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TEMA:

**BOLSTERING ENGLISH LANGUAGE ACQUISITION IN CHILDREN FROM A
NEUROLINGUISTIC PERSPECTIVE**

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Resumen

Los niños tienen una capacidad innata para adquirir un nuevo idioma, teniendo en cuenta la capacidad de su cerebro para crear rutas lingüísticas neuronales que faciliten el proceso, especialmente durante el período crítico. En este sentido, esta investigación tuvo como objetivo explorar hasta qué punto las prácticas institucionales actuales de los educadores de inglés como lengua extranjera refuerzan la adquisición temprana del idioma inglés en los niños teniendo en cuenta los principios de la neurolingüística. Para ello, se aplicó una investigación cualitativa exploratoria-descriptiva, centralizando la exploración y el análisis de la literatura y de las experiencias de los docentes. Los datos fueron recolectados a través de una revisión interna de la literatura y una encuesta de enfoque cualitativo. La información fue analizada a través de la lente de los principios de la neurolingüística mediante la implementación de un método de investigación de codificación constante. Los hallazgos de la investigación indican que la mayoría de los educadores de inglés como lengua extranjera en Quito implementan indirectamente prácticas lingüísticas basadas en la neurología. Con base en la literatura, las características de la neurolingüística contribuyen a la adquisición temprana del lenguaje considerando condiciones que incluyen: un desarrollo adecuado de las habilidades de lectura, escucha, habla y escritura; condiciones para un entorno de aprendizaje adecuado, una evaluación adecuada, un desarrollo cognitivo adecuado, una estimulación multisensorial relevante, una expansión adecuada del vocabulario y la integración de la tecnología en las clases.

Abstract

Children have an innate and great ability to acquire a language considering their brain's capacity to create neuronal linguistic paths that facilitate the process, particularly during the critical period. In this sense, this research aimed to explore to what extent current EFL educator instructional practices bolster early English language acquisition in children considering neurolinguistics principles. To do so, an exploratory-describe qualitative research was applied, centralizing an exploration and analysis of the literature and teachers' experiences. The data was collected through an in-dept revision of the literature and a qualitative-focus survey. The information was analyzed through the lens of neurolinguistics principles by the implementation of a constant coding research method. The findings of the research indicate that most of the EFL educators in Quito indirectly implement neurologist-based language practices. Based on the literature, neurolinguistics features contribute to early language acquisition considering conditions that include: an adequate developing of reading, listening, speaking and writing skills; conditions for an appropriate learning environment, a suitable assessment, a fitting cognitive development, a relevant multisensory stimulation, a proper vocabulary expansion, and technology integration in classes.

Keyword: language acquisition, children education, neuroscience, neurolinguistic, EFL education

1. INTRODUCTION

From a neurolinguistic perspective, acquiring a second language during childhood provokes significant neuroanatomical changes that contribute to brain functioning and development. One of the higher changes is associated with the prefrontal cortex considering some of the executive functions. Skeide and Friederici's (2016) state that early second language exposure support an early maturation and development of the prefrontal cortex, enhancing cognitive functions like memory, inhibition, and problem-solving. Acquiring a second language at early childhood also contribute to the synchronization of neural movement, facilitating communication, coordination, and integration within multiple brain regions (Abrams et al., 2019). The integration of multiple brain regions supports the development of some sophisticated brain mechanisms associated with phonology and semantic.

Several research studies agree that language exposure at a young age enhance children's abilities associated with good communication and cognition (Bialystok, 2011; Genesee et al., 2004; Sebastián-Gallés et al., 2012), and contribute to advances in academic achievement (Cummins, 2008; Dickinson et al., 2010). Genesee et al. (2004) state that early second language exposure creates a framework for intercultural communication, offering a canvas of more sophisticated and flexible linguistic abilities and opportunities for effective communication. On the other hand, research findings indicate that learning several languages, or bilingualism improves cognitive flexibility and executive functioning (Bialystok, 2011). In term of academic achievement, Cummins (2008) and Dickinson et al., (2010) argue that acquiring a high level of English proficiency at early age provides learners with an essential advantage for academic success at school.

