample size when responders removed from the sample; lack of control group; School teachers provided intervention	Effect sizes reported for each instrument subtest and responder groups in treatments; Effect sizes post-test (between .30 to 50) suggest that tutoring is most helpful for reducing unresponsiveness.  There were no statistically significant differences across the treatment approaches on the monitoring measures or other reading-related measures; Found validity in utilizing a dual-discrepancy approach to responsiveness	457
VanDerHeyden et al. (2007)	To identify/compare the at-risk status of preschool children on varying measures and with different forms of intervention	N = 20 Preschool Head Start N = 15 Preschool in a rural setting	Quantitative Experimental/ Comparative  Treatment group vs. Treatment group	DIBELS Brigance Preschool Screen First Steps Screening Test for Evaluating Preschoolers	Small sample size; no control group; Intervention provided by research staff	ES Cohen's d = .43, p = .249 that children in Head Start had slightly lower scores, not statistically significant but low sample size  A single measurement tool could not predict risk status with 100% accuracy on other instruments; Whole group intervention affected growth more than individual intervention	103
Vaughn et al. (2009)	To examine how first-grade non-responders would continue to respond with intervention at the secondary and tertiary intervention level	N = 275 students in two cohorts; Cohort 1 N = 153, Cohort 2 N = 121; 7 elementary schools	Quantitative Experimental  Treatment vs. Control	WRMT-R DIBELS Peabody Picture	Did not use both growth and benchmark measures (dual discrepancy) when identifying responsiveness; small sample size after the non-responders	Effect sizes computed and reported for each instrument subtest.	226

in a small district  
near a big city in  
southwest

Vocabulary  
Test-III

were identified; Intervention  
provided by research team

No statistically significant  
effects for tertiary  
intervention treatment on oral  
reading fluency and word  
attack; lower responders did  
make progress over time, but  
many continued to  
demonstrate a lack of or low  
response to the treatments

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## Participant Characteristics

Many of the research studies (six out of eleven) included in this analysis relied on participants from different settings to study since the research topic typically required an academic at-risk sample. Many of these studies attempted to locate participants from a variety of regions, school districts, and individual campuses and due to participant age, studies required parental consent in addition to district and campus permission for the study. A common trend that emerged was a narrowing of the sample size. A smaller number of the original sample met the qualifying criteria by struggling to respond to the general curriculum and became labeled as “at-risk.” An original sample of 500 to 600 students was easily reduced to a smaller sample of 200 to 300 when considering the need for tiered intervention as evidenced by the screening and progress monitoring tools. Two studies specific to pre-school intervention had a very small sample size of less than 40 (i.e., Koutsoftas et al., 2009; VanDerHeyden et al., 2007), while two other studies had a moderate participant size of 67 and 90, respectively.

Additionally, six of the eleven studies addressed economic disadvantages in the student population as well as the relationship to academic risk status. In these studies, the researchers attempted to match treatment and control groups (if utilized in the research design) similar to the original sample. However, the reduction in the original sample size did not always make this feasible. The participants being studied were typically young elementary-aged students, pre-school to third graders. This is aligned to the nature of RTI early reading intervention since pre-school through third grade is the prime age where most students acquire the necessary skills to read text. Finally, the research occurred at districts and campuses from various large-city urban, suburban, and rural areas, mainly located in the Southern regions of the United States.

## Methodology

All of the research studies used in this literature review were quantitative, with most being experimental. Typically, a study was designed to test an intervention protocol or methodology and compare against either an alternate form of treatment or against a control group of at-risk students to determine intervention effectiveness. When designing an intervention protocol to use in a treatment study, many researchers relied on graduate research assistants and paid trained tutors as the intervention providers. This will be discussed more in-depth in the section on study results but is an important component to mention here as part of the methodology.

The researchers put extensive fidelity measures in place to ensure that similar or identical intervention protocols were being delivered to ensure the study's internal validity. If classroom teachers were delivering the intervention, there was typically an alternate protocol to ensure that teachers strictly adhered to the intervention and measurement timeline put into place by the researchers to improve internal and external validity. Four of the eleven studies utilized a treatment vs. control methodology. One study was comparative. One study focused exclusively on pre and post-intervention test results of a single group following an intervention. The remaining five studies evaluated two or more treatment conditions without a control group.

