



A SYSTEMATIC REVIEW OF BILINGUAL EDUCATION AND LANGUAGE PROCESS

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Abstract:

Over the past few decades, scholars on bilingualism have been widely covered, but there is still much to discover, especially in the sphere of bilingual education. There is inadequate systematic review on studies that examine the trends, effects, methodological approaches, challenges and limitations of bilingual education. The paper aims to offer a current trend of bilingual education and language process or performance through qualitative critical and content analysis. A total of 20 articles published from 2015 to 2025 in languages, predominantly bilingual education-related journals, both foreign and local, were purposively selected to achieve a systematic and content review of bilingual education and language process. The paper endeavours to give a systematic report on the findings categorized under trends, effects, methodological approaches, challenges and limitations. Prevailing findings emerged: (a) an increasing trend in the study of bilingual education and individual factors affecting bilingual education, (b) the existence of inconsistent effects, (c) the need to re-evaluate methodological approaches, and (d) inadequate local based research carried out in Ghana. The paper also brings on board suggestions and opportunities for future research in bilingual education and language process.

Keywords: systematic review, bilingualism, multilingual, bilingual education, language process, qualitative method, challenges, intelligence quotient, inhibition control

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1. Introduction

It is empirically observed that studies on bilingual education over the last few decades have not only been rigorous, but there is still much to be done in this area. This is because bilingual education is a multifaceted phenomenon, which is reflected even in the definition of bilingualism. There is no universal definition due to the various domains that need to be taken into consideration (Hamers & Blanc, 1983), let alone bilingual education. Hamers and Blanc (1983) define bilingualism as the ability to access or use more than one language for communication. Likewise, Or-Kan *et al.* (2020) define bilingual education as a situation where education policy within a particular jurisdiction accepts the use of two or more languages as a medium of instruction. Language, in its sense, has been considered to have strong ties with cognition and the brain. Valian (2015) has revealed that the link between language and the mind can be explained through bilingualism and cognition. This means that in bilingual education, the study of bilingualism aims to discover how bilingual experience can assist or hamper cognition, especially at the educational level. Valian further established that an explicit hypothesis, which is the existence of an essential device needed for bilinguals to maneuver between two languages and inhibit the languages not in use to produce fluent language performance, is the foundation of all research regarding bilingual education. This underlying mechanism, deduced by Valian (2015), was first proposed by Green (1998), known as Inhibition Control (IC), which sparked various research showing advantages of bilinguals compared to monolinguals in areas extending even beyond bilingual education, which is widely recognized as the bilingual advantage (Bialystok, 1999). Since then, an extensive quantity of literature that examined the hypothesis regarding the bilingual advantage have suggested that there are advantages to the bilingual experience in the education setup such as greater mental flexibility (Bialystok & Martin, 2004), problem solving skills (Leikin, 2012) and even the greater elasticity in the physical structure of the brain which can help delay the onset of Alzheimer's disease (Antoniou, 2019; Bialystok, Craik & Freedman, 2007). Conversely, in recent years, a substantial amount of research indicating no bilingual advantage or even opposing results has also emerged (Costa, Hernandez, Faidella, & Galles, 2009; Sandoval, Gollan, Ferreira, & Salmon, 2010).

May *et al.* (2004) also cited individual differences such as education, socioeconomic status, leisure activities, and musical training as factors contributing to inconsistent results, as these factors might enhance the executive function of bilingualism. Many different strategies or models can be effective in teaching expanding proficiency. Some models of bilingual education emphasize biliteracy and parallel academic proficiencies in two languages as an outcome (Cummins, 2000; May, Hill, and Taikiwai, 2000; Nunavut Education Act, 2008). On the other hand, Bruin, Treccani and Sala (2015) concluded that such inconsistencies exist because of publication bias, which promotes the publication of research with only positive results.

Existing literature reviews have extensively covered many aspects of bilingual education by synchronizing trends as well as contributing an analysis of findings (Avataq, 2012). However, the substantial number of research publications on various aspects of bilingual education, such as advantages, disadvantages, limitations, and challenges, have

indicated a lack of condensed, focused research in particular areas of bilingual education, especially over the past four years. This means that there is a lack of systematic research on bilingualism, especially in relation to education. Thus, through a synthesis of twenty (20) selected articles on research conducted internationally and locally in Ghana, the study aims at reporting the current trends of bilingual education and language process and to fill the gap in the literature on bilingual education. Additionally, this study also analyses the current literature in the context of Ghana, as bilingualism is deeply rooted in the historical and educational development of Ghana (Owu-ewie, 2006).