However, acquiring a second language at early childhood is not only determined by simply talking to learners in two languages. Effectively supporting early acquisition of a second

language requires an understanding on how the brain process, store, and recall language features. The process by which children acquire a second language is complex and determined by several factors. Current research emphasizes the importance of engagement and significant interactions in language learning, highlighting interpersonal relationships and exposure to a variety of linguistic stimulus (García-Sierra et al., 2016). These language exchanges encourage the development of communication skills and cultural understanding by providing an environment in which authentic language usage is promoted. According to Howard-Jones (2014), language comprehension and retention are bolstered in active conditions that integrate meaningful interactions, hands-on activities, and multisensory engagement.

In this sense, this research aims to advocate for an early acquisition of English as a second or foreign language considering the impact on children overall development. Through a review of the literature and the application of a qualitative-focus survey, this study analyzed, from a neurolinguistic perspective, the effectiveness of current teachers' practices to bolster English language acquisition in children, as compared with instructional strategies and resources highlighted across the literature.

2. THEORETICAL FRAMEWORK

The importance of neuroplasticity in the growing brain of children is emphasized by recent research in educational neuroscience as one of the most relevant factors to support early development and learning (Bavelier et al., 2018). It has been noted that a child's great capacity to learn and apply knowledge is determined and bolster by the brain capacity to change and transform (Diamond, 2013). In term of second language acquisition, diverse cortical and subcortical areas of the brain need to be interconnected (Reilly et al., 2019). The main regions involved in language acquisition include the Broca's and Wernicke's area, and the arcuate fasciculus. The Broca's area, located in the frontal lobe on the left hemisphere, is associated

with speech motor control and language production. The Wernicke's area, found in the left temporal lobe, provides a vital role in the acquisition of semantic information and language comprehension. In fact, receptive language deficiency disorders where people are unable to interpret spoken or written language, can result from damages to this region. The arcuate fasciculus is the nerve fibers that connects Wernicke's and Broca's areas. The arcuate fasciculus is essential for linking creation of languages and comprehension.

As language acquisition, understanding, and production is one of the most complex cognitive processes, it integrated several additional regions and areas of the brain including the angular gyrus, the primary auditory and motor cortex, the hippocampus, and the prefrontal cortex. The angular gyrus, situated nearby the intersection of the occipital and temporal lobes in the parietal lobe, is associated with reading and writing processes, supporting the transition of phonological and graphical features of word representations and vice versa. The primary auditory cortex, found in the temporal lobe, processes speech sounds along with additional auditory information, which are vital to the initial stages of oral language processing. The primary motor cortex, situated just in front of Broca's area in the frontal lobe, takes part in the voluntary motions that one does, such as the fine motor coordination necessary for oral articulation and hand writing. The hippocampus, located in the temporal lobe of the medial lobe, plays an essential function in memory formation including semantic, syntactic, and phonological features. The prefrontal cortex, located in front of Broca's area in the frontal lobe, is associated with language organization and planning. It contributes to the development of complex linguistic patterns and the control of language output.

Brain plasticity & language acquisition

Brain plasticity and early exposure to a multisensorial environment based on rich and meaningful linguistic input facilitate and support the development and strengthen of the brain

regions and areas involves in language acquisition. Children are naturally inclined to learn language, and high exposure to it during their crucial time initiates the creation of language structures in the brain (Chomsky, 1959). Lenneberg's (1999) and Johnson & Newport (1989) suggest that there could be a window of time after which first (L1) and second (L2) language acquisition becomes more difficult considering brain plasticity during the critical period. The critical period of language learning is the sensitive period, where the brain is more responsive to linguistic input. Even while first language and second language acquisition share numerous cognitive procedures, there are distinctions between both of them that must be recognized in order to effectively bolster second language acquisition during childhood.

First language (L1) acquisition

Language acquisition is a complicated process that involves exposure to language, interaction, and stimulation. Ipek (2019) states that youngsters learn language through a diverse linguistic environment that integrates parental input, social interaction, and imitation. Social interactions with family, community, and classmates are crucial for language development. Imitation helps children improve grammar and pronunciation at early developmental stages. The spoken data and interactions that a child experiences all over their early years are commonly referred as the linguistic environment for L1 acquisition.

