

Challenges with the implementation of vernacular and bilingual education in Papua New Guinea

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Abstract

This paper is based on a study on the implementation of vernacular and bilingual education conducted in Papua New Guinea (PNG). The study explored the challenges faced by teachers when implementing vernacular instruction in elementary and bilingual instruction in lower primary school, and the power plays that occur in and outside of the school environment. It was found that the willingness of teachers to use vernacular and bilingual instruction was largely influenced by, amongst other factors, the level of professional support they received before and during implementation, their attitudes towards vernacular and bilingual instruction, the public's views on the use of these mediums of instruction, and their competence in using these instructional mediums.

Key words: vernacular education, bilingual education, indigenous knowledge, vernacular languages, elementary school, lower primary school

Introduction

The Papua New Guinean population has divided views on the implementation of vernacular instruction in elementary schools and bilingual instruction in lower primary schools. Vernacular instruction and bilingual instruction are often viewed by some as inferior to English instruction. For example, a Morobe Province political party spokesman stated that the use of vernacular languages in lower levels of school has contributed to a decline in educational standards in PNG. He further stated that students were unable to speak English well as a consequence of vernacular instruction at the lower levels of education (Korugl, 2008:4). A Member of Parliament's called on the floor of parliament to review vernacular instruction in elementary schools. His justification for such a stand was that 'students in the rural areas were going backwards with the exclusive use of vernacular in elementary schools' (Unage, 2007:25).

Teachers who have been trained to teach school subjects in the English language are reluctant to change to unfamiliar teaching strategies. A primary school principal, from the Morobe Province, was of the view that vernacular and bilingual instructions are the causes of weak mastery of the English language (Nebas, 2008:4). Such statements show teachers' suspicion of these teaching strategies and their general reluctance to implement vernacular and bilingual instruction in elementary and lower primary levels of education.

English instruction is also an effective and well-established teaching strategy. Unfortunately, as Guy, Paraide, Kippel and Reta (2001 & 2003) and Paraide (1998 & 2002) found, limited teachers' understanding of vernacular and

bilingual instruction, inadequate teacher training and the short implementation period of vernacular and bilingual instruction have led to the insufficient exposure of their effectiveness. As a consequence, the Government of Papua New Guinea (PNG) has decided to abolish vernