

1-12-2021

Optimization of a Customized Leadership Development Program Upskilling English Language Fluency in Brazil Aviation Leaders

Robin A. Roberts
Embry-Riddle Aeronautical University, roberr36@erau.edu

Follow this and additional works at: <https://commons.erau.edu/publication>



Part of the [Aviation Commons](#), [Bilingual, Multilingual, and Multicultural Education Commons](#), [International and Intercultural Communication Commons](#), and the [Language and Literacy Education Commons](#)

Scholarly Commons Citation

Roberts, R. A. (2021). Optimization of a Customized Leadership Development Program Upskilling English Language Fluency in Brazil Aviation Leaders. *The International Journal of Aerospace Psychology*, (). <https://doi.org/10.1080/24721840.2020.1859377>

This Article is brought to you for free and open access by Scholarly Commons. It has been accepted for inclusion in Publications by an authorized administrator of Scholarly Commons. For more information, please contact commons@erau.edu.



Optimization of a Customized Leadership Development Program Upskilling English Language Fluency in Brazil Aviation Leaders

Robin A. Roberts 

Department of Management and Technology, Embry-Riddle Aeronautical University, Daytona Beach, Florida, USA

ABSTRACT

Objective: The present study explored how a customized leadership development program (LDP) with coursework taught in English to non-native English speakers could optimize English language fluency in Brazil airline leaders.

Background: Currently, problems exist with a myriad of native language accents and phraseology interfering with cognitive reflexes especially for aircrews and air traffic controllers to safely do their work. Executives from four Brazilian airlines proactively implemented a 14-month LDP focused on English language fluency and leadership enhancements collectively for leaders within their firms.

Method: Blended learning as proposed by the International Civil Aviation Organization provided the experiential and heuristic framework of the LDP suitable for an empirical analysis of participants' language and leadership improvements.

Results: Research outcomes indicated Interaction Ritual Theory and Social Contagion Theory moderating entrained behaviors, emotions, and modes of LDP participants, upskilling their English language fluency and leadership competencies. LDP participants with no prior relationships progressed through the LDP wholly as a collective group prioritizing their language and leadership proficiencies.

Conclusion: Optimization of English language fluency for aviation leaders can be accomplished in a lengthy customized leadership development program. Upskilling language proficiency for leaders assists them with transferring and motivating English language knowledge and fluency to their teams and organizationally.

Introduction

English fluency is mission critical in the aviation industry since its inception in 1951 as the common international aviation language (Parohinog & Meesri, 2015; Triewtrakul & Fletcher, 2010). English fluency training is of special interest to non-native English speakers who face difficulties in mastering English linguistics (Triewtrakul & Fletcher, 2010). English language training and testing for aviation workers is mostly conducted on computer-based or web-based training platforms. Training simulates work scenarios by which a learner can practice aviation English (Shawcross, 2008). The International Civil Aviation Organization (ICAO) suggested a minimum of 200–400 hours of English learning depending on the

CONTACT Robin A. Roberts  roberr36@erau.edu  Department of Management and Technology, Embry-Riddle Aeronautical University, Daytona Beach, FL 32114.

© 2020 Taylor & Francis Group, LLC

individual's English learning needs (Shawcross, 2008). ICAO is a United Nations specialized agency governing policies, standards, and recommended practices of international aviation personnel (International Civil Aviation Organization, 2010). Learning, however, is lifelong and occurs more naturally within a person's working or living environment and not as mechanical as happens in simulations.

ICAO purposed to find a common language after experiencing over 800 deaths in aviation accidents between 1977 and 1996. Most of the accidents are related to insufficient language and communication proficiency among experienced pilots, cabin crews, and air traffic control personnel (International Civil Aviation Organization, 2010). English, as spoken in the United States, became the *lingua franca* or common language ICAO adopted upon recommendations of international accident investigators and language experts (International Civil Aviation Organization, 2010). The experts reported that English was the best dialect to use in terms of standard phraseologies and in compliance with recognized ICAO air patrol standards (International Civil Aviation Organization, 2010). ICAO language raters whose job it is to test the English language proficiency of aviation personnel argued that the work of testing, especially in countries where English is rarely spoken, was time-consuming and without enough rater manpower to keep up with the demand (International Civil Aviation Organization (ICAO, 2016)).

Native language is buried deep within the psyche of a person. People need years of immersion within native language environments or years of studying to master fluency in communicating in multiple dialects (Alderson, 2009). Triewtrakul and Fletcher (2010) noted linguistics (the harmony of how the brain orders sounds) and phraseology activates judgment, emotions, and intuition that takes years of practice to be an innate response. Furthermore, linguistics is deepened by culture and ancestral components of a persons' heritage interpreted in the brain through the decision process (Alderson, 2009; Downey et al., 2010; Park, 2018). Aviation workers like pilots, aircrews, and air traffic controllers who must think and communicate in multiple languages are susceptible to jumbled language messaging in the brain in urgent or stressful occurrences (Park, 2018). Additional stress may occur in the brain as it sifts through a multi-linguistic mechanism to react, respond, and intuitively judge safety, risk, operational issues, and urgencies normal to aviation work environments (Park, 2018).

Alderson (2009) and Triewtrakul and Fletcher (2010) noted six linguistic functions needing special attention in aviation. The six functions are: 1) phonics or phonology which are language sound patterns; 2) prosody or speech rate, pauses, and reactions; 3) tones and accents or intonations; 4) semantics or language "meaning patterns" which may have slang or colloquialisms; 5) situational influences on meaning and context (pragmatics); and 6) sentence structuring which can be complex for those who read, interpret, or comprehend right to left and not left to right as is common in the English language. Localized English or English spoken locally in an individuals' social and work environments is also to be counted within aviation workers' linguistic considerations (Alderson, 2009; Triewtrakul & Fletcher, 2010). The linguistic functions mentioned can be especially burdensome on non-native English-speaking aviation workers. Non-native English speakers are required to communicate with native English speakers who may naturally revert to communicating in their localized English intonations, phraseology, and colloquialisms (Kim & Elder, 2015).

A prime source assisting non-native English speakers with language fluency is leaders within international aviation firms developing English language fluency among their staff (Shawcross, 2008). With the expansion of airline travel, executives within the airline industry are putting focused efforts on finding leadership development programs (LDP) to cultivate leadership talent capable of leading staff English language development and airline operations simultaneously (International Civil Aviation Organization (ICAO, 2016)). A recent study by Roberts et al. (2017) indicated that ignition of vigor, excitability, and entrenched motivation can result in the behavior patterns and progress of learning outcomes of participants attending a customized LDP. Roberts et al. (2017) and guidelines within ICAO Document 9835 (International Civil Aviation Organization, 2010) suggested that leadership development programs designed for experiential learning in both leading teams and providing requisite English language training are vital as the aviation industry continues to expand.

Recognizing English language fluency deficits within their workforce, executives of four Brazilian airlines met with university officials at a U.S.-based university in Sao Paulo, Brazil. They met to discuss problems with mid-level leaders' inadequacies in synergistically commanding the demands of airline operations while leading employees with a myriad of English language fluency needs. The deficit in airline leaders' abilities created inefficiencies in English language communications and team relationships. The Brazilian airline executives discussed with the university officials about creating an LDP to upskill leadership competencies within their organizations; especially considering the scarcity of aviation leadership talent within their country.

Integral to the LDP design was in using an English curriculum facilitated by English instructor's adept in teaching foreign aviation professionals English linguistics (International Civil Aviation Organization (ICAO, 2016)). Increasing the English language proficiency of leaders was not only compliant to ICAO English rating standards but strategic in fortifying leadership English language fluency systemically in their four aviation firms. Designing an LDP with an English curriculum taught by native English speakers would possibly solve two problems: 1) mitigating the leadership competency deficits within each airline firm and 2) systemically promoting English language fluency and interventions pragmatic to the airline work environment. Both were something English language testing alone as outlined in ICAO Circular 323 (International Civil Aviation Organization, 2009b) was not accomplishing.