In an instrument comparison study, Goffreda et al. (2009) sought to determine if the DIBELS screening battery given to first-grade students was a reliable predictor of future performance on the TerraNova and state assessment. This study was distinct from the other studies, as it did not incorporate a treatment protocol. However, the limitations of the other studies discussed how often classroom, tier-one instruction was not controlled. This study set out to look at how one instrument predicted success using another measure with no specific intervention. With tier one general instruction, it was included as part of the literature review.

## **Instruments**

A consistent theme in measuring reading intervention effectiveness is using a wide variety of instruments or multiple screening and progress monitoring tools to define student responsiveness to an intervention. Researchers repeatedly discussed determining intervention effectiveness upon a single screening or progress monitoring tools since validity and reliability issues will arise. When choosing tools to use, researchers must consider the research conducted on the individual tool, the purpose, and the instrument's tendencies to either over-identify students who are not truly at risk or fail to identify students who need additional academic support. This phenomenon is referred to as identifying a “false positive” or “false negative” in RTI literature (D. Fuchs et al., 2008). Subsequently, determining what classifies a student as non-responsive to the intervention is subjective. It varies depending on the intervention being used, screening and assessment measures, and the cut point for identifying non-responsiveness.

As previously discussed in the broader literature, the DIBELS reading assessment is one of the more widely supported instruments based upon its utilization across the included studies. The data from this literature review indicate that the DIBELS can be administered to large groups of students as part of the general education curriculum, does not require parental permission for a school to administer, and is easily or readily available in many schools (Goffreda et al., 2009; McMaster et al., 2005; Vaughn et al., 2009). However, the decision to implement is usually a district or school-based decision. It may not necessarily be available in all educational settings unless the researcher chooses to purchase and implement. This makes gathering data somewhat more difficult than simply using instruments that are already available and used by a school.

## **Study Results**

Reporting practices varied substantially based upon the nature of the study. The majority of the researchers reported their findings in the form of mean scores pre-and post-intervention, standard deviations, and effect sizes comparing the intervention with each subtest of the instrument used, but also in the effect sizes comparing the results from the treatment groups with other treatment or control groups (Compton et al., 2012; Denton et al., 2011; Vaughn et al., 2009). When necessary, researchers reported actual *p* values. They discussed the statistical significance of each finding or the lack thereof and possible reasons for the findings (e.g., small sample size, design study, etc.). Because of the studies' varying nature in question, there was limited ability to quantify each of the effect sizes to compare results from one study to the next. Rather, the effect sizes reported were used as an indication of instrument reliability in predicting responsiveness or determining the effectiveness of an intervention compared against an alternate treatment or control group for the design of that study.

Almost every study addressed in some form reliability and validity issues, which usually corresponded to how the intervention treatments were given. For instance, in the studies that relied on graduate assistants and paid tutors to deliver the intervention, extensive measures were put into place to ensure the intervention protocol's internal validity. In many cases, the interventionists were recorded and/or observed to ensure adherence to the intervention plan or script, and the results were quantified to measure intervention consistency. These measures were replicated in the assessment procedures to ensure that screening and progress monitoring results were also valid. In the few instances where classroom teachers provided the intervention tutoring or scripted instruction (Denton et al., 2006; Little et al., 2012; McMaster et al., 2005), similar procedures were implemented and evaluated to account for validity and reliability of intervention fidelity across multiple classrooms.

While using trained graduate research assistants and paid tutors was certainly easier for researchers to control when considering intervention fidelity, this practice does have limitations. The purpose of many RTI studies is to find intervention effectiveness in the program, instruments, and intervention protocols used to be replicable at other districts and campuses. However, when trained research assistants deliver intervention lessons without considerable fidelity measures in place, it makes RTI implementation more difficult in the broader context of an educational system without tutors and researchers' assistance, thus affecting future reliability. This was the case in six out of the 11 studies. In contrast, four studies had active involvement from the certified teachers in the classroom, while the remaining study did not have an applicable intervention protocol.

