

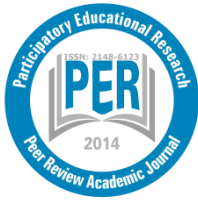
## PAPER DETAILS

TITLE: Language, emergent literacy, cultural diversity and exclusion when acquiring first time literacy in a language not spoken at home (L2)

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PAGES: 43-59

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/772767>



Participatory Educational Research (PER)  
Vol. 5(1), pp. 43-59, June, 2018  
Available online at <http://www.perjournal.com>  
ISSN: 2148-6123  
<http://dx.doi.org/10.17275/per.18.3.5.1>

## Language, emergent literacy, cultural diversity and exclusion when acquiring first time literacy in a language not spoken at home (L2)

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### Article history

**Received:**  
13.04.2018

**Received in revised form:**  
31.05.2018

**Accepted:**  
01.06.2018

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### Key words:

Limited English proficiency; language literacy profile; first language acquisition; second language acquisition; cultural and linguistic diversity; inclusive education; exclusion; barriers to learning.

While prevailing research links language proficiency to fundamental literacy acquisition, research is, however, limited when language and literacy acquisition are simultaneous as is the case with young (4-6 years) English language learners (ELLs) in K1, K2 and Grade 1 who acquire first time literacy in an inclusive classroom and in a L2 (additional language). The study draws on a synopsis of current research, globalisation, the concomitant cultural and linguistic diversity, inclusive education, barriers to learning, and social justice. The aforementioned supports the discussion for the comparative study of the language and literacy profiles (LLP) of the ELLs and the English-speaking, monolingual learners. The LLPs are established by qualitatively analysing cultural and linguistic differences and differences in letter knowledge, rhyme knowledge, basic concepts, vocabulary, phonic knowledge, sight word recognition, and listening comprehension. A causal-comparative approach to the mixed model research design and a complementary mixed methods approach are applied to the study. Findings are discussed in relation to the classic and current theoretical frameworks pertaining to child development, and language acquisition for both first and second language acquisition. Aspects such as. globalisation, inclusive education, barriers to learning, and social justice are central to this study. An at-risk, educationally vulnerable minority was isolated and specified by defining their limited English proficiency, and limited emergent literacy skills.

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## Introduction

Canada, frequently referred to as an “ethnocultural mosaic”, is one of the most diverse countries in the world (Statistics Canada, 2016<sup>a</sup> 7, 15). This is evidenced by the 320 000 immigrants who arrived in Canada in 2016 (Grant, 2016:1). To this end, the national policy

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concerned with multiculturalism, and is rights based and “articulates respect for diversity” (Friendly & Prahbu, 2010:4). Aligned with the rights based national policies, Canadian public schools are mandated as inclusive institutions (Dworret & Bennett, 2002:22), falling under the federal charter’s understanding and application of inclusive education (Mitchell, 2004:3) and The Canadian Charter of Human Rights and Freedoms (Mc Laughlin & Jordan, 2009:89) “However, strategies for ensuring that these policies are far more than rhetoric [,] are not well established especially where young children [learners] are concerned” (Friendly & Prahbu, 2010:4)

The current rhetoric pertaining to Canada’s immigration policies and multicultural diversity, rings with resounding success as “We are the world’s most successful multicultural society” (Paris, 2016) ). Nevertheless, can the same be said when considering considering first time literacy acquisition in a L2 where exclusion and inequity are the unintended outcomes of “successful” multiculturalism in the inclusive classroom? Equally does it still hold when considering the problematic learner landscape in British Columbia’s inclusive classrooms? The inclusive school and classroom in British Columbia has seen marked changes in attitude and practice regarding diversity and multiculturalism as education policies evolve and immigration exponentially increases. However, the “major challenges to creating an inclusive and seamless educational system” (Mc Laughlin & Jordan, 2009:99) in which the needs of all learners are met, are more salient and trying ever before. This is evidenced within the dynamic inclusive English medium classroom where an unintended superficial inclusivity and the ever-expanding presence of ELLs are notably marked. Schools therefore need to reconsider classroom practices and educational services in order to provide the necessary “spaces” (Kostergriz, 2009:140) for the ELL and in so doing, meet the needs of all learners (Lupart, 2008:6). One in ten learners in public schools in British Columbia is an ELL. Numbers vary from district to district and are particularly high in immigrant-rich communities where ELLs are in the majority. Consequently, alarms bell ring when considering the aforementioned in terms of the cultural and linguistic diversity of the ELL and in addition, their limited English proficiency in an inclusive classroom in British Columbia where the medium of instruction is English. The language and literacy policies as applied to young ELLs consistently promote language and literacy development that is not analogous with English-speaking monolingual learners and in this regard, they inhibit literacy acquisition and academic achievement (Francis, 2012:27).