Therefore, within this context, this review is guided by the following research question:

- What are the contemporary trends of bilingual education over the last ten (10) years?

2. Research Methods

A synthesis on bilingual education research establishes significant relationships from current literature as well as provides conclusions and theories for further research and practice (Kroll, Dussaix, Bice & Perrotti, 2015). The current review uses a qualitative synthesis approach in synthesizing the studies collected. Suri and Clarke (2009) have defined qualitative research synthesis as the synthesizing of qualitative research using systematic means with the intent to increase accountability, credibility, and transferability of synthesis findings.

The synthesis in this review went through three distinct phases (Figure 1) - Phase 1: search and inclusion, Phase 2: individual study review and Phase 3: content analysis through cross-study comparison and analysis, which is modelled after the research conducted by Baran (2014). In phase 1, the objective was to employ a consistent manner in searching and selecting from the inclusion and exclusion criteria the most relevant journals for this review. A search by employing keywords such as "bilingualism and education" and "bilingual education" and "bilingual" or "bilingual and education" in the Web of Science (WOS) complete database produced 650 results. To guarantee reliability, a guideline for carrying out literature reviews proposed by Webster and Watson (2002) was adopted, in which the authors proposed that contributions published in leading journals should be a starting point when establishing relevant literature. Therefore, a second manual search was later conducted in high-ranked journals in the field of bilingualism namely International Journal of Bilingualism and Bilingualism: Language and Cognition. To further ensure reliability, the search results were then examined using an inclusion and exclusion criterion as proposed by Bacca, Baldiris, Fabregat, Graf and Kinshuk (2014). In order to refine the search results, articles were selected based on general and specific inclusion criteria as well as exclusion criteria by considering the research questions, time frame, and scope of the relevant studies. The predominant general criteria entailed studies published between 2015 and 2025, as well as studies that centered around bilingualism in bilingual education. Additionally, relevant criteria that were specified in the scope of search included studies that report on the advantages, disadvantages, factors, limitations and challenges of bilingual education; studies that report on effective bilingual education and the function of bilingual education in relation to bilingualism; studies that report on assessment methods for bilingual education and also studies done locally were included in this review. It is vital to note that studies that met the exclusion criteria were not

recognized in the journals as “articles”, such as book chapters, as well as studies which only included the key terms “bilingualism” and “bilingual education” in their references, were excluded. The relevance and reliability of the chosen articles were also examined by conducting a manual search in the leading journals. Therefore, twenty (20) articles published from 2015 to 2025 in peer-reviewed journals which covered the advantages, disadvantages, factors, methods, limitations and challenges of bilingual education were selected to be included in this review. In phase 2, an analysis of twenty (20) selected articles was carried out. The articles were examined through an analytic research synthesis table by coding with representations meta-categories of bilingual context, such as the definition of bilingual education, effects and outcomes of bilingual education. Codes regarding methodology, which included the aim of the study, participant information and test employed or data sources, were also included in order to aid in comparisons among the studies. In the final part of this research, phase 3, a content analysis was conducted using a directed approach, as suggested by Hsieh and Shannon (2005), informed by a relevant theory or findings. Therefore, the selected articles were then compared and analyzed within these secure categories and reported as results. The data gathered were examined “*to consider themes, shapes, and organization of research ideas present in the overall literature*” (Opfer & Pedder, 2011). The categories employed, which portrayed both differences and similarities, were trends, advantages and disadvantages of bilingual education, methodological approaches, and challenges and limitations in relation to bilingual education.

3. Findings

Through the research synthesis conducted on the twenty (20) selected articles centered on bilingual education and language process, the main findings emerged that can inform the methodology and perspectives on bilingual education research in different contexts. These findings are reported below in terms of trends, outcomes, methodological approaches, challenges and limitations.