Another frequent limitation in intervention protocol research was the lack of researcher control or design on tier one intervention. Many of the researchers in these studies sought out to deliver tier two and three small group and individualized tutoring without first studying what had been done in the classroom show students as unresponsive to the tier one general curriculum. Only two of the studies attempted to address this concern in the present study by ensuring that the screening occurred at a certain point during the regular curriculum before delivering intervention lessons (Compton et al., 2012; Gilbert et al., 2013). Most researchers attempted to discuss the findings within the larger context of the existing research and detailed discrepancies and proposed hypotheses for inconsistencies that arose.

Finally, as discussed in the section on participant characteristics, a common limitation listed by almost all studies was the reduction in the size of the participant sample or a low sample size due to the study's scope. As mentioned, six of the studies had more than 200 participants after being reduced from an original, larger sample. A common theme in reading RTI research is reducing the sample because of the need to study students' responses to intervention protocols. The student participating in the intervention must be identified as a non-responder at one or more levels of the process. Thus, many of the children originally selected to participate in a study will not be eligible simply based upon their responsiveness to instruction to tier 1 instruction. These students are often used as comparison groups to determine if intervention protocols can effectively close the achievement gap between responders and non-responders after some time.

## **Discussion**

Several important considerations and limitations have emerged because of the present literature synthesis. First, the issue of sample size repeatedly surfaced in researcher limitations. The requirement for an at-risk population in a particular subject area only narrows an original district or campus population. Thus, there is a great need for improved participant recruitment procedures and sampling designs to meet the field's needs. One recommendation is that researchers consider studying intervention treatments at multiple districts and campuses from various urban, suburban, and rural areas as this form of participant diversification was absent in the data review in the present study.

Additionally, nearly all of the study designs focused on research interventions delivered by a team of researchers rather than practitioners. While having a research team to deliver interventions certainly helps to maintain the fidelity of intervention delivery by reducing threats to internal validity and reliability. Reading RTI research outcomes are virtually all based upon studies where the research team delivered the treatment. This raises the question about reliability and generalizability in the broader context of a teacher-driven intervention program. Moreover, authentic interventions typically occur in a classroom environment delivered by instructional personnel. Furthermore, given the vulnerable nature of the student population of interests, researchers should consider the efficacy of

student-teacher interactions to reduce student anxiety which could be an underreported consideration in student non-responsiveness.

The researchers repeatedly cited issues related to procedures and variations in how the screening and progress monitoring instruments were used to determine intervention responsiveness. Some researchers cited and defined the dual-discrepancy approach as a statistically valid method for determining the intervention's response. However, there is a lack of consensus on which instrument produces the most desirable outcomes consistently. Unfortunately, determining true response and minimizing both false positives and false negatives in at-risk identification remains a challenge. Rather, multiple tools are recommended to increase outcomes efficacy. Future research should focus on synthesizing the literature on each tool, including instrument means, standard deviations, effect sizes, and design methodologies in which the instrument was used. The large body of quantitative literature related to RTI in reading, warrants and updated meta-analysis.

Finally, RTI studies in reading varied greatly in their purpose and subsequent research approach. Some studies set out to establish validity using screening and progress monitoring measures, while other studies have a dual purpose of identifying intervention and treatment effectiveness. A consensus is needed in the literature to determine the best screening and progress monitoring instruments to identify true responsiveness and distinguish the best methods for designing, studying and replicating intervention programs that sustain academic performance by at-risk learners through an RTI based tiered intervention model.

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## Book Reviews

van Splunder, F. (2020). *Language is Politics: Exploring an Ecological Approach to Language* (160 pp.). Routledge. \$49.95 (US) (Paperback), ISBN: 978-0367365424

### Introduction

Language is an intimate process that virtually all humans can understand, produce, and/or engage with cognitively. Consciously or unconsciously and for any reason, humans constantly use language, whether for connecting with others or managing inner thinking such as making plans, composing narratives of one's experiences, creating art, or simply making sense of any phenomena, as well as using it as a tool to gain advantage. However, despite our constant and intimate engagement with it, language has always been an enigma, eluding our complete understanding. Nevertheless, given the close relationship between using language and being human, our quest to understand language is intrinsically tied to fundamental questions about humanity itself, which may lead to various misconceptions, such as the deeply ingrained perception that the complexity of human language separates our species from the rest of the natural world.