Young ELLs (4-6 years) whose home language is not English are the focus of this article. The implication of the findings that will be elaborated upon is that there are many ELLs who because of their cultural and linguistic diversity and therefore their LLPs, form part of an at-risk educational minority in inclusive classrooms in British Columbia, Canada. To this end, the research investigates the compatibility and efficacy of the ELL’s LLP when compared to the English monolingual learners’ LLP where ELLs are expected and obliged to acquire language and literacy simultaneously in an inclusive classroom in a L2. More specifically, the aim of the research is to identify, isolate and specify an at-risk educational minority, namely the ELLs defined by their LLP. In so doing, the aim of the research is to identify their vulnerability referenced as a barrier to learning, as it pertains to equitable access, participation and the rights of the learners when they simultaneously acquire language and literacy. The term “barrier to learning” is used in this research to dissuade the reader from believing that the difficulty in acquiring literacy in a L2 is not a deficit within the learner but is systemic. The term implies a social model of disability (Mittler, 2000) that by implication, arises through interaction between the learner and the context within which he/she learns, namely the current education policy in British Columbia, the inclusive classroom, and attendant



curricula. Francis (2012:260) substantiates this by referencing inadequate instruction for ELLs as a primary cause for the disproportionate number of ELLs who are non-proficient readers. Furthermore, prevailing research links language proficiency to fundamental literacy acquisition and in turn, academic outcome (Kaiser, Roberts & Mcleod, 2011:168; Vasilyeva & Waterfall, 2011:36). The article will elaborate on the view that the fine balance required for successful literacy acquisition for the young ELL is skewed, thereby limiting the participation in and access to the inclusive classroom as prescribed by the prevailing policies in British Columbia. The article highlights the rights of the ELLs as they pertain to equity and access and in addition, their ability to simultaneously acquire language and literacy as a series of “disconnects”. The disconnects are relevant to the ELL in school and the classroom when compared to the English-speaking monolingual learners for whom the school, classroom, and curriculum is designed.

This article reports on the statistically significant differences established between the LLPs of typical ELLs in K1, K2 and Grade 1 whose home language is not English during first time literacy acquisition, and typical monolingual English-speaking learners in the school and inclusive classroom where English is employed as the medium of instruction. The significant differences were sought by means of a mixed methods research design within a Pragmatic paradigm. Statistical techniques were applied to analyse and interpret the research results. In so doing, the at-risk, educationally vulnerable minority were isolated and specified by virtue of their limited English proficiency (LEP) and limited emergent literacy skills.

### **Theoretical framework**

The article considers both theory and context as it explores the complex and varied pathways that “affect [the] multiple emerging capacities that underpin reading” (Dickenson, Freiberg & Barnes, 2011:341) and first and second language acquisition. Consequently, the inefficacy of the ELL’s LLP is illustrated theoretically and contextually when compared to the LLP of the English-speaking monolinguals and is outlined below as a series of disconnects related to the normative developmental and first and second language acquisition theoretical frameworks. The motivation for delineating the disconnects is to highlight the exclusion and therefore the rights of the ELL with regard to language within an inclusive classroom. In addition, the ELL’s LLP inefficacy, highlights the general plight of the young ELL struggling to acquire first time literacy in a language not spoken at home.

An overarching disconnect emerges from a social justice perspective as pertaining to Critical Theory (CT) when applied to the ELL in an inclusive classroom. Within this theoretical framework, language and language use is an important aspect of CT and was noted by Tollefson as creating and sustaining systems of inequality (2006:42). This is evidenced when young ELLs enter the K1, K2 and Grade 1 classrooms where English, a L2 by the ELL, is the medium of instruction in school and classroom contexts. The ELL by default manifests LEP, a compromised LLP, and a sociocultural and linguistically diverse background when compared to the monolingual English learner. More definitively, a language and literacy barrier is presented, limiting and/or obstructing access to, participation in and therefore learning by this vulnerable high risk community. An environment of inequality or disconnect is therefore created and sustained by language and language use. In this manner the rights of the ELL are violated from a social justice perspective when the expectation in an inclusive school, classroom and curriculum is equality, founded on and grounded within learners’ needs.

Bronfenbrenner's Ecological Theory (1979) considers the young learner as "developing within a complex 'system' of relationships affected by multiple levels of the surrounding environment" (Berk, 2012:27), furthering the disconnect. He identifies five environmental systems within which the learner develops and interacts. This is a complex, dynamic and fluid system that impacts the development of the learner and this disconnect is evident in each of the five systems when considering the ELL. The learner is the centre of the first system – the *microsystem* where he/she is immersed in the *mesosystem* consisting of the influences of family, siblings, peers and school. The first micro disconnect within this theoretical framework occurs where the language spoken by family and siblings differs from that of peers and school. The *exosystem* consists of social settings such as the extended family, the neighbourhood, school, and the mass media, which equally affect the learners' development (Berns, 2012, 22). Here, a second micro disconnect occurs facilitated by language diversity within the social setting such as libraries, community centres and the parents' work environment. A contextual example of the disconnect is evidenced when the ELL's parents are unable to participate in parent/teacher interviews or respond to written communiqués from teachers. This exclusion detracts from the development of the learner, inhibits participation, and furthers a divergence or disconnect between the monolinguals and the ELL's system and environmental experience within the system. The *macrosystem* is the outer environmental system, a social blueprint that overarches and informs the *micro*, *meso*, and *exosystems*. The *macrosystem* consists of the history, culture and resources of society, namely policies, laws, values, social norms and economic culture. These aspects of this system collectively or individually affect the development of learners. Herein lies the third micro disconnect that adversely affects the normative developmental milestones of the ELL. The contextual example references the ELL acquiring first time literacy in a L2. The ELL is by default deemed a high risk and vulnerable learner when the British Columbian policy of inclusive education and the current ELL policy in British Columbian classrooms are unable to address the discrete and diverse socio- cultural and linguistic needs of the ELLs as they simultaneously acquire language and literacy within the inclusive classroom. In other words, a systemic disconnect occurs. The *chronosystem*, the fourth micro disconnect and fifth environmental system, is perhaps the most noticeable. It relates to the dynamic and fluid nature of the environment and is both time and change sensitive. Changes to the environment both positively and negatively modify the development of the learner (Berns, 2012:25). In these instances, the ELL transitions from a familial environment where the dominant language is their mother tongue, to a formal environment, namely the classroom where the dominant language and the medium of instruction is English. The ELL can neither communicate with the teacher or peers, nor comprehend or participate in the delivery of the curriculum. LEP and sociocultural diversity deny the learner the opportunity to venture into the social interplay critical for social and language development. Nor is the learner able to fully calibrate the necessary academic learning. Bronfenbrenner's Ecological Development Framework neatly outlines the requirements for, the effective development of the LLP and the normative development of young learners and is intricately linked to them. When aligned with the language and literacy trajectories of the ELL, the disconnects are clear.

Continuing with the exploration of the numerous disconnects, the Dynamic Theory, not dissimilar to Bronfenbrenner's Ecological Theory, considers the learner's mind, body, physical and social world as a dynamic and integrated system. In line with Bronfenbrenner's Ecological Theory, this theory considers that any change to the system ultimately impacts, either positively or adversely, both the learner and the system and is causal in change to the learner and the system. The young ELL is required and expected to simultaneously acquire language and literacy with limited or no environmental, background, and familial support in



the second language while bearing in mind that both language and child development are dynamic, hierarchical, integrated, and multidirectional. When considered against the aforementioned theoretical frameworks, the ELL experiences language and cultural exclusion within the school, inclusive classroom, and the curriculum. The major domains of language development and emergent literacy from birth to Grade 1 entry compound this isolation since they are primed for literacy acquisition in a language spoken at home (L1) and proffer limited, if any, support to the ELL in terms of acquiring literacy in an L2. Therefore, typical learners sustain hierarchical, developmental and sequential literacy acquisition. Subsequently, the ELL simultaneously acquiring language and literacy in a language other than that spoken at home, experiences a five to six-year developmental gap in the major domains of language, emergent literacy and literacy development.. Therefore, a profound disconnect and exclusion occurs when the ELL is placed in an inclusive classroom where he/she is expected to acquire language and literacy the same time. The recognition of the dynamic and systemic interaction of environment and the individual at various stages of first and second language acquisition, emergent literacy and first time literacy acquisition, upholds the dynamic system's theoretical viewpoint as it pertains to the ELL simultaneously acquiring language and literacy and to this end, denotes a further striking disconnect.

Vygotsky's Sociocultural Theory aligns with, supports and furthers the theoretical frameworks mentioned from a social and cultural developmental perspective in terms of the learners' language and literacy acquisition process and reveals a further disconnect within the bidirectional relationship between learners and more knowledgeable members of society such as parents and siblings (Berk, 2012:27) in the early years of development. The early sociocultural exposure of the young ELL to his/her mother tongue or L1 provides a cultural knowledge and behavioural base, which is culture and language specific. A dramatic cultural and linguistic redirect occurs when young ELLs enter formal schooling where the teaching medium is not their L1, thereby furthering the sociocultural linguistic disconnect and manifesting as a "cultural mismatch" (Hakuta, 2001:87).

The disconnects outlined above expose the divergence of the ELL's normative cultural and linguistic development processes with regard to formal school entry compared to those of the English-speaking monolingual learner. The ELL's functionality with regard to interaction and participation in the inclusive classroom is intricately invested in the learner's immediate environment, specifically the home environment. Functionality, interaction and participation in school and the classroom are guided by language and literacy. In the case of the ELL, functionality, participation and access is guided by a language and culture not accessible to the ELL, therefore affecting compatibility in the English-speaking inclusive classroom. Simply put, a disconnect occurs.

Language development is the quintessential component for literacy acquisition. It is a dynamic, expansive, and complex phenomenon that becomes exponentially so when a second language is introduced. For this reason, the theoretical frameworks of both first and second language acquisition are touched upon as they both link to, are integral to, and inform the normative development of the young learner. In this light, Chomsky (1955) and Vygotsky (1962) are overviewed with regard to the normative acquisition of first language acquisition. Additionally, the sociocultural theoretical perspective, Krashen's Natural Order hypothesis and the Input hypothesis (1987) are overviewed as related to second language acquisition. In this manner, the language acquisition frameworks for first and second language acquisition are compared to the normative development theories previously noted, further delineating the disconnects under discussion.



The interplay of “two factors”, namely the biological factor (Language Acquisition Device (LAD)) (Chomsky, 1955:113) triggered by and dependent on the social factor (exposure to language) are considered within the framework of Chomsky’s Universal Grammar Theory. The LAD “mediates’ and scaffolds” input, interlocking it to the innate blueprint of the “*lingus corpus*” thereby facilitating rule-based output such as the first words and sentences. Language acquisition is “generative grammar” (Chomsky, 1955:117) and time sensitive as it relates to and is compared with the normative development of the young learner.

Chomsky’s Universal Grammar Theory is reflected in Vygotsky’s theory of Constructivism, which views language and literature acquisition in sociocultural terms (Mitchell, 2013:221). According to the latter theory, the most critical prerequisite for learning, language and cognition resides within the learner and is enriched by the sociocultural contexts that the learner experiences over time. This means that language and literacy development are dependent on the availability, quality, chronology, and accessibility required for the aforementioned “scaffolding” to occur, a necessity for future language and literacy development.