Second Language (L2) Acquisition

Early acquisition of an L2 may more challengingly considering the access to rich linguistic input around children. Ipek (2019) mention that children at early stages may receive L2 exposure from various sources, such as media and parents. Notably, during early childhood, acquiring a second language (L2) involves developing an environment that enhances linguistic development through a wide range of strategies including, immersive learning through play, social conversations, bilingual educational programs, and interactive technology such as

educational games and apps designed to teach the L2. During scholarly period, children may also receive opportunities for language interactions in L2 through formal instruction, language programs, and classmates. Despite these differences, associated with access to quality linguistic input, both L1 and L2 acquisition require conscious effort influenced by motivation, exposure, and learning approaches. Espinosa (2013) explores the idea that educators and parents could assist children effectively acquire a second language in their early years by implementing these practices.

Effective conditions for L2 acquisition

As previously stated, effective L2 acquisition can be bolstered within linguistic-rich stimulating conditions. Krashen (1985) argued that acquiring English as a second language is associated with diverse factors including comprehensible input, natural interactions, and emotional aspects. Comprehensible input emphasizes the value of exposing students to language that is just a little bit difficult for them to comprehend at this point in time. In this sense, Krashen (1985) suggested the use of interesting and contextually appropriate materials, such real texts, multimedia, and interactive exercises to provide learners with appropriate language experiences and natural interactions.

Furthermore, the importance of emotive components in language acquisition has been demonstrated by Krashen's emotive Filter Hypothesis. Decreasing the emotional filter, increasing motivation, and reducing anxiety levels in learners all depend on establishing an enjoyable and motivating learning environment. Teachers may create an advantageous atmosphere for language learning by implementing techniques like cooperative learning, reinforcement of learning, and incorporating students' interests into the curriculum (Krashen, 1982). According to MacIntyre (2017), there is substantial evidence to support the notion that learners' language growth and English competence are greatly enhanced by a happy and

anxiety-free learning environment. So, teachers need to build a safe atmosphere where students can express themselves in English without worrying about being judged.

Effective conditions for second language acquisition may be built through a variety of contextualized instructional practices that centralize Krashen's hypothesis and ideas. Language instruction may consider a chronological, logical, and natural exposure of language structures and forms. Before teaching more sophisticated linguistic elements, start with simple sentence patterns and fundamental vocabulary. Language educators may create significant linguistic conditions based on children's interests, day-to-day real-life experiences, authentic resources, and activities that promotes natural interactions such as group discussions, pair work, and collaborative projects.

Using the right instructional strategies and resources while teaching English is essential for supporting language learning. Recent study emphasizes the efficiency of communicative language teaching (CLT) as an approach that focuses meaningful contact and real-life communication in the language acquisition process (Richards & Rodgers, 2014). Another contemporary trend that makes interactive and customized learning experiences possible is the use of technology and digital resources. Learners may practice their English in a variety of scenarios with the help of platforms like Duolingo or immersive language applications, which foster the development of their speaking, listening, reading, and writing skills (Hubbard, 2019). Additionally, the integration of real-world applications into language learning through the use of authentic resources like news stories, films, and literature makes the learning process more relevant and interesting (Gebhard & Oprandy, 2018).

3. METHODOLOGY

This study was conducted through an explorative-describe qualitative research design, focusing an exploration and analysis of current literature and teachers' experiences on the application of instructional neurolinguistic-based practices. Researchers like Denzin and Lincoln (2018) and Creswell (2017) emphasize that qualitative research is appropriate when the objective is to determine meanings, patterns, and context in a holistic manner. An explorative-describe qualitative focus was essential to find patterns across the literature and language educators' instructional practices as they effectively support early language acquisition. Through a neurolinguistic lens, researchers were able to explore, identify, and describe key features of neurolinguistics that bolster early language development in children built upon a revision of the literature.

The data was collected through a deep revision of the literature considering the exploration of 243 academic resources including articles from diverse scientific data bases, published books, and educational blogs. Additionally, a qualitative-focus survey was applied with 10 open-ended questions to gather information associated with teachers' current practices. This study was guided by intentional non-probabilistic sample procedures considering researchers' access and proximity to certain schools. The population included urban schools located in Quito, Ecuador which mostly serve low and middle socio-economic learners. A total of twenty EFL educators agreed to complete the survey which was distributed among EFL educators by a Google Forms questionnaire.