In his book *Language is Politics: Exploring an Ecological Approach to Language*, Frank van Splunder challenges ten of the most commonly held misconceptions from a sociolinguistic and historical perspective. In particular, he invites the reader to delve deeper into the intricate and often contentious connections between language and power and to reflect on the nature of language itself and why it is inherently political. As his overall purpose, he develops the argument that if language, as a crucial element in all political activity, is embraced as part of a larger ecosystem, it can cease to be a divisive tool and instead become a liberating force that fosters unity and harmony within diversity, summed up in his statement, "language can be used to shape dreams and paint a picture of a better world based on inclusiveness" (p. 109).

## Summary

This book is divided into two parts. The first part comprises the main text, in which the author takes the reader on a sociolinguistic and historical tour of 10 commonly held misconceptions about language. The second much shorter part features the voices of 11 language users describing their diverse language practices, providing authentic and lively illustrations of the explorations described in the first part. Thus, scholarly exposition and authentic narrative complement each other to support the author's main argument, that language is politics, and his vision of an ecological approach to language.

In the first chapter, "The Language Myth," the author explains his overarching argument that language as inherently political, describing any given language as a three-dimensional construction of worldviews, identities, and the language itself as a reflection of the other two. Individuals create various worldviews and identities out of their lived experiences, and differences among these creations give rise to power dynamics, which are inevitably formed and expressed through language. This process has led to several misconceptions, 10 of which are the focus of this book: (1) language A is more beautiful than language B; (2) a language is superior to a dialect; (3) language is practiced only by humans; (4) language determines thought; (5) language determines identity; (6) English is a threat to other languages; (7) Chinese is the language of the future; (8) when a language dies, a culture [entirely] dies; (9) people should pay more attention to speaking and writing correctly; and (10) the more languages one speaks, the more human one is. Throughout this book, van Splunder addresses why each of the statements is a misconception not directly but in a recursive and iterative manner, encouraging the reader to shape their own opinions about them.

In the second chapter, titled "The Origin of Language," van Splunder invites the reader to contemplate the challenging task of defining what language truly is, which involves the questions of whether it is an artificial or natural construct and whether it is exclusive to the human species. The author provides examples such as sign language, Esperanto, and Basic English in order to offer food for thought about the first question as well as whether distinctions between languages and dialects are essentially true or arbitrarily determined. To address human exclusivity, he presents examples of complex communication methods exhibited by various other members of the animal kingdom, such as wolves, birds, and bees, to dispute the contention of scholars such as Noam Chomsky that language is a uniquely human attribute.

In the third chapter, "Imagined Community," van Splunder discusses how people relate to particular languages as a marker of identity and use them to form what Anderson (1983) called "imagined communities." Because of the sheer size of such communities, members will never know most of their fellow members, but their shared language provides a sense of unity, demonstrating the close relationship between language and prevailing ideologies. Through historical accounts of political events in France, Germany, Yugoslavia, etc., the reader in this chapter gains an understanding of how language plays a role in how people imagine their own communities through the lenses of their own narratives and ideologies.

In the fourth chapter, "Language as a Construction," the author provides numerous examples, ranging from nomenclature to nuances of grammar and vocabulary, to demonstrate how language is a construction, the complexity of which goes beyond its role as a means of communication. He uses two terms, introduced by the German linguist Heinz Kloss (1967), "*Abstand*" ('distance') and "*Ausbau*" ('building out'), to explain how people construct languages differently. These constructions define both similarities and differences among groups of people in line with the proximity or remoteness of

their ideologies.

In the fifth chapter, “The Pecking Order of Language,” van Splunder delves further into the broader dynamics of world languages. He provides data from *Ethnologue* and the Power Language Index (PLI) to shed light on the general trend in popularity of world languages and, consequently, the power and ideologies related to certain high-ranked languages. He illustrates his discussion of the relationship between language and power with historical accounts of the rise and fall of some of the most common languages, including English, Chinese (Mandarin), French, Spanish, Arabic (Modern Standard Arabic), Russian, German, Japanese, Portuguese, Hindi, Malay, Bengali, and Dutch.