3.1 Trends in Bilingual Education Literature

The twenty (20) articles that were chosen to be analyzed were set with a time frame of 2015-2025 to obtain updated and relevant literature. Within the period of ten years, an equal number of literatures were selected for each year to analyze the trends of literature in each particular year. Local-based research done in Ghana were also included but not found in the respective years; hence, studies from African countries were selected in place of Ghana to determine the overall trends in the local scene. Overall, the aim of the studies analyzed in this review can be categorized into three main types. The first is the effects of bilingual education on the educational system. The second category is the effects of bilingual education on language performance, which has to do with executive function or cognition and the brain. The third was to study the factors that affect bilingual education. More than half of the research conducted over the period of 2015-2025 has been dedicated to finding out the role of bilingual education in the educational system, such as the benefits of bilingualism on education that are the executive function, cognition or the physical structure of the brain,

which enhance learning (n = 6). A significantly larger number of studies conducted aimed at finding out the effects of bilingual education on language performance, such as verbal interference control, code-switching, phonetic sensitivity and plural expressions (n = 7). Only a small number of studies have focused on the factors that affect bilingual education (n = 4). Only one of the research projects conducted aimed to find out both the effects of bilingualism on education and language learning. The remaining two studies (n=2) were not really centered on bilingual education but geared towards bilingualism and education policy, including teachers' and students' perceptions. However, they were included in the selection because they were local articles which were significant to help identify the local trends. Delving into the trends of each year, it is apparent that the focus of research towards the effects of bilingual education on education has increased throughout the years. Between 2015 and 2025, only 1 article each year was found to have reported bilingual education and the rest of the 6 articles were focused on the effect of bilingual education on language learning. However, a shift in 2019 saw a significant increase in articles (3 out of 4) about the role of bilingual education on language performance. In 2023, the focus shifted to studies of factors affecting bilingual education, namely, learners' and teachers' perceptions. Unlike the previous year, only 1 article was found to report the effect of bilingual education on education. A similar trend can also be observed in the year 2024, in which 2 articles aimed to study the internal effect of bilingual education on education, while the other 3 in 2024-25 centered on the factors that affect bilingual education. In contrast, the overall trend in bilingual education and language performance studies carried locally over the period of 2015-2025 were not apparent, as studies related to factors confronting bilingual education. Only 3 articles were found to be close to reporting on the role of bilingual education on learning and language performance. In relation to the methodologies employed by the studies reviewed, it was found that many of the investigations employed the qualitative approach (n = 9) as well as the mixed-method (n = 5) designs. However, a few were investigated as case studies (n = 4), while the remaining studies (n = 2) employed the quantitative method. Relatedly, the range of research participants ranged from infants (aged 16 months), children (provided age range 4-13), to adults (provided age range 20-35) and older adults (provided age range 59-83). As for the participants, 25% of the studies focused on children as their participants, while 30% of the articles aimed to study adults. Only two articles were found to study older adults and another one (1) article employed both children and adults as its participants. Additionally, data sources comprised journal articles, performances of various tasks, observations via video or audio recording and questionnaires.

3.2 Methodological Approaches in Bilingual Education and Language Performance

The current research analysis and synthesis show that many different methodological approaches, as well as variations that had been employed by the researchers throughout the chosen articles, which are most commonly task-based, have been employed to determine how bilingual experiences play integral roles in education and in language performance. Some of the most common tasks used in the bilingual literature are Sentence Stimuli Task in determining whether previous sentences were true or false, Fluency Task, Operation Span Task used to test the memory of letters while solving mathematics problems, as well as a

Cognitive Task Battery known as the AX-CPT test, Lexical Decision Task, Semantic Judgement Task, Picture Vocabulary Task, Flanker task as well as the Letter Number Sequencing Task. All these tasks are utilized particularly in determining how bilingualism enhances language learning at the level of education through executive function or cognition, such as in reading comprehension or cognitive development when learning a second language (Zirnstein *et al.*, 2019; Legault, Grant & Fang, 2019).

Some other task-based approaches involve the use of pseudo-words. Both Havy, Bouchan and Nazzi (2016) as well as White, Titone, Genesee and Steinhauer (2017) Bilsiki (2018) have employed the use of pseudo-words in which the former implemented an object and pseudo-word matching task where participants are required to match the objects labelled with pseudo-words after they were presented to the participants in order to learn how bilinguals process phonetics when learning words. All objects and pseudo-words had similar phonetic features. Similarly, White, Titone, Genesee and Steinhauer utilized pseudo-words by asking participants to click on the screen each time they heard a pseudo-word after being presented with a set of words during a semantic categorization task while continuous EEG was being recorded. Another task-based approach can be seen in the study conducted by Filippi *et al.* (2015), which tested the control of linguistic interference during comprehension of verbal language.