The data analysis was conducted through a constant comparative coding method (Kolb, 2012; Saldaña, 2016). Through the lens of neurolinguistics principles, researchers were able to find patterns across the literature associated with instructional practices and resources that effectively contribute language development during childhood. These

preliminary findings were compared to current teaching practices, collected through the qualitative-focus survey, applied by language educators in Quito as they effectively bolster early language acquisition in children.

4. RESULTS

The qualitative findings offer descriptive insights and an in-depth understanding of how neurolinguistics principles contribute to strengthen language instruction during childhood, complementing the literature and practical implications. The themes that emerged from the revision of the literature were categorized in: (a) Sensorial neurolinguistics stimulation, (b) rich linguistic environment, (c) Engaging language interactions, (d) cognitive development, (e) Language and brain process during childhood, (f) neurolinguistic programming, (g) Exploring neurolinguistics, (h) understanding language acquisition, (i) neurolinguistic and childhood development, (j) understanding students' learning styles and preferences. The following table provides a more detail descriptions of each neurolinguistic concept as they aligned with specific language instructional practices and resources.

Table 1.
Preliminary Findings: Themes Across the Literature

Sources	Number	Publication range	Findings		
			Neurolinguistic concepts	Instructional practices	Resources
Articles	59	2012 - 2023	Sensorial stimulating conditions	Listening to authentic videos	Visual aids Videos including movies, songs Cultural-based material
Academic Blogs	40	2012 - 2023	Rich linguistic environment	Teach phonology.	Cards Videos Technology devices

Articles	29	2013 - 2023	Engaging language interactions	Collaborative reading Interactive one-to-one conversations	Peer feedback mechanisms
Books	34	2012 - 2023	Cognitive development	Multi-sensory learning	Critical thinking exercises Problem-solving activities
Academic Blogs	13	2012 - 2023	Language and brain processes during childhood	Engaging in conversation	Cultural based-material
Books	15	2012 - 2023	Neuro Linguistic Programming	Enhance teaching effectiveness	Rapport building
Academic Blogs	13	2012 - 2023	Exploring neurolinguistics	Explicit language instructions	Research centers
Articles	12	2012 - 2023	Understanding language acquisition	Input enrichment	Journals, online courses
Books	8	2012 - 2023	Neurolinguistics and childhood development	Socio-emotional learning.	Online databases
Articles	20	2012 - 2023	Understanding the students' learning styles and preferences	Active learning strategies	Online repositories of technological resources

The results obtained from the qualitative-focus survey with 10 open-ended questions provides a list of the common language strategies and resources implemented by EFL educators considering the development of the four language skills and instructional conditions. The following table displays the findings that emerged from the analysis process of the data collected through the survey.

Table 2.

Common Instructional Language Strategies applied by EFL educators.

<u>Instructional Component</u>	<u>Instructional Strategies / Resources</u>	<u>Description of the findings</u>
Developing Reading Skill	Visual aids and graphics Group Discussion Question & Answer sessions. Silent Reading Textbooks and novels Turn-based reading	Using visual aids, graphics, groups discussion, and question and answer sessions were the most common reading strategies mentioned. Additionally, at a minimum rate, not more than twice, teachers mentioned skimming and scanning and reading circles
Developing Listening Skill	Listening comprehension exercise Filling the blank Watching movies with subtitle Podcast and audiobooks.	Listening comprehension and filling the blank constantly emerged from the data as the most used strategies, while similarly to reading skill group discussion and dialogues were introduced, but poorly supported.
Developing Speaking Skill	Role-play Individual presentation	These were the most mentioned strategies. Similarly, group dialogue, phonetic exercises, and think-pair-share were also mentioned as good strategies to develop speaking
Developing Writing Skill	Writing prompts Revising software Peer-edition Essays and reports	In this case, translation was also mentioned by two of the participants
Learning Environment	Collaborative group work Use of technology Cultural materials Teaching outside the classroom	Collaborative group work and the use of technological resources were the most common findings emerged within this aspect. Few teachers mentioned cultural and teaching outside the classroom, and a couple of participants talked about seating arrangement and group discussions
Assessment	Continuous assessment Quizzes and tests Oral exams	Additionally, some ideas were introduced at a minimum rate including standardized testing, portfolio, open-ended questions, and feedback
Cognitive Development	Critical thinking exercises Problem-solving activities	Lecture and note-taking, and mnemonic and memory aid were also introduced as strategies for cognitive development in a minimum rate.
Multisensory stimulation	Interactive Games Multimedia resources Music and rhymes	Within this section, hands-on activities also emerged from the data considering two EFL educators' answers.