Following from the exploration of the pecking order of languages in the previous chapter, the sixth chapter, “The Power of English,” focuses on exploring the influence of the currently top-ranked language, English. This chapter prompts readers to consider how the supremacy of English is exercised in various domains, including business, politics, education, and media. He recounts how English has become the most powerful language in the world, leading to a new subtype of power relationships among English speakers.

The seventh chapter, “Language and War,” demonstrates how language, in the context of nationalism, can be utilized during wars both as an individual marker to signify one’s ideological orientation and as a means for a nation-state to justify a group narrative. This function is exemplified in various historical conflicts, ranging from physical wars, like the Battle of Kosovo on June 15, 1389, to more recent, covert types of wars, such as the shift in language hegemony in Belgium. Additionally, van Splunder explores how English is employed as a tool for promoting nationalism, both within the core English-speaking communities of the United States and the United Kingdom and in countries where English is perceived as a threat to native languages.

The eighth chapter, “Life and Death of Languages,” delves into the dynamics of language lifespan and the ways in which human agency affects it, whether positively or negatively. Various cases where languages thrive or are extinguished depending on human involvement are discussed. The author’s concern about the loss of languages is expressed in his statement, “The current linguistic ecosystem is clearly out of balance” (p. 107), referring to the eclipse of linguistic diversity under the shadow of globally powerful languages, comparable in its detrimental effects to the human-driven reduction of biodiversity. Although people can still express their identities when their own language has disappeared as shown in the manifestation of black American culture in the US, a significant portion of the culture related to language will inevitably be lost and this will also affect the ecosystem between languages. By the time the reader has reached the end of the eighth chapter, the salient question becomes much clearer: what can and should be done to release language from its situation as hostage to politics?

The ninth chapter, “Towards an Ecological Approach to Language,” is van Splunder’s pursuit of an answer to the question. Toward this end, highlighting diversity as a key value, he proposes an ecological approach to language by which, quoting Haugen (1972), the “interactions between any given language and its environment” are central to understanding its significance and worth. By advocating for an ecological perspective, he reminds us that “we are not alone in the center—perhaps we are not in the center at all” (p. 108).

The second part, “Personal Language Histories,” provides eleven vivid illustrations of the language practices of individuals in various parts of the world, including the Philippines, Egypt, New Zealand, Cuba, and Kosovo. Their stories serve as vital evidence of how politics are layered within the language uses of these individuals while also showing how English has played a role in their lives,

despite the fact that they all live in different non-English-speaking countries.

## **Evaluation and Conclusion**

Through this book, van Splunder successfully challenges readers to rethink some of the most common misconceptions about language. Along with his extensive knowledge of the history of language, his insights into and critical perspective on the relationship between language and society guide the journey of confronting the challenges of acknowledging that these common beliefs about language are actually fallacies. Furthermore, van Splunder convincingly argues that because language is closely related to the ever-changing flow of human activities, it is in flux by nature. Therefore, we may reasonably assume that we harbor many more misconceptions around us than the ten explored in the book.

What makes this book relevant to a wide audience of readers, including those who are interested in the dynamics of language and language professionals, is that it brings historical and linguistic accounts of a diversity of past and present languages into a discussion of the most widely used language today, English. In doing so, van Splunder persuasively demonstrates the relevance of several historical events, albeit mostly in Europe, to contemporary discussion of how English is related to the power dynamics of the modern world. This perspective, along with insight into common sense misconceptions about language, provides historical depth that can help readers construct a critical view of the currently most powerful language in light of the author's main premise, that language has become a political tool used largely to divide people. The sequence of the first nine chapters makes his case for this position increasingly explicit, leading to his proposal for an alternative, ecological approach to language, which offers the hope that language has the potential to be used to unite rather than to divide. In this regard, van Splunder's proposal is highly relevant to today's world.