The researchers (Filippi *et al.*, 2015) employed a sentence interpretation task in which participants were presented with a combination of visual stimuli and auditory sentences of varying complexity that might contain linguistic interference. Most questionnaires or surveys used in the bilingualism and language processing literature are administered as pre-screening tests to ensure participants meet specific criteria. Majority of the research done from the twenty (20) selected articles made sure that participants took a language- background questionnaire in order to assess the participants' background, which gave information about the participants' age of acquisition, language learned or used and also to ensure they are in an optimal condition mentally before they can participate in the experiment especially for EEG recordings and MRI scans. These questionnaires are known as the Language History Questionnaire and Mini-Mental State Exam (White, Titone, Genesee & Steinhauer, 2017; Hämäläinen, Sairanen, Leminen & Lehtonen, 2017; Zirnstein *et al.*, 2019; Legault *et al.*, 2019; Abu Rabia, 2019). Abu Rabia (2019) also employed questionnaires, including the English Proficiency Test and the Metacognitive Reading Strategies Questionnaire, to study how different degrees of bilingualism affect metacognitive linguistic. The use of these questionnaires, especially for pre-screening, is vital, as such assessments produce independent variables used to examine correlations or predict performance (Li, Sepanski, & Zhao, 2006; Soh, 2016, 2017; Mihat, Azman, & Soh, 2018). Although observations are rarely used, they were employed by a few of the studies reviewed. Salleh *et al.* (2016) employed observation via audio and video recordings, coupled with a picture-based task; to examine how bilingual experience affects plural expressions in a bilingual child. Likewise, Salleh, Kawaguchi, and Biase (2019) employed a similar technique to determine how the linguistic environment affects a bilingual child's plural expression.

Paramesvaran and Lim (2018) also employed observation through audio recordings as well as interview sessions, whether by group or individually, when studying code-switching

practices to find out the teachers' and students' perspectives. In contrast, researchers have also employed a more physically evident approach, which is the use of MRI scanners and EEG recordings. To find out how immersive bilingualism reshapes the brain's core, Pliatsikas et al. (2016) conducted MRI scans of bilinguals who had been immersed in their second language for a period. Hämäläinen1, Sairanen, Lemine and Lehtonen (2017) also employed the use of an MRI scanner to examine how two major language trajectories along the local white matter structures are affected by bilingualism.

3.3 Limitations and Challenges in Bilingualism Education and Language Processing Literature

A few limitations and challenges have been identified through this review. Much of what is researched on bilingualism and language processing is based on the theory of inhibition control, which posits that this advantage results in superior executive function, as proposed by Green (1998). However, executive function has other components as well, such as working memory, planning, and conflict monitoring. Thus, it is not accurate to equate inhibition control as executive function, as Valian (2015) suggests a need to redefine executive function, because, based on that theory, tasks employed are usually aimed at testing inhibition control to measure executive function. The many variations and differences in tasks have been shown to be a challenge as well. The differences in tasks, including the many variations, might be attributed to inconsistent findings or results. This is because it is unclear which part of the task is activated, which component of the executive function or perhaps even employs different parts of cognition that are unrelated to the executive function. Therefore, many of the methodological problems need to be resolved to produce a set of consistent assessment tools, as variations in the task can influence a participant's performance on that task (Valian, 2015; Filippi, D'Souza & Bright, 2018). Even with consistent scientific methods such as MRI scanners and EEG recordings, the limitation lies in the cost of the equipment. According to Legault, Grant, Fang, and Li (2019), funding, especially for additional participants, can be pretty hard to obtain because MRI scanning is exorbitantly expensive. Therefore, researchers can only utilize data-sharing consortia which might fulfil all the criteria needed in that research. Another challenge posed in the literature is the many individual differences that need to be considered. In measuring executive function, individual variability plays a role not only in terms of background but even the activities done by individuals as some activities might be related to superior executive function such as socioeconomic status, immigrant status, education level, musical training and experience in action video games, genetics and environmental factors (Valian, 2015; Filippi, D'Souza & Bright, 2018; Fricke, Zirnstein, Navarro-Torres & Kroll, 2018). However, it will be challenging to account for all the individual-level differences that could affect the participant's performance on executive function tasks. Even within the bilingual context, individual differences such as age of acquisition, degree of bilingualism, and linguistic environment can affect performance outcomes (Hämäläinen *et al.*, 2017; Pliatsikas *et al.*, 2016; Salleh *et al.*, 2016).