Krashen’s Natural Order hypothesis and Input hypothesis (Krashen, 1987) outlines the theoretical framework for second language acquisition, retention, and production. It is not dissimilar to Chomsky (1955) and Vygotsky’s (1962) first language acquisition frameworks in that it focuses on and links social learning and cognition. Krashen argues that acquired language relates to cognition and therefore occurs innately as with other developmental phenomena that begin at birth. He goes on to note that verbal interaction is the catalyst for success (Krashen, 1987:25). He further comments that interpersonal interaction lays the foundation for further learning (Krashen, 1987:27). Krashen describes the process of second language learning as the learner receiving input slightly more advanced than the his/her current knowledge, termed the “natural communicative input” (Krashen, 1987:45). Vygotsky’s Sociocultural Theory references the aforementioned as the zone of proximal development (ZPD) (Vygotsky, 1962), which demarcates the zone between the learner’s independent learning ability and the zone at in which the learner will require assistance from a more knowledgeable other who provides a mediated scaffold to the learner when the learner lacks the necessary skills for further learning. Scaffolding and mediation are central to Vygotsky’s theories (Donato, 1994:40) and the application of these learning theories to second language acquisition (SLA) has resulted in a “strand” of Neo Vygotskian thinking and research, namely the Sociocultural Theory (SCT) (Mitchell *et al*, 2013:222). In this regard, socioculturalism is viewed as encapsulating language acquisition with its emphasis on the complex and dynamic social and cognitive aspects of language and literacy acquisition.

The nature and severity of the series of described disconnects highlight the inefficacy of the ELL’s LLP in comparison to that of the monolingual in terms of the theoretical and contextual perspectives. It is therefore prudent to explore further disconnects or differences related to the delineating of the LLPs guided by the theoretical and contextual findings. Consequently, the components of language, emergent literacy and language are examined. The variable cultural, linguistic, and biographical background diversity between the two groups will be briefly introduced as background before the discussion of language components since they inform both language and literacy components.

## Research methodology

The research design complies with the necessary qualitative, quantitative and mixed method research approaches, which prescribe and describe specific procedures within the research for conducting the study (Creswell, 2014:12). In this regard, a simple causal-comparative approach to the mixed model research design was assumed. The qualitative mode of enquiry and a non-experimental quantitative component interact and complement one another to provide a more comprehensive landscape and explanation of the phenomenon being discussed. The research design is fixed and sequential.

The qualitative mode of enquiry draws from a micro-ethnographic methodology with an interview and questionnaire<sup>1</sup> administered to parents as instrument. In so doing, the diverse cultural and linguistic background of the ELL group can be examined in a natural setting over time. (Creswell, 2014:243). The micro-ethnographic enquiry focuses on the biographical attributes of the society and culture of the target population, namely the ELLs identified as a vulnerable minority and the English monolingual learners in British Columbia. For this reason, the micro-ethnographic study is based on the language, background, and inclusion and/or exclusion within society, school, and the classroom of the ELL population in British Columbia.

For the purpose of this article the first stage of the enquiry, namely the qualitative mode, will not be elaborated upon. It is adequate to note that the use of the structured, open-ended parent questionnaire (informed by the predetermined categories and sub-categories of two pilot studies) provided comprehensive data on the significant differences and/or disconnects between the two comparative groups in terms of the cultural, linguistic and biographical background diversity (Snelgar, 2015). The research question and hypothesis that guided this study follows.

### *The research question*

Can statistically significant differences be established between the LLPs of ELLs whose L1 is not English, during first time literacy acquisition and monolingual English-speaking learners when English is the language medium used in the school and inclusive classroom?

### *Hypothesis*

The null and alternative hypotheses are formally stated as:

$H_{0m}$ :

There are no statistically significant differences in the LLP of ELLs (L2) and monolingual learners (L1 - English) evaluated against age appropriate LLP skills when learners are exposed to literacy acquisition in an inclusive school/classroom environment where English is used as the language of instruction.

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<sup>1</sup> In consideration of the LEP and sensitivity of the SL participants, the structured open-ended questionnaire was selected and delivered as an interview intended to facilitate discussion focused on meaning retrieval. The information was audio recorded by the researcher, reflected upon, segmented, coded and translated by the researcher into a yes/no frequency table for comparative purposes.



The alternative hypothesis states the following:

H<sub>1m</sub>:

There are statistically significant differences in the LLP of ELLs (L2) and monolingual learners (L1- English) evaluated against age appropriate LLP skills when learners are exposed to literacy acquisition in an inclusive school/classroom environment where English is the language of instruction. The difference will be investigated in ELLs L2 (English), and who acquire English language and literacy in K1, K2 and Grade 1.

### ***Sub-hypothesis***

The most efficient way of evaluating the main hypothesis was to divide the main hypothesis into the 11 components of language and literacy ability, and to separately evaluate achievement on each component. The sub-hypotheses were therefore formulated as follows:

Performance on letter knowledge

H<sup>01</sup>:

There is no statistically significant difference between the LLP of ELLs (L2) and monolingual learners (L1-English) evaluated against letter knowledge when learners are exposed to literacy acquisition in a L2.

As opposed to the alternative hypothesis

H<sup>11</sup>:

There is a statistically significant difference between the LLP of ELLs (L2) and monolingual learners (L1 - English) evaluated against age appropriate letter knowledge when learners are exposed to literacy acquisition in a L2.

The same format was used for the remaining ten components that can be named as performance on rhyme knowledge; performance on basic concepts; performance of receptive vocabulary; performance on parallel sentence production; performance on elision; performance on word relationships; performance on phonics knowledge; performance on sound categorisation; performance on sight word recognition and performance on listening comprehension.