The Brazilian airline executives proposed that by selecting mid-level airline leaders as participants of the LDP from each operational department (e.g., aircrews, air traffic controllers, and administration) could enhance English proficiency throughout the enterprise. The LDP creation was officiated by a long-standing relationship between leaders at a U.S.-based university and executives of four Brazilian airlines. The university has a campus in Sao Paulo, Brazil, the airline capital of the nation, perfectly situated for developing and implementing the airline LDP. The campus director of the U.S.-based University, though a native Brazilian, was fluent in American English and a graduate of the U.S.-based University. The campus director was an intricate player in developing the partnership and the LDP program design after consulting with the airline executives from the four firms about their leadership talent needs.

The present longitudinal study examined over time the phenomenological aspects of the customized LDP participants' collective actions as they learned and communicated the

coursework in English. Of special interest was participants' patterns of English language progress while working on group projects. Additionally, this study follows the critical need for research as reported by Roberts et al. (2017) in examining leadership development programs in higher education developed for external use.

LDP Custom Design

A review of the literature supported the feasibility of an aviation customized leadership development program to enhance leadership competency and communication (Pearce, 2007). Current literature written about the English language proficiency testing standard to ICAO policy indicates a lack of confidence in foreign testers of practical use of English at work (Douglas, 2013; Park, 2018). Minimal literature has been written about the use of employee development programs internationally offering English language proficiency coursework to augment language fluency common to the aviation workplace. This study fills gaps in the literature regarding a customized leadership development program designed in the English language for use in the aviation industry augmenting English language fluency for non-native English-speaking employees.

ICAO English Language Standards

The ICAO language proficiency manual supported designing an LDP in English for non-native English-speaking aviation professionals as a way for them to practice using the English dialect and phraseology required for their jobs (International Civil Aviation Organization, 2010). The Manual on the Implementation of ICAO Language Proficiency Requirements is the primary document that provided the history of selecting English as the lingua franca (common language) for global civil aviation (International Civil Aviation Organization, 2010). English testing standards for aviation professionals communicating across airspace borders are also referenced in the aforementioned manual (International Civil Aviation Organization, 2010). Circular 318 – *Language Testing Criteria for Global Harmonization* (International Civil Aviation Organization, 2009a) and Circular 323 – *Guidelines for Aviation English Training Programmes* (International Civil Aviation Organization, 2009b), backed the augmentation of English proficiency use in LDPs.

The focus of the two ICAO 2009 (International Civil Aviation Organization, 2009a, 2009b) circulars and the customized LDP for Brazil airline leaders in this study was in using language proficiency activities to increase participants' spontaneous, accurate, and intelligible English language communication (ICAO Circular 318, 2009). The LDP examined in this study used English as is communicated in the United States for all the coursework, curriculum materials, and class experiential activities. The LDP was not designed to explicitly test the English language per ICAO ratings. However, the disciplinary content of the LDP created the continuity, community, and collaboration of a highly active, experiential learning environment in real-time that stimulated English phraseology and linguistic use. The targeted English language coursework was authentic to potential English language encounters within international aviation (ICAO Circular 318, 2009). Specifically, the content centered on Brazil airline operations as a way of upskilling English language communications among the participants.