Vocabulary Expansion	Flashcards and word games Word lists Engaging in conversation	Flashcard and word games were the most common strategy mentioned by most of the participants. Few teachers also introduce reading extensively, dictionaries, and thesaurus as effective instructional practices The findings emerged from the data provides some specific resources including songs, AI, trivia games, puzzles, and audio books.
Technology Integration	Online testing Videos and games Learning platform Laptop and in-focus	

Using the preliminary descriptive findings displayed in table 1 and 2, it was conducted and comparative analysis to determine, through a neurolinguistic lens, to what extend the current instructional practices implemented by EFL educators in Quito contribute to bolster early language acquisition in children. Results are presented in the following table.

Table 3
Neurolinguistics Features & Instructional Practices

<u>Neurolinguistic Concept</u>		<u>Sensorial Stimulating conditions</u>	<u>Rich Linguistic environment</u>	<u>Engaging language interactions</u>
Instructional practice				
Instructional Component	Instructional Strategies			
Developing Reading Skill	Visual aids and graphics Group Discussion Question & Answer sessions. Silent Reading Textbooks and novels Turn-based reading Listening comprehension exercise	Yes	No	Yes
Developing Listening Skill	Filling the blank Watching movies with subtitle Podcast and audiobooks.	Yes	No	No
Developing Speaking Skill	Role-play Individual presentation	Yes	Yes	Yes
Developing Writing Skill	Writing prompts Revising software Peer-edition Essays and reports	Yes	No	Yes
Learning Environment	Collaborative group work Use of technology Cultural materials	Yes	Yes	Yes

	Teaching outside the classroom			
Assessment	Continuous assessment			
	Quizzes and tests			
	Oral exams			
Cognitive Development	Critical thinking exercises			
	Problem-solving activities	Yes	Yes	Yes
Multisensory stimulation	Interactive Games			
	Multimedia resources			
	Music and rhymes			
Vocabulary Expansion	Flashcards and word games			
	Word lists			
	Engaging in conversation			
Technology Integration	Online testing			
	Videos and games			
	Learning platform			
	Laptop and in-focus	Yes	No	Yes
	Yes	Yes	Yes	
	Yes	Yes	Yes	
	Yes	Yes	Yes	

Results indicated that most of the language instructional practices applied by EFL educators in Quito are highly aligned to neurolinguistic concepts and teaching strategies discussed across the literature as effective practices to bolster language acquisition in children. Based on the findings, instructional practices and resources that contribute to early language acquisition include: permit students to read aloud, have significant conversations with them in L2, and give them lots of chances to experiment with language.

Furthermore, vocabulary acquisition and understanding may be improved by using visual aids like picture books, flashcards, and instructional films. Active involvement and reinforcement of language structures are two more ways that interactive activities such as storytelling, role-playing, and singing nursery rhymes help to develop language abilities.

Moreover, utilizing technological tools like language learning software, instructional applications, and digital storytelling platforms can enhance conventional approaches and offer more opportunities for repetition and reinforcement. Teachers can successfully promote and

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foster early language acquisition in young learners by combining these instructional strategies with suitable resources.

5. DISCUSSION

From the data obtained, it was evidenced that literature recognize the importance of integrating a variety of strategies and resources into the classroom considering instructional and neurolinguistic features. It is crucial in today's educational environment to emphasize how students' learning styles and cognitive processes vary from person to person, underscoring the necessity for educators to use a multimodal approach. Through the integration of numerous instructional strategies, including technology-enhanced learning tools, interactive activities, and visual aids, educators may successfully handle the varied neurocognitive characteristics of the learners they teach. Recent research on the effects of using a neurologically informed teaching strategy on student engagement, understanding, and retention has been highlighted by studies by Smithson (2024) and Howard-Jones et al. (2023).

Strategies presented in this writing contribute significantly because, it is probed that early language acquisition is greatly aided by neurolinguistic principles, which offer important insights into how young language learners acquire and use language. Effective learning tactics may be customized by educators and caregivers with an understanding of the neurological principles behind language processing.