### ***The quantitative study***

The quantitative analysis which follows forms the second stage of the complementary mixed model design type, and complements and consolidates the exploration, description, and quantification of the at-risk educational minority as defined by their LLP. The objectives of the research are realised in support of the primary objective of the study, namely to isolate and specify the extent of an at-risk and vulnerable educational minority or group through the identification of their LLP – as base lined against a monolingual English-speaking control group.

The Assessment of Literacy and Language (ALL), a battery of 11 norm referenced subtests, was administered to learner respondents selected by purposive random sampling (see McMillan & Schumacher, 2010:489) in both the monolingual (comparative) and the ELL (subject) groups. The purpose of the ALL was to test the main hypothesis and the 11 sub-hypotheses of the study. By testing the hypotheses, the study aimed to isolate and quantify the



components of the LLP as they relate to the investigation of the English-speaking monolinguals (comparative group) and the ELLs (subject group). A brief analysis of the ALL, its application and isolated and selected scores for the analyses of the study precede the identification (a research objective), description and quantification of the LLP to follow. The ALL represents a broad range of language and literacy behaviours inclusive of syntactic and semantic skills, which contribute to later reading proficiency (Lombardino, 2005:61). The ALL identifies young learners with language barriers that place them at risk for later reading proficiency problems by using 11 norm referenced subtests that assess the language and emergent literacy skills. Assessment measures consist of a comprehensive set of scores for each participant, which include a raw score, scaled score, index scores, percentiles and lastly, a confidence index score. The discussion of the analysis results will indicate that the set of raw scores and scaled scores were selected for and applied to the study. The scoring process is briefly described below.

Each correct learner response to a subtest item on one of the 11 subtests receives a point. Points are then summed up and termed the raw score for that particular subtest. Scaled scores are calculated from the raw scores for each of the 11 subtests. Raw scores are scaled (standardised) against a table of normed grade and semester specific values that have been compiled for each grade and semester school group. These values are referred to as scaled scores and are compiled by Lombardino *et al.*, (2005: 155-161). Scaled scores therefore provide not only normative information about the respondents, but more specifically, provides a comparison between participants and learners of the same grade and semester (term) group. A description of the motivation for the use of the standardised scores as analysis units follows.

The comparative nature of the research done in this study implies that the analysis strategy has to provide for techniques (and measurement units or scores) that will identify whether the *impact* group(monolinguals and ELLs) related to LLP component measurements are statistically significant. Once this has been verified, the strategy has to further provide for description of the *nature* of the significant group impact on measures of the LLP components. This required information type can be obtained by applying the technique of *analysis of variance*, which determines the significance of “group” impact. Once it has been established “group” (monolinguals and ELLs) impact measures of LLP, the *Bonferroni multiple comparisons of means tests* can be used as a technique to determine the *nature* of the “group” impact; in other words, how group means differ in terms of the various LLP component measures. For this analysis strategy, standardised scores are ideal because of their “uniform measurement” property for all LLP component measures (“component free”) (Wilkins, Rolffhus, Weiss & Zhu, 2005; Zhu & Chen, 2011:570-580).

Other scores that are routinely/automatically calculated as part of the ALL package include index score, percentiles and confidence intervals, and completing a routine profile scoring for the ALL test. For the purpose of the study, which is comparative and descriptive, the raw and standardised scores were, however, deemed more informative and relevant. The theoretical distribution that underlies the ALL-response data sets is the *normal distribution*, a widely used and assumed theoretical distribution. In a normally distributed dataset the mean, median, and modus will have approximately the same value. These qualities were used to “scale” the raw data response sets for all ALL components and provide comparable measures for all ALL components in future, further advanced analyses. Assessment data and analysis results are presented for the 11 language and literacy subtests, which make up the ALL. These subtests can be identified as follows: letter knowledge, rhyme knowledge, basic concepts, receptive

vocabulary, parallel sentence production, elision, word relationships, phonics knowledge, sound categorisation, sight words and listening comprehension. Set against this background, a brief summary of results is presented and discussed and includes the following:

- An outline of the ALL profile scores for participants.
- Frequency distributions of ALL standardised scores per test and participant group (monolingual and ELLs) and frequency trend comparison for the two groups.
- Non-parametric Wilcoxon rank sum test (also referred to as the Mann-Whitney) and parametric one way analysis of variances test on each set of standardised ALL scores are carried out to establish whether *participant groups* impact the 11 ALL test evaluation measures.

#### *An outline of the ALL profile scores for participants*

The outline for the ALL profile scores for participants was best presented as an individual table for each subset. Therefore, the assessment data was presented in the format of raw scores and scaled scores for each of the 11 components for each respondent (Gien Snelgar, Appendix B, 2015). These scores were assessed from responses collected from research participants who completed the ALL assessment. Responses from both monolingual (comparison) and ELL (subjects) research participants were captured. The raw scores were captured and the scaled scores calculated from the subsets of items that assessed the 11 components of the LLP. Assessment data was collected from 25 monolingual learners and 25 ELLs. The table therefore presented an initial ALL profile for the learners.

The ALL assessment data for participants presented as point (i) introduced the initial profile for the learners. The discussion now moves on to point (ii), namely the trend comparison of frequency distribution for the two groups.

#### *Analysis results of the ALL subtests – Cochran-Armitage trend test: A comparison of scaled score frequency trends for the two groups*

Having established an initial ALL profile for the learners, the next step is summarising and evaluating the ALL assessment data to further the establishment of the ELL's profile and to answer the research question by evaluating the nature of the differences (if any) between the LLP profiles of monolingual and ELL learners, the frequencies of scaled score values were tabulated for the two groups for each of the 11 LLP components. Visual inspection of the frequency distributions for monolingual learners and ELLs for each LLP component seems to suggest that scaled scores for the ELLs cluster around the lower end of the score scale, while scaled scores for the monolingual learners cluster more towards the higher levels of the score scale.