Blended Learning

Per ICAO Circular 323, blended learning is the preferred learning method for aviation workers to advance in English language proficiency (International Civil Aviation Organization, 2009b). Blended learning combines computer-based training (CBT) or web-based training (WBT) and live classroom learning with more of the learning taking place within the technological platform (Parohinog & Meesri, 2015). Optimal blended learning occurs when both the technological and live classroom environments elevate the efficacy and effectiveness of the training program (Day, 2004-2; Parohinog and Meesri, 2015; Shawcross, 2008). CBT or WBT learning maximizes ICAO language training or development requirements by housing the curriculum, tools, space, and flexibility for participants to uniquely learn according to their aptitude, pace, and the redressing of any inadequacies (International Civil Aviation Organization, 2009b; Parohinog & Meesri, 2015). The value of the live trainer is in evaluating the progress of language proficiency through assignments, social interaction, experiential activities, and audible testing practical to the learner's live aviation work environment (Shawcross, 2008). Blended learning examined in the LDP in this study satisfied ICAO standards. Most of the coursework was web-based augmented by live classroom learning and taught by qualified English-speaking faculty subject matter experts who skillfully stimulated participants' use of the English language orally, in script, and attentive listening (Day, 2004-2; Parohinog and Meesri, 2015; Shawcross, 2008).

Canvas Learning Management System (LMS) provided the required WBT platform as specified in ICAO Circular 323 (International Civil Aviation Organization, 2009b). Canvas is one of the top 10 cloud-based university-level LMSs globally for large or small blended learning programs (Instructure, 2020). Canvas' unique functionality includes standards-based grade books, formative assessment, course authoring, mobile communication, and integration with a variety of teaching tools for any industry (Instructure, 2020). Canvas is customizable to the learner's needs toward progressive, interactive, and engaged learning and offers native computer-based, web-based, and training apps for global mobile devices (Instructure, 2020). Faculty trainers were expert users of Canvas LMS and created the English language curriculum for both the WBT Canvas and live classrooms.

Content

Language instructions as indicated in ICAO Doc 9835 (International Civil Aviation Organization, 2010) is natural since language is the instructional mechanism by which humans learn and appropriate for aviation training. Interactive and experiential blended-learning, according to ICAO Circular 323 (International Civil Aviation Organization, 2009b), should prompt oral and written responses for learners to practice English phraseology, vocabulary, and grammar. Content that requires role-play and simulates real-world activities is highly recommended using learning tools that stimulate critical thinking and ideal aviation-related outcomes (Parohinog & Meesri, 2015; Shawcross, 2008). Group-oriented interaction is also highly recommended especially if the group is diverse and consists of learners with multiple language proficiency levels similar to the learner's working environment (Shawcross, 2008). Diversity of proficiency levels helps learners with agility in complex situations as is relevant to the aviation industry (Shawcross, 2008). For example, pilots may have to contend with cockpit crewmembers of a variety of English language

fluency levels; or a maintenance professional might team with other maintenance professionals to resolve a safety or risk issue that must be communicated in English (Shawcross, 2008).

Each course in the LDP for this study offered group work for two reasons: 1) to develop leadership skills for building cohesion and consensus in tasks and relational issues and 2) to promote aviation English language proficiency. The uniqueness of the group work in terms of English proficiency is that group membership was shuffled from course to course creating new groups that gave the participants the edge to evaluate and challenge local English adaptation from previous group membership. Members also learned to modify any slippage and to strengthen each group's attentive listening skills for aviation English terminology and vernacular. Shuffling group members also helped to observe behavior patterns brimming from participant's social assimilation to his or her new group affecting English language fluency. This is similar to what could occur in new team membership at work. Creating new groups for each course allowed participants to become self-aware of the strengths, weaknesses, and opportunities to develop their leadership skills as they formed new groups.

The content and phraseology used in each course met the ICAO Circular 323 (International Civil Aviation Organization, 2009b) use of operationally relevant, work-related activities. Each course was created by the LDP partnering university's faculty experts collaborating with a university professionally certified curriculum instructional designer. All had 10 or more years of experience in higher education, pedagogy/andragogy, the aviation field particular to the course they were teaching, and in teaching in English to international adult learners. Courses were vetted by airline executives and the Sao Paulo university campus director all of whose native language was Portuguese and who were Brazilian fluent in English.