3.4 Bilingual Education and Language Development

Contemporary critical analysis has also revealed that there is scarce research on bilingual education and language development in Ghana. Of the twenty (20) articles, only 3 were conducted in Ghana, and only 2 examined bilingual Education in the context of its effect on general academic performance. However, research conducted by Bisilki (2018) on bilingual education cannot accurately represent the trends regarding bilingual education and language processing in Ghana, given various reasons and the issues raised. The reason is that the study is a longitudinal follow-up of the same participant, and in both studies, the undeniable limitation is the generalisation of findings based on a single bilingual group in a rural area, as the researcher himself admits (Bisilki, 2015). Therefore, it is evident that there is a lack of research on bilingual education and language performance in Ghana. Given that Ghana is a multilingual country, much of the focus on bilingual education must be within the context of education. For instance, the research studies done by Tackie-Ofosu *et al.* (2015) focused on mother tongue usage in Ghanaian pre-schools: perceptions of parents and teachers. Similarly, the study conducted by RSIS (2021) on “Plurilingualism and curricula advancement in colleges of Education in Ghana: softening the boundaries of languages” targeted the perception of both teachers and students on the use of mother tongue (L1) in a classroom or school setting. RSIS and Tackie-Ofosu *et al.* have revealed that teachers mainly consider bilingualism of no significance and hold a low positive attitude toward it. The authors have also pointed out that although bilingual education is introduced and implemented in Ghana, the Akan language, especially the Twi dialect, remains dominant and heavily stressed, leading to the decline of English language learning. However, Bisilki has reported that teachers' and students' perceptions of code-switching in a classroom setting differ because it is done purposefully to enhance teaching and learning, as well as to serve as a tool for language study in the preschool. Students with a lower proficiency in a specific language found code-switching extremely helpful (Meganathan, Yap, Paramasivam, & Jalaluddin, 2019). Hence, it can be said that not only is there an overall lack of research done on bilingual education and language performance, but also the general lack of understanding of the importance of bilingual education in Ghana.

4. Discussion

The overall review and synthesis of the studies selected have revealed that the study of bilingual education and language performance has evolved from focusing on the effects of bilingual education on the educational system and language performance, as well as the study of other dimensions, such as factors that affect bilingual education and language performance, including individual perceptions. The shift of focus towards language performance in the study of bilingualism is within the cycle of Kroll, Dussias, Bice and Perroti (2015) conclusion, stating that the current study intends to unveil the mechanisms that are responsible for the effects of bilingualism by attempting to measure language performance from the pre-linguistic stage. This is important as Valian (2015) has thoroughly explored how inhibition has often been used as a generalization of the function of bilingual education in educational settings and language development.