This visual observation was further investigated for all LLP components (excluding the letter knowledge and phonic knowledge subtests' set of scaled scores) by means of the Cochran-Armitage trend test. The Cochran-Armitage trend test will evaluate whether the frequency trends over scaled score values for monolinguals and ELLs differ in a specific LLP component. In other words, whether, for example, higher proportions of frequencies are associated with higher score values for the monolingual learners and higher proportions of frequencies are associated with lower levels of scaled score values for the ELLs. The Cochran-Armitage trend test is a non-parametric test and was used in this instance to inform the comparative nature of the main and sub-research question/hypotheses. The test is also suitable for smaller datasets (applicable to this study with 50 observations) and is distribution

free. Subsequently, normality need not be assumed for the data. Deductions drawn from the Cochran-Armitage trend test results indicate that all attributes barring the phonic knowledge and sound categorisation attributes differ both statistically and significantly on the 5% and 1% levels, respectively. These results verify that there is a significant and statistical difference in the response patterns of language literacy performance of the two groups (with the exception of the letter knowledge component).

*Non-parametric Wilcoxon rank sum test (also referred to as the Mann-Whitney) and parametric one way analysis of variances test on each set of standardised ALL scores to establish whether participant groups impact the 11 ALL test evaluation measures.*

The third and final step in establishing the nature of differences between the profiles of monolingual learners and ELLs were further investigated by means of a parametric analysis of variance (in this instance akin to t-testing, (McDonald, 2014:154)) and non-parametric Wilcoxon rank sum tests for each of the 11 ALL attributes (McDonald, 2014:158).

The Wilcoxon test determines whether assessment data (a set of ALL scaled scores) differ statistically and significantly with respect to the nominal variable (e.g. monolingual and ELL's groups). An explanation and interpretation follows the discussion on point (i) and reports an overview of the findings of the Cochran-Armitage trend test, the parametric one way analysis of variance and the non-parametric Kruskal Wallis test. The results are finally presented as differences illustrated in the box plots of the scaled means scores. (See Fig. 1.)

### ***Interpretation of results:***

The significance levels reported for each of the Mann-Whitney tests (for the ALL components) indicate the following:

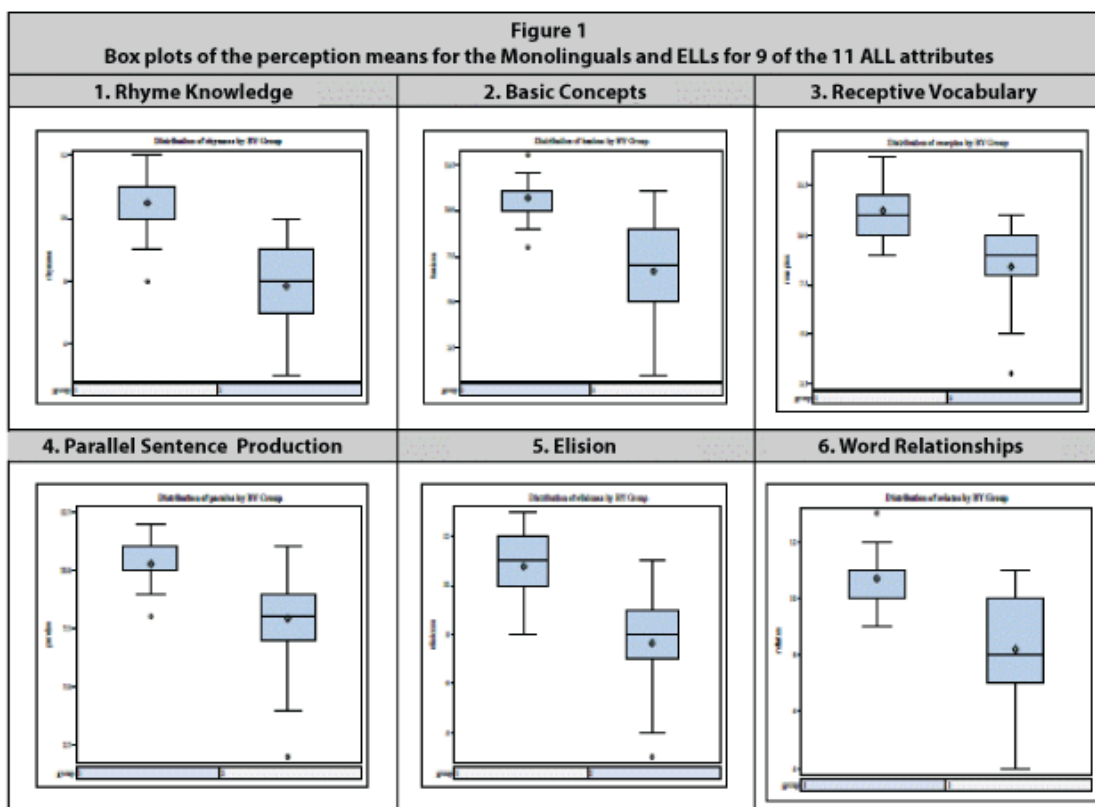
- (i) No statistically significant group difference was reported for the *letter knowledge and phonic knowledge components* of the ALL subtests. In other words, the general performance (mean scaled score) of monolingual and ELLs on these two attributes were not statistically or significantly different. However,
- (ii) Statistically significant differences between the scaled score means of the monolingual and ELLs were reported for the ALL attributes of *rhyme knowledge; basic concepts; receptive vocabulary; parallel sentence production; elision; word relationships; sound categorisation, sight words; and listening comprehension* attributes on the 0.1% level of significance. Test performance of ELLs and monolingual learners with regard to these attributes were statistically and significantly different.