At the end of each course, participants completed an end of course evaluation to assess the potency of the course to the learning outcomes which included strengthening their English language proficiency. Additionally, after the completion of the 14 months of learning, participants were asked to assess the program wholly for research data collection of participants' perceived satisfaction level of their acquired proficiency. Access to the research instrument (survey) and consent form was through their classroom in Canvas to control accessibility to the confidential survey. Once the participant electronically consented to participate in the research, a link to the survey allowed them to answer the open-ended questions anonymously with the ability to exit the survey at their discretion.

Measuring Participant Learning Progress and LDP Quality

Student artifacts (assignments) were used to test and monitor the proficiency of each cohort of learners. Additionally, learners were assigned an academic advisor and had access to the university student services supports (e.g., tutoring, library self-help and guided assistance, communications lab, wellness, etc.) for extra help with their classwork and support needs (Shawcross, 2008). Participants completed an end of course evaluation survey assessing the course, LMS, content, and trainer upon completion of each class.

University and Brazilian airline officials reviewed participants' end of course evaluations to gauge the efficacy of participant learning and to correct any discrepancies that hindered participant progress. The LDP was reviewed annually by Brazilian airline and aviation

executives, university aviation and language faculty experts, and peer United States airline subject matter experts. Reviewers ensured the ICAO curriculum process and standards were satisfied, courses remained relevant to LDP learning outcomes, and to identify any modifications required to current and emerging ICAO and aviation transportation best practices.

Duration

ICAO Circular 323 (International Civil Aviation Organization, 2009b) and current academic research recommended English language learning to be a duration of a minimum of 200 hours with considerations for additional hours depending on the training context, objectives, content, and learner's propensity toward proficiency progress (Shawcross, 2008). Thirteen blended learning classes with 100–125 learning hours provided a total of approximately 1300 hours of progressive English language learning during the 14-month duration. Professors provided rubrics to guide participants on assignment criteria to complete and earn maximum grading scores. With each course, the participants used English as it is communicated in aviation-related situations to practice situational judgment, intuition, rationale, and safety skills (Alderson, 2009; Park, 2018). Each course was graduate-level coursework and took 8 weeks to complete.

Methods

The three-year longitudinal collection of participant statements about their immersive experience in the 14-month blended learning LDP constituted a qualitative method of inquiry beyond what quantitative measuring could provide (Babbie, 2014). The grounded theory approach appropriated the extrapolation of themes and theories from the data collected from the participants' survey statements. After IRB approval, qualitative phenomenological exploration (Babbie, 2014) of the open-ended survey questions assisted in a deep understanding of the participants' perception of their experiences with learning and completing assignments in English though English was not their primary language. The open-ended survey question central to this study asked for participants to describe the value of their experience with completing coursework in English. The survey instrument included other descriptive questions for participants to answer and to measure their perception of the strength of the LDP overall unrelated to their perception of English language fluency achievement.

The sample population consisted of 32 mid- to senior-level airline leaders working in four Brazilian airline companies who collectively participated in the blended learning LDP beginning fall, 2016 through fall 2018. Three cohorts of leaders aged 24–54 years old, 86 participants in total, attended the LDP as follows: 2016 ($n = 28$; 23 males, 5 females), 2017 ($n = 27$; 20 males, 7 females), and 2018 ($n = 31$; 26 males, 5 females) from which the sample population was derived. Age nor gender information was collected on the research survey in order to keep the survey anonymity of the small sample size secure; nor was it relevant for the English language analysis. An e-mail announcement was sent to the 86 total participants requesting their anonymous participation in a survey to collect data about their experience with the LDP in general and specifically for their perception of completing the coursework in English. Thirty-two of the 86 responded by completing the online survey in Canvas.

Table 1. Summary of airline LDP participant slots annually for three years.