Notwithstanding its contributions, in this book, van Splunder explores the position that "language is politics" based on his own experiences and examples that are primarily from European contexts. In this regard, the argument developed in this book would be enriched more by explorations of the political nature of language from a broader range of non-Western viewpoints, which would greatly strengthen the validity of his concluding call for an ecological approach to language.

It may not be possible for us to be completely free from our own biases towards the world. By the time the reader finishes the book, however, it becomes clear that the truths we have held to be self-evident are in fact mere beliefs that reflect the limitations of personal perspective. This insight suggests the importance of finding ways to use language to foster cooperation rather than conflict in the global community, in which linguistically fueled divisiveness continually brings us to the brink of ultimate destruction. While van Splunder's proposal may seem idealistic, this book serves as a valuable resource for those seeking to de-weaponize and decolonize language and reconstruct its use as a resource for supporting harmony in a universal effort to promote the welfare of all of humanity. At the least, it provides an interesting journey for people to debunk common myths about language, whether they are interested language users or language professionals willing to confront their own entrenched beliefs.

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Yazan, B., & Lindahl, K. (Eds.). (2020). *Language Teacher Identity in TESOL, Teacher Education and Practice as Identity Work*. Routledge Research in Language Education, (138 pp.), ISBN 978-0-367-35956-0 9hbk); ISBN 978-0-429-34287-5 (ebk).

Although identity is something that every language teacher has, language teacher identity (LTI) has been established and researched as a concept recently, in the past two decades. Language teacher identity has a critical role in language teachers' professional and personal lives as it portrays how they position themselves and how others (i.e., colleagues, students, and other professionals) perceive them within the field and the work they do. Thus, LTI has the potential to drive the language teachers' transformation into the teaching professional they want to become. *Language Teacher Identity in TESOL, Teacher Education and Practice as Identity Work*, edited by Bedrettin Yazan, Associate Professor of Educational Linguistics at the University of Texas at San Antonio, and Kristen Lindahl, Associate Professor of TESOL/Applied Linguistics at the University of Texas at San Antonio, USA, is a much-needed book that showcases ways of using language teacher identity to inform language teacher education practices.

## Summary

As an edited volume, *Language Teacher Identity in TESOL* reconceptualizes not only language teacher education but also teaching and ongoing teacher learning as a “context-bound process of identity work” by addressing ways in which teacher identity can be used as “a framework for classroom practice, professional, and personal growth” (Yazan & Lindahl, 2020, para. 1). Additionally, the book responds to several recent calls for the need to address how LTI research base informs language teacher education practices (Olsen, 2008).

The volume starts with an overview of the field and the book by Bedrettin Yazan and Kristen Lindahl. Driven by the complex and context-dependent nature of LTI, the fifteen book chapters are organized into five parts and four objectives: showcasing ways in which preservice educators utilize their language teacher identities during the process of learning to teach across various global educational contexts; conceptualizing teacher identity as the element that has the potential to combine knowledge, skills, beliefs, values, and practices into a unifying whole; examining the interplay between language teacher's identities and common discourses within educational contexts; and foregrounding research related to pedagogical practices that is grounded in teacher identities among educators at various educational levels. The content of the chapters aligns with the most recent sociocultural orientation in second language teacher education while emphasizing the role LTI plays in teachers' reiterative (re)construction of their knowledge base and competencies (Morgan & Clarke, 2011).

The editors have synthesized ten arguments from previous LTI research and used them as the backbone of the book, leading to five parts: narratives and writing; multimodal spaces; race, ethnicity, and language; teacher emotions; and teacher educator-researcher practices. Unlike Barkhuizen's (2017) edited volume, *Reflections on Language Teacher Identity Research*, that is not organized into sections, the five sections in Yazan & Lindahl's book simultaneously correspond to the latest trends and burning issues in LTI research and provide a transparent way to access the book content. Moreover, each of the sections contains three chapters and an afterword written by Manka Varghese and Hayiriye Kayi-Aydar.