Therefore, the need to precisely ascertain and describe the exact section of the function of bilingual education being employed is current. Findings on trends also revealed inadequate research among young adults, as the majority of studies were targeted at either children or adults. Although Bialystok (2017) attributes this to the lack of effect of bilingual experience among young adults, who are at peak performance, it remains unclear whether this hypothesis is valid, given the scarcity of research. Through this critical review, the results have also indicated that there is a variety of outcomes across the studies carried out, whether advantages, disadvantages, or no significant effect on bilingual education and language performance, both local and foreign. This trend of inconsistent results has beset the study of bilingualism, an area that has attracted scholarly attention and been continually discussed over the past decades. However, current understanding proposes the view that inconsistency and variety in results is suggested by Valian (2015) to be expected as there is still a lack in the understanding of function, as the tasks employed coupled with individual differences such as immigrant status, education level, age of acquisition and degree of bilingualism, which has proven challenging to control. Hence, it would be beneficial for research on bilingualism to examine the role of such factors that influence function in relation to bilingual education and language performance. Fricke, Zirmstein, Navarro-Torres and Kroll (2018) have shared similar views, concluding that the relationship between individual accumulated experience and language performance is promised to be revealed by future research. Based on the studies reviewed, it is evident that there remains a dearth of research in these mentioned areas. Results have also indicated a need for various methodological uncertainties to be resolved and employed on a large scale, as Filippi, D'Souza and Bright (2018) have brought to light the problem of questionable methodological rigor in the study of bilingualism. In many studies, various tasks such as the Flanker Task have been adapted and employed in different variations, which can be said to contribute to the inconsistency in results. Valian (2015) has systematically explained that tasks employed in measuring function unavoidably stimulate mechanisms that do not belong to the function of bilingual education. Therefore, it is unclear as to which exact part of the tasks taps functions, and which does not, especially when a variation of a task is employed. However, limitations present themselves in that, in spite of the emerging methods such as recordings, which are regarded as more insightful and reliable, such methods are constrained by its exorbitant cost. Hence, there exists an important need for researchers to re-evaluate and reconsider the methodological approaches used in studying bilingual education and language development. Finally, this analysis and synthesis of reviewed studies has found a huge gap in the research of bilingual education and language performance in Ghana, where most of the research conducted were nowhere near bilingual education even irrespective of how long it has been in existence within the spheres of Education, the phenomenon is sometimes discussed within the context of education as well as pedagogy and language policies. Studies that focus on bilingual education within the educational system, which aim to contribute findings to educational policy or classroom practice, are still limited in Ghana. Thus, there remains a general inadequate understanding of the effects of bilingual education on the general education system and language development in Ghana.

As we know from much research on young children, this really affects their cognitive development, enabling them to expand their thinking and increasing their flexibility. Reading also becomes easier. Of the twenty (20) papers selected, the benefits of bilingualism, as defined, are related to various terms, such as substantial, long-lived cognitive, social, and interpersonal skills, improved academic performance, and professional benefits of enriched bilingual contexts. In these papers, it has been proposed that awareness and sharper perception of languages are enhanced in bilingual abilities, such as the detection of simple sentences. The primary purpose of those works is to find whether the bilingual environment is the combination of two language systems learned simultaneously, which enhances children's awareness of the languages they are learning to speak. Furthermore, those studies on bilingualism in education explore the development of metalinguistic awareness at three levels of explicit knowledge in monolingual children, and assess the effects of bilingual experience on education and language development. It was deduced from research that the bilingual child can easily read and decode the meaning of sentences in various languages. It was reviewed in those papers that growing research on children found that those who are fluent speakers of two or more languages, rather than one, show excellent knowledge of the structural components of their language; that is, this increases the access to usually implicit knowledge that underlies speaking and listening. The child's ability to access this knowledge is referred to as meta-linguistic awareness. It can also be reviewed that in L1, the learning process becomes more rapid and more efficient in terms of contributions and communications, e.g. to read anything with a high positive correlation between foreign language study and the improved reading scores such as for the children of both average and below average intelligence as well as improved performance in other basic L1 skills, regardless of the race, gender and academic level. It is also revealed that, generally, bilingual people have better measures of conceptual things, creativity, analogical reasoning, divergent thinking, and figural creativity. Other than monolinguals, Bilinguals or multilinguals have more flexible minds. Across these four papers on the contributions of bilingualism, it was found that learning a foreign language also enhances children's understanding of how the language itself works and their ability to manipulate the language in thinking and problem-solving. Judgments of anything become better regarding the number of words in any sentence, which in effect leads to extra skills in the language development process, such as transfer of the knowledge, borrowing, insertion, alternation, switching between inter- and intra-sentential code, mixing, and the usual translation patterns.

The review shows that many modern language researchers agree with the premise of bilingualism within the education set-up. Multiple languages help us communicate with others, and bilingualism (or multilingualism) may confer various advantages on the brain, which is in the process of developing. Because a bilingual or multilingual child can easily switch between languages, the theory goes, he or she develops enhanced executive control and the ability to manage higher cognitive processes effectively. These processes are problem-solving, memory, and the thought of new concepts. Multilinguals become better at inhibiting responses and promoting others, and they emerge with a more flexible and agile mind setup. This phenomenon is called bilingual or multilingual advantage. In the first half of the twentieth century, researchers thought that the concept of bilingualism or multilingualism