Studies show as well that immersion in language-rich contexts activates brain connections, promoting language production and comprehension. Additionally, research indicates that variations in brain architecture and functioning may account for individual disparities in language learning. For example, language processing-related brain regions like Wernicke's and Broca's areas are visible by neuroimaging methods such as functional magnetic resonance imaging (fMRI). Teachers may enhance learning opportunities and promote young children's language development by implementing neurolinguistic concepts into early childhood education programs.

These findings need to be considered by EFL educators to innovate their practices because, to be more responsive to early language acquisition in their schools, they should improve teaching strategies for a variety of learners and promotes a greater knowledge of language learning. This multidisciplinary method improves teaching strategies for a range of learners and promotes a greater knowledge of language learning.

In this argument, since one of the factors impacting the acquisition of this language is motivation, EFL educators will have an opportunity in coming up with appropriate strategies to extrinsically and internally motivate learners (Liu, 2020).

Consequently, in order to innovate methodologically in the classroom, EFL educators should make use of interactive resources and means. They should also be receptive to contemporary teaching approaches that prioritize information and communication technologies and established the student at the centre of the learning process (Abellán & Herrada, 2016; Aguilera-Ruiz et al., 2017).

There is a discrepancy in the quality of education between these two realities, which has to be examined and researched, based on all that the literature has to say about the use of technology, stimulation, vocabulary development, and other topics.

The influence that resource variances have on language education results in public contexts is emphasized in the publications of Anderson and Johnson (2022), which bring attention to this topic. In contrast, private schools often have more financial means, which allows for access to more sophisticated language-learning materials, lower class numbers, and chances for teacher professional development (Smith, 2023). According to recent research on educational equality, these diverse resource landscapes demonstrate the importance it is to take the socioeconomic environment into account when creating effective English teaching practices (Jones et al., 2024). Educators can adapt their teaching strategies to best suit the

requirements of students in a variety of learning contexts by recognizing and dealing with these differences.

6. CONCLUSION

Bolstering English language acquisition in children from a neurolinguistic perspective represents a significant opportunity for the development of modern strategies and resources that educators can create and employ in their classes. Consequently, learners may have a great opportunity to improve their second language acquisition easily.

However, the data obtained emphasize that, from the neurolinguistic perspective, there are various aspects to take into consideration to completely develop an ideal atmosphere for learners; little by little, advance with the innovation of new resources and strategies and leave traditional methodologies in the past.

Future studies on English instruction from a neurolinguistic viewpoint may improve upon the results of this exploratory phase. Such studies would contribute toward our increasing understanding of the matter.

The data obtained additionally provides a basis for reconsidering and evaluating the existing methods, curriculum, and programs in order to make them more inclusive of all learners. Students are motivated to study English as a communication tool for professional advancement rather than only to fulfill an academic requirement. Therefore, it is important to take advantage of contemporary tools and make use of them for achieving this objective. Eventually, boosting student performance and effectively preparing them for their professional world depends on advantageous neurolinguistic English language acquisition instruction.

Enhancing this area would help EFL teachers provide their students with a deeper education and set them up for success in a world that is becoming more interconnected and globalized.

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ACCEPTANCE LETTER

Date: 22-02-2024

Paper Id: EBR_2024_2249

Dear: *Martha Paz-Aguas, Paolo Fabre-Merchán*

Title: *BOLSTERING ENGLISH LANGUAGE ACQUISITION IN CHILDREN FROM A NEUROLINGUISTIC PERSPECTIVE*

After peer review process, your article has been accepted for publication in Canadian Journal for Educational Administration and Policy (CJEAP) ISSN 12077798 page web <https://journalhosting.ucalgary.ca/index.php/cjeap/index> in N° 204 (2024)

The Canadian Journal for Educational Administration and Policy (CJEAP) was founded in 1995 at the University of Manitoba and merged with the Journal of Educational Administration and Foundations in 2016. The Canadian Journal for Educational Administration and Policy (CJEAP) is devoted to scholarly and critical works in the field of educational administration. The journal is currently hosted in the Department of Educational Administration at the University of Saskatchewan. It is the official journal of the Canadian Association for the Study of Educational Administration (CASEA).

Regards.

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