Part 1 of the volume focuses on practices of teacher identity work in narratives and writing. In chapter 1, ("Repurposing Identity Reconstruction as Transformative Pedagogy: Multilingual Teachers in the US First-Year Composition Context"), Cristina Sánchez-Martín portrays how three multilingual teachers of writing in a US first-year composition context negotiate identities in transnational spaces, a practice that leads to the writing classroom turning into a contact zone for constructing identities across time and space. In chapter 2, ("Writing Narratives, Shifting Identities: Developing Language Teacher Identity and Practices in Working With Students With Limited/Interrupted Formal Education"), through sharing the autobiographies of two English language teachers in the context of newcomer refugee and immigrant students, Jennifer A. Morrison, Laura McBride, and Alexis González showcase how reflection and writing can be a form of professional development. In chapter 3, ("At the Dinner Table: Preservice Teachers' Identity Negotiations and Resources"), Laura M. Kennedy depicts a dinner setting as a space for preservice English as a foreign language teacher in a South Korean intensive teacher preparation program to examine how they negotiate their teacher identity.

Part 2 examines various LTI practices in multimodal spaces. In chapter 4, ("Understanding Language Teacher Identity: Digital Discursive Spaces in English Teacher Education and Development"), John I. Lontas addresses how digital storytelling led doctoral students to engage in construction and negotiation of their evolving identities. In chapter 5, ("Multimodal Identity Construction of Technology-Using Language Teachers via Stance Taking in an Online Learning Space"), Ai-Chu Elisha Ding and Faridah Pawan describe how through creating video cases of their own teaching, language teachers utilized an online medium to examine and reflect on who they were as teachers. In chapter 6, ("Unpacking Professional Identity: The Use of Multimodal Identity Texts and Duoethnographies in Language Teacher Education"), by having teachers create identity texts and auto or duoethnographies while engaging in reflections and peer responses, Marlon Valencia, Sreemali Herath, and Antoinette Gagné portray the process and products that enable teacher learners and teacher educators to unpack their professional identities.

Part 3 explores the relation of teacher identity to race, ethnicity, and language. In chapter 7, ("Reading, Writing, and Race: Sharing the Narratives of Black TESOL Professionals"), Ayanna C. Cooper and Kisha C. Bryan describe the intersectionality and teaching experiences of English as a Second Language professionals who identify as Black or African American. By using examples from a collaborative case study, James L. Schissel and Crissa Stephens aim to develop critical consciousness and explore intersectionality in chapter 8, ("Anti-Oppressive Pedagogy in Language Teacher Education: A Collaborative Case Study of Identity Texts"). In chapter 9, ("Reality Check: Identity Struggle and Experiences of NESTs Living and Teaching Abroad"), Alex Ho-Cheong Leung and Timothy Yip address the NEST/Non-NEST Dichotomy and examine the NESTs' experience inside and outside the classroom while teaching and living abroad.

Part 4 connects teacher identity to teacher emotions. In chapter 10, (“Teacher Emotion as Pedagogy: The Role of Emotions in Negotiating Pedagogy and Teacher Identity”), Juyoung Song demonstrates a teacher’s use of emotional scaffolding to generate emotional responses in her students to enhance their second language learning. In chapter 11, (“Identity, Noticing, and Emotion Among Preservice English Language Teachers”), Daniel O. Jackson and Tomoya Shirakawa use language teacher noticing among non-native speaking preservice teachers in Japan as a key component in LTI development. In chapter 12, (“Our Job, Too: International Full-time Non-Tenure-Track Faculty, English Language Teacher Education, and Emotionally Distressed Students in South Korea”), Michael Jordi Mumford and Ksan Rubadeau give insights into how participation in a Faculty Learning Community resulted in the emergence of dualistic identities and hybrid roles to better assist emotionally distressed students.

Part 5 showcases how LTI is integrated into higher education teacher education contexts across the globe. In chapter 13, (“Intercepting and Fluid Identities: From Reflective Teacher Educators to Reflective Teachers”), Georgios Neokleous and Anna Krulatz depict how two teacher educators in Norway used a Reflective Teaching Model in a co-taught teacher education course. In chapter 14, (“Strength-Based Mentoring for Preservice ESL Teacher Professional Identity Development: A Self-Study of Teacher Education Practices”), Ye He and Doris Kroiss explore how strength-based mentoring supported ESL preservice teachers’ professional identity development. In chapter 15, (“The Autoethnography of an [Re-]-Emerging Researcher Identity and Its Impact on EAP Teaching Pedagogy”), Simon Mumford and Kenan Dikilitas portray the interplay between researcher identity and teacher identity as the researcher and an English for Academic Purposes teacher, doctoral student, and language proofreader co-engaged in academic mentoring activities.