Year	Airline 1 LDP slots	Airline 2 LDP slot	Airline 3 LDP slot	Airline 4 LDP slot	Yearly Total
2016	4	5	10	9	28
2017	7	5	7	8	27
2018	8	6	8	9	31
Total	19	16	25	26	86

The four airlines marketed the program to mid- to senior-level leaders within their respective organizations. Leaders who were interested in the program went through an application and interview process with emphasis on them having a baseline ability to read, write, and speak in English. The reason for the English fluency stipulation was because the LDP was designed to teach aviation coursework in the technical and social vernacular associated with the aviation industry as outlined in the ICAO Circular 323 (International Civil Aviation Organization, 2009b). Selected applicants were interviewed by human resources representatives and executives of their respective airline companies before being permitted to participate in the LDP. A total of 30 participant slots were available each year, and slot selection was based on each airline's leadership needs and availability. Thirty was the maximum participant number for the LDP as that was the threshold of participants in terms of LDP operational cost. Table 1 represents the slots each airline company claimed in each of the three years. The number of participants remained steady throughout the three years researched in this study.

Results

Template analysis or the combination of content analysis and grounded theory approach (King, 2012), extrapolated themes and theories from participants' survey statements. In template analysis, grounded theory is the analysis of data without *a priori* defined set of codes or theories to allow for codes and theories to arise naturally from the data (King, 2012). Content analysis frames codes into patterns or categories classified as themes and searches for existing theories arising from the collected data (Babbie, 2014). Initial codes prevailing from the grounded theory process are examined multiple times to extract oscillating dominant and subordinate patterns, categories, and theories. Content analysis conceives themes and theories from the coding processes producing a template of the research results (Babbie, 2014). For this study, template analysis was appropriate to examine and extract themes and theories from participants' idiosyncratic statements about their experience with learning and communicating in English and the development of their leadership skills in the 14-month customized LDP (King, 2012).

Extrapolated Themes and Theories

Most notable in the results of this study is that LDP participants met for the first time during orientation, even if they worked at the same airline firm. They became entrained in one another's behaviors cheering each other to learn and communicate the coursework proficiently in English (Owens et al., 2016). As they interacted in groups within the six weeks of web-based instructions and one week of face-to-face classroom interaction, they realized the

importance of English learning. They shared stories about a variety of safety issues and daily work encounters where English was necessary but deficient. The collective learning produced enthusiasm in building English language aptitude and fluency wholly as airline leaders though the participants were from competing organizations.

Theories

Identifiable in the participants' survey statements ($n = 32$) were their perceptions of engaged learning as a collection of leaders focused on upskilling their English language communication. Two social theories, Interaction Ritual Theory (IRT) and Social Contagion Theory (IRT), were befitting of the participants' heuristic perceptions. IRT refers to the mutual feelings that excite the emotions, ideas, and ideals within a group (Collins, 1993, 2004) and appears when people's shared experience is heightened. People participating as a collective group demonstrate IRT as a keen awareness of their connectedness about something deemed important (Collins, 1993, 2004). Participants' survey statements indicated IRT can dominate behaviors and emotions between aircrews and air traffic controllers acutely working to safely fly passengers to and from a variety of destinations. Collins' (2004) seminal research on IRT noted that people intensely ingrained in a participatory activity have heightened cognition and responsiveness during their shared experience (Collins, 2004). A core component of IRT is that people seek more positive results from the shared interaction than negative (Owens et al., 2016).

Social Contagion Theory (SCT) examines how emotions and idealistic views are spread through a group of people displaying common interests in something (Owens et al., 2016). The spread of emotions and views is considered contagious and the emitter is called a contagion (Owens et al., 2016). Motivational speakers who excite or rally a group of people around a cause demonstrate a contagion spreading transmittable emotions and ideas (Collins, 1993, 2004; Owens et al., 2016). Another example is when aviation leaders excite the emotions and behaviors of team members around a safety cause or an operation that increases customer satisfaction. Examination of participants' survey statements showed enthused arousal of learning and communicating in English while developing leadership competencies as a group. Participants prompted one another to work hard at their learning so together they could leverage higher levels of English fluency. Participants became conduits of emotional and behavioral stimuli championing group work within each class and cheering themselves through the 14 months of LDP coursework.