showed some disadvantage for children; it may be possible that it can disturb the intelligence quotient (IQ) level and language development of the children. But as the years pass, the research is over it. The notion of a bilingual or multilingual advantage produced by the research, to the contrary, seemed both far-reaching and compelling, and much of it is obtained from the careful work of the applied linguist. Bilinguals show enhanced executive control, quality and better academic performance. The qualities include sustained attention and practical task switching. Native speakers and students who speak another language natively can learn from each other to become bilingual, biliterate, and culturally sensitive. This is based on the strength of students' ability to speak a language other than English, Hindi, or a regional language, as an asset that can help native speakers learn another language. Bilingual children have more complicated brains than monolinguals. Bilingual children are more easily able to develop and maintain friendships with people of different languages and cultural backgrounds, and have more job opportunities. Multilinguals can benefit from both communities and express themselves more easily on abstract concepts. This will also improve people's fluency. Instead of being diverted, bilinguals' brains are wired neurologically so that they can exert more control and direct their attention, even when responding to changing environmental stimuli. In other words, bilinguals will excel in situations that require the brain to switch from one type of information to another. Nowadays, foreign language requirements are becoming increasingly essential for higher education and graduation to access better job opportunities. Easy learning habits are inculcated right from childhood, when one becomes familiar with languages other than the mother tongue. Thus, going beyond their comfort zone by increasing their intellectual level. Bilingual children feel easy and comfortable mingling in different situations than monolinguals. They certainly have good adaptability to change and develop an appreciation for other cultures and for cultural differences. Their adaptability is higher than that of other monolinguals; therefore, their chance of growth and sustainability is higher than that of others.

5. Conclusion

The present systematic review of twenty (20) articles on bilingual education and language process or performance has revealed that many aspects of bilingualism still need to be researched, particularly in the context of education and language development, and that critical syntheses remain inadequate. Findings are derived from analysis and synthesis of trends, outcomes, methodological approaches, challenges, and limitations. Various studies have shown a relationship between bilingualism or multilingualism, cognitive flexibility, and scholastic achievement. Bilingual children are not only able to control two languages but are also very sharp and creative in their academic work and more socially tolerant. They can easily solve both social and academic problems effectively. It has also been established in this review that language policies in countries such as Ghana and other African countries have shown higher interests in transitioning from the current practiced language policy into a bilingual or multilingual system than to discourage its existence. Education planners and policy makers of these countries have paid immediate attention to making sure their education systems center on the discourse communities and need to put in more effort to balance the language system

before it becomes too late. So that better education can be provided to all the individuals of the country. The paper recommends that Africa countries need to make every viable effort to boost or empower the languages of the underprivileged, dialects, tribal and endangered languages. This form of holistic language usage must be embraced if participatory democracy must survive. Instead of sticking to the two-language formula, in the case of Ghana, it is necessary to give every child a voice in their linguistics repertoire. Preserving bilingualism or multilingualism should be at the heart of language planning in every country. First, the review has indicated that the study of bilingual education and language process is now focused on perceptions and behaviors towards bilingual education and language performance, as well as the study of other dimensions, such as individual differences. Secondly, there is variation in outcomes, which entails advantages, disadvantages, and no significant findings due to individual differences and methodological uncertainties. Third, huge amounts of variety in methodological approaches have been employed in studying the effects of bilingual education on the educational system and language performance, bringing attention to the need for standardization. Fourth, the challenges and limitations of literature have revealed themselves in the unclear definition of core function, the inconsistency in tasks used, as well as individual differences. Finally, studies of bilingual education and language process in Ghana remain inadequate. This review has presented findings and recommendations to assist researchers in the overall understanding of the current literature on bilingual education and language process, as well as providing several suggestions for future research. With an understanding of the current literature, future research can now focus on how individual differences, such as degree of bilingualism, level of education, and even age of acquisition affect language process or performance outcomes. Additionally, there are inadequate studies on participants in the young adult age group, as the findings demonstrate. Besides that, researchers can now be aware of how methodological variations can affect performance and, in doing so, re-evaluate or incorporate a more coherent and controlled approach such as eye-tracking (Hasrul, Hazita & Azizah, 2018; Sarah Yusri & Soh, 2019). Lastly, the review concludes that there are inadequate studies conducted in Ghana, creating a significant gap that can be addressed through additional research.

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Conflict of Interest Statement

We hereby declare that we, the authors of this paper, have no conflict of interest that influenced our sense of judgement or analysis in this academic paper.

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