These results compliment the findings of the Cochran-Armitage trend tests, which indicated statistically significant differences in the frequency patterns for monolingual and ELLs for the attributes of *rhyme knowledge; basic concepts; receptive vocabulary; parallel sentence production elision; word relationships; sound categorisation; sight words; and listening comprehension*. The Wilcoxon test results indicate how the frequency patterns for the two groups differ: On average, ELLs constantly scored lower than the monolingual learners. This is reflected in the mean scaled scores reported in the "scaled means" columns of the ELL's mean scaled scores, which are consistently lower than the monolingual scaled scores for the mentioned attributes. For example, 6.68 compared to 10.68 for the basic concepts attribute; 7.92 compared to 10.28 for the parallel sentence production attribute; 8.52 compared to 10.36 for the sound categorisation; 7.80 compared to 10.72 for listening comprehension; 7.84 compared to 10.48 for rhyme knowledge; 8.40 compared to 11.24 for receptive vocabulary; 10.52 and 8.48 for sight words; and 10.76 and 7.64 for the attribute of elision.

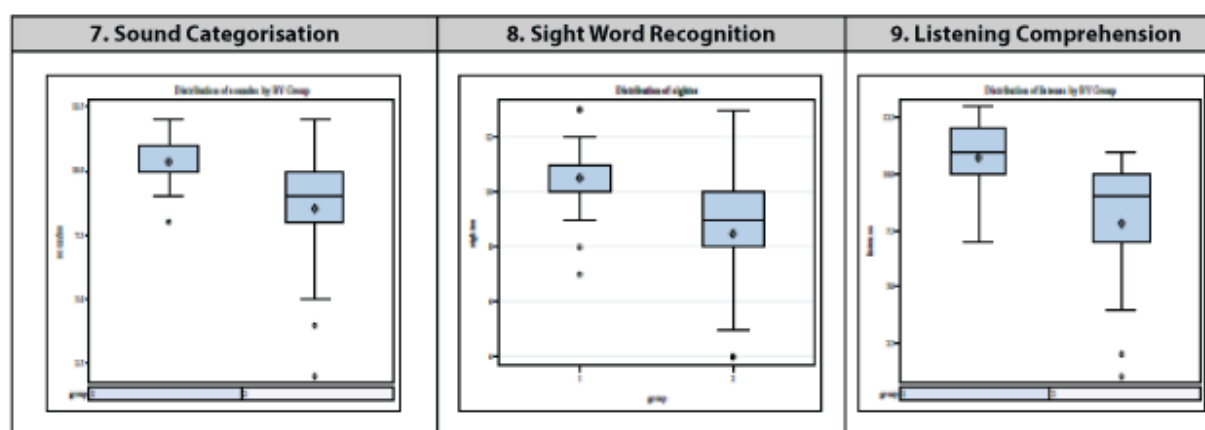
These results confirm (barring the phonic and letter knowledge components that English proficiency and literacy as measured against ALL assessment measures, differ statistically and significantly for ELLs and monolingual learners. These differences are illustrated in the box plots of the scaled means scores in figure 1.

The parametric one way analysis of variance confirms the non-parametric Mann-Whitney results. Eleven one way analyses of variance were performed on each of the sets of scaled scores of the ALL test. The *group (monolingual and ELL learners)* were entered as the explanatory variable in each model, and scaled scores of an ALL attribute as the dependent variable confirming the results of the Wilcoxon tests. The probabilities associated with the F-statistic (also the t-statistic) since only two groups are compared) for the attributes of *letter knowledge; rhyme knowledge; basic concepts; receptive vocabulary; parallel sentence production; elision; word relationships; phonic knowledge; sound categorisation; listening comprehension; and sight words* are, respectively 0.4314; <0.0001; <0.0001\*\*\*; <0.0001\*\*\*; <0.0001\*\*\*; <0.0001\*\*\*; <0.0001\*\*\*; 0.056; 0.033\*; <0.0001\*\*\*; and < 0.001\*\*\*; indicating that statistically significant differences between monolingual learners and ELLs were established for all attributes excluding *letter knowledge* and *phonic knowledge*. This confirms the results of the non-parametric tests.

These results confirm (barring phonic knowledge and letter knowledge components) that English proficiency and literacy as measured against the ALL assessment measures differ statistically and significantly for ELLs and monolingual learners. These differences are illustrated in the box plots of the scaled means scores in figure 1.







**Figure 1** Box plots illustrating the significant differences between the scaled score means for monolingual and ELLs for nine of the 11 ALL attributes

## Findings

The discussion above notes the qualitative component and outlines the quantitative component of the complimentary mixed model design, which were applied to the research data retrieved specifically to isolate and specify an at-risk educational minority defined by their LLP and identify their resulting vulnerability. Therefore, it is argued that a sub-group of learners, namely the ELLs who acquire literacy in a L2 and who reside in the province of British Columbia, Canada, present an LLP that impedes equitable access, participation, excellence and impinges on the rights of the ELL within an inclusive classroom. In this regard, the ELL is at-risk when the ELL's LLP is compared to the LLP of the monolingual English learner. More succinctly put, a disconnect occurs for the ELL when he or she attempts to engage with the school, classroom and the curriculum.