Themes

Using NVivo 12, themes compiled from the coded three-year survey data generated 294 different notions. Out of the notion compilation, 36 concepts were refined. The concepts were further refined and assembled into three distinct themes: English Fluency Progress, Time Management, and Knowledge Transference. The total notions ($n = 294$) specifically acknowledged the LDP as optimal to upskilling students' leadership competencies and English fluency. For the thematic categories: 100% ($n = 32$) stated their English fluency noticeably improved over the 14 months of learning and communicating in English with 97% ($n = 31$) indicating their English greatly improved within the first few classes and 3% ($n = 1$) stating learning in English was challenging and took most of the 14 months to show noticeable improvement. For the Time Management theme, 100% ($n = 32$) of the students

Table 2. Leadership development program's identified themes.

Theme	Source ($n = 32$)	References
English fluency	32	37
Time management	32	35
Knowledge transfer	32	33

stated learning and communicating solely in English was time consuming but worthwhile. Additionally, 70% ($n = 22$) of the students acknowledge that using Canvas as the blended learning tool took time to learn but proved to be enjoyable and beneficial; especially for group work and group discussions. The Knowledge Transference theme indicated 100% ($n = 32$) of the participants continued using English at work learned specifically in the LDP. [Table 2](#) represents themes and corresponding participant statement references derived from the analyzed data.

Discussion

Results from the present study demonstrated the perceived optimizing of English language fluency as told by Brazilian airline leaders participating in a collective LDP. Participants' statements coded from surveys highlighted the positive and focused entrenchment of their behaviors and emotions associated with Interaction Ritual Theory and Social Contagion Theory (Owens et al., 2016) assisting their progress of English language and leadership competencies. As is prevalent in social research, the bias in perceptions embedded in open-ended comments of the study's participants is common but beneficial in learning about the essence of the discovery from the heuristic nature of the research participants' lived experience (Babbie, 2014).

The work in this study assists aviation practitioners and scholars to consider the value of a customized leadership development program taught by native English-speaking subject matter experts to subsidize English language fluency for aviation workers (Alderson, 2009; Downey et al., 2010; Kim & Elder, 2015). This study showed that aviation workers who can learn English linguistics as a cohort are more apt to optimize lasting language fluency learned within the LDP coursework transferrable to their jobs. Future research examining aviation workers exiting lengthy LDPs focused on English proficiency could indicate if remedial learning is needed post-LDP to keep workers ignited and fluent in their new or enhanced skills.

Additionally, the outcome of the learning and energy levels of the participants of the LDP examined in this study could generate knowledge and future research in general on the viability of cross-cultural leadership development programs nationally and internationally. Significant to this research is in strengthening the existing body of knowledge on the potency of a customized LDP optimizing and upskilling language fluency specifically for aviation workers. Additional research exploring the strength of a customized experiential LDP using English linguistics pragmatic to the aviation industry in other countries than Brazil could assist LDP practitioners and scholars with measuring the effectiveness of an LDP in terms of the return of collective investment in the LDP and the enhanced behaviors and language proficiency of the LDP participants.

Disclosure Statement

No potential conflict of interest was reported by the author.