## Evaluation

There are several strengths of *Language Teacher Identity in TESOL*. The book’s main contribution is that it advances the LTI field by proposing ways in which it can be used as a pedagogical tool in language teacher education programs and beyond. Previously, Olsen (2008) has emphasized the need to recognize LTI as a pedagogical tool “to make visible various holistic, situated framings of teacher development in practice” (p.5). In many ways, this volume complements Barkhuizen’s (2017) edited volume that includes reflections on language teacher identity research. Similar edited volumes focus primarily on theory and research related to language teacher identity (Barkhuizen, 2017; Cheung et al, 2015; Kaui-Aydar et al., 2019) and pay either minimal or no attention to using LTI as a pedagogical tool. This edited volume successfully bridges the gap between research and practice by providing empirically driven pedagogical tools that center language teacher education programs around language teacher identity. While some practitioners may find the empirical grounding of the chapters too theoretical or research-focused, such a combination of research-driven pedagogical tools is exactly what helps advance the field and answer numerous calls to bridge the gap between research and practice.

Additionally, the book abounds with an array of theoretical frameworks and research methodologies that the contributors have used in their respective studies. Specifically, those innovative ways of both researching and interpreting LTI have provided affordances to multiple audiences (e.g., pre-service teachers, in-service teachers, and language teacher educators) about how to integrate language teacher identity in their instructional practices. As a result, one can claim that this edited volume reimagines language teacher identity research, as De Costa (2017) has predicted, to be present in applied linguistics, TESOL, and education programs. The multiple pedagogical examples enable the reader to learn from similarities across educational contexts and use the differences across those

contexts to challenge their current understanding of aspects related to LTI and how those can be foregrounded in educators' language pedagogy.

Finally, the diversity of the book contributors is impressive. First, the 15 chapters are written by educators in various educational roles. For example, the contributors are assistant or associate professors, doctoral and graduate students, consultants, as well as lecturers and even teachers in K-12 contexts. Integrating the voices of educators from across the P-16 educational levels provides an extremely rich insight about how language teacher identity can be "an explicit focus in language teacher education" (p.3). Second, the contributors come from geographically diverse locations. Thus, there are 28 international contributors who have centered their experiences with language teacher identity in various TESOL contexts, i.e., Canada, Japan, Korea, Norway, Sri Lanka, Turkey, the United Kingdom, and the United States. Not only are their contributions unique from an empirical perspective, but they are also creative in terms of their pedagogical applications.

As the book is an edited volume with multiple contributors from around the world, the editors provide an overview of both the LTI field and the volume itself. However, there is no concluding chapter written by the editors that may have provided additional possible future suggestions for research and language teacher education practices. Although Varghese and Kayi-Aydar's afterword is an excellent way to conclude the book, a final chapter from the editors may have provided additional insights into what they deem necessary to further advance the field of language teacher identity as nexus in language teacher education.

## **Conclusion**

*Language Teacher Identity in TESOL* has great potential for language teacher education and teacher education in general to bridge the gap between research on LTI and pedagogical practices and thus center language teacher identity as the focus in language teacher education programs and other teacher preparation programs. Compared with similar books on the topic of language teacher identity, *Language Teacher Identity in TESOL* is a thought-provoking volume that equips pre- and in-service teachers with ways in which they can incorporate their language teacher identity into their practices, as well as exemplify ways in which language teacher educators and doctoral/graduate students may not only engage in research but integrate LTI as a pedagogical tool in their programs. This up-to-date edited volume has informed my own subsequent research and pedagogical work as a language teacher educator and inspired me to continue to advocate for the importance of using language teacher identity across various language education and language teacher education programs.

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