To illustrate the disconnect, a language and literacy background profile was qualitatively compiled to define and profile the LLP of the ELL sub-group. A comparative analysis was performed between the monolinguals and the ELLs L2. To further substantiate and verify the LLP of the profiled ELL sub-group, quantitative techniques were applied to capture significant indicators of difference and/or disconnect, compared to the English-speaking monolinguals LLP. To this end, the purpose of the study, namely to identify and profile a learner's group presenting with a significantly or marked deficit when their LLPs are compared with the LLPs of the English-speaking monolingual learners, would be met.

The vulnerable at-risk group, the disconnected group, were profiled by collecting the cultural, linguistic and literacy biographical attributes for this sub-group with respect to the qualitative component of the research design, and for the purpose of this article. The findings indicate distinguishing features of the ELL's parent group. As noted, for the purposes of this article stage one of the enquiry, namely the qualitative mode, will not be elaborated upon although it suffices to note that the findings of the qualitative component indicate the presence of an at-risk educationally vulnerable minority with regard to their cultural and linguistic differences and/or disconnect. These findings complement and inform the quantitative study detailed below.

In support of the complementary aspect of the study, the quantitative study further delineated the LLP by empirically testing the literacy and language components of the learners' LLP, by



means of the ALL assessment tool and the 11 attendant subtest results. The subtests findings identified substantial evidence of difference, (barring *letter knowledge* and *phonic knowledge*), in learner ability in terms of the LLP of monolinguals, when compared to the LLP of the ELL. The ALL mean scaled test scores for the monolingual group (comparison) is consistently (and significantly higher) than the corresponding mean of the ELL group (subjects) with the exception of the *letter knowledge* and *phonic knowledge* subtest. This confirms the English proficiency and literacy differences between the monolingual (comparison) group and the ELL's (subject) group.

These findings effectively isolate and specify the extent of an at-risk, vulnerable educational minority through the profiling of their LLP. The ELLs were profiled as children of immigrants with LEP presenting with a significant literacy and language difference; more astutely put, a language and literacy deficit and therefore disconnect. This deficit was evidenced upon both qualitatively and quantitatively scrutiny of the LLP. The lack of exposure to spoken English and relevant literature in the home where a language other than English is spoken, together with policies, funding, school, curriculum, and classroom practices that are not specifically tailored to the ELL's specific needs enable and promote the disconnect and resultant unintended exclusion. Exclusion in and of itself may then be deemed a barrier to literacy acquisition and learning. Schools, teachers, and communities struggle to fulfil the unique and specific needs of the ELLs when bound by funding, policies, and proposed practice.

Both modes of the investigation are intended to provide a framework for and awareness of the language and literacy vulnerabilities of the ELL in addition to the critical need, which is to connect the disconnect by means of adequate support.

## **Conclusion**

If one acknowledges that the long-term goal of literacy acquisition goes beyond reading, writing and arithmetic, and extends to the systematic and hierarchical furthering of knowledge, skills and technological skills, which in turn support lifelong learning and therefore the economy, then the following stands: the cornerstone of the aforementioned, namely language and literacy, is critical in the accessing and realisation of learning in the school and classroom. To this end, a viable and functional LLP in the young learner is crucial if learning is to be the expected outcome of literacy acquisition. Consequently, the current expectation of the ELL to simultaneously acquire language and literacy upon entry into the inclusive K1, K2 and Grade 1 classrooms requires a fresh evaluation and viewpoint, specifically with regard to the ELL's LLP, which, as argued, presents significant differences and disconnects when compared to that of the English monolingual learner. As indicated, there is a theoretical disconnect, a biographical, linguistic, literacy and cultural disconnect, and the componential language and literacy disconnect. It therefore behoves those charged with the challenges of providing effective literacy and language acquisition for the ELLs to entertain a profound shift in theoretical and practical application. In so doing, the policies of inclusion attend to the needs and rights of the ELL and, very importantly, remove barriers to learning and the educational vulnerability of the young ELL. In this regard, "[t]he dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty. As our case is new, so we must think anew and act anew. We must disenthrall ourselves and then we will save our [ELL learners] country" (Lincoln, 1862). It is the word "disenthrall" that brings meaning to this article. Our policies, pedagogies and curricula are guided by notions, theories, and ideologies that may no longer be relevant considering the globalisation



and “super diversity” (Vertovec, 1024-1054) prevalent in Canadian society today. Subsequently, we must “disenthrall” ourselves of the theories and applications “of the past”, which are no longer relevant in terms of the ELL’s LLP. We need to move forward, informed by past knowledge while making a profound shift in thought, reason, and application in the present. In this manner, we can uphold the cornerstones of inclusion, namely equity and excellence, by recognising the diverse backgrounds and educational needs (Faubert, 2012:6-12) of the vulnerable, at-risk ELL. Ending segregation of learners within education is a human rights issue (Kentworthy & Whitaker, 2001:219) and as such, speaks to the inherent right of every Canadian learner, regardless of language or culture, to access an equitable education. Converting rights to reality and disconnect to connect, is the moral responsibility and salient challenge for policy-makers, curriculum planners, schools and teachers.

## Acknowledgement

We thank the following:

Dr Helene Muller, Senior Research support consultant in the research directorate at the University of South Africa, for her statistical input and advice. This research received no specific grant from any funding agency in the public, commercial, or not for profit sectors.

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