ORCID

Robin A. Roberts  <http://orcid.org/0000-0001-6081-1567>

References

- Alderson, C. J. (2009). Air safety, language, assessment policy, and policy implementation: The case of aviation English. *Annual Review of Applied Linguistics*, 29(1), 168–187. <https://doi.org/10.1017/S0267190509090138>
- Babbie, E. (2014). *The basics of social research* (6th ed.). Wadsworth Cengage Learning.
- Collins, R. (1993). Emotional energy as the common denominator of rational action. *Rationality and Society*, 5(2), 203–230. <https://doi.org/10.1177/1043463193005002005>
- Collins, R. (2004). *Interaction ritual chains*. Princeton University Press. <https://doi.org/10.1515/9781400851744>
- Day, B. (2004-2). *ICAO standards and recommended practices – An overview*. First ICAO Aviation Language Symposium, Montréal.
- Douglas, D. (2013). ESP and assessment. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 367–383). John Wiley & Sons.
- Downey, R., Suzuki, M., & Van Moere, A. (2010). High-stakes English-language assessments for aviation professionals: Supporting the use of a fully automated test of spoken-language proficiency. *IEEE Transactions on Professional Communication*, 53(1), 18–35. <https://doi.org/10.1109/TPC.2009.2038734>
- Instructure. (2020). *The learning platform that helps great education happen*. Instructure Educational Software Development. Retrieved May 5, 2020, from <https://www.instructure.com/canvas/>
- International Civil Aviation Organization. (2009a). *ICAO Cir 318 language testing criteria for global harmonization*. Montréal, QC. <http://www.aviationenglishclasses.com/icaocir318.pdf>
- International Civil Aviation Organization. (2009b). *ICAO Cir 323 guidelines for aviation English training programmes*. Montréal, QC. <https://www.icao.int/safety/lpr/Documents/323en.pdf>
- International Civil Aviation Organization. (2010). *ICAO manual on the implementation of ICAO language proficiency requirements. Doc 9835 AN/453*. Montréal, QC. <https://www4.icao.int/aelts/Uploads/ICAO%20Doc9835%202nd%20Edition.pdf>
- International Civil Aviation Organization (ICAO). (2016). *Assembly 39th session. Agenda item 35: Aviation safety and air navigation standardization. The need for revision of annex 1 language proficiency SARPS for pilots and air traffic controllers (presented by Brazil). A39-WP/249*. Montréal, QC. https://www.icao.int/Meetings/a39/Documents/WP/wp_249_en.pdf#search=Brazil%20language%20proficiency%20WP%20249
- Kim, H., & Elder, C. (2015). Interrogating the construct of aviation English. Feedback from test takers in Korea. *Language Testing*, 32(2), 129–149. <https://doi.org/10.1177/0265532214544394>
- King, N. (2012). Doing template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research* (pp. 426–450). Sage.
- Owens, B. P., Baker, W. E., Sumpter, D. M., & Cameron, K. S. (2016). Relational energy at work: Implications for job engagement and job performance. *The Journal of Applied Psychology*, 101(1), 35–49. <https://doi.org/http://dx.doi.org/10.1037/apl0000032>
- Park, M. (2018). Innovative assessment of aviation English in a virtual world: Windows into cognitive and metacognitive strategies. *ReCALL*, 30(2), 196–213. <https://doi.org/10.1017/S0958344017000362>
- Parohinog, D., & Meesri, C. (2015, November). ICAO-Based needs assessment in Thailand's aviation industry: A basis for designing a blended learning program. *Procedia – Social and Behavioral Sciences*, 208(2015), 263–268. <https://doi.org/10.1016/j.sbspro.2015.11.202>

- Pearce, C. L. (2007). The future of leadership development: The importance of identity, multi-level approaches, self-leadership, physical fitness, shared leadership, networking, creativity, emotions, spirituality and on-boarding process. *Human Resource Management Review*, 17(4), 355–359. <https://doi.org/10.1016/j.hrmr.2007.08.006>
- Roberts, R. A., Earnhardt, M. P., & Herron, R. (2017). Human energy maximization in a customized leadership program. *Global Journal of Business Pedagogy*, 1(3), 64–77. https://www.igbr.org/wp-content/uploads/2018/01/GJBP_Vol_1_No_3_2017.pdf
- Shawcross, P. (2008). *Social, safety and economic impacts of global language testing in aviation*. Proceedings of ALTE 3rd International Conference, Berlin, Germany.
- Triewtrakul, T., & Fletcher, S. R. (2010). The challenge of regional accents for aviation English language proficiency standards: A study of difficulties in understanding in air traffic control-pilot communications. *Ergonomics*, 53(2), 229–239. <https://doi.org/10.1080/00140130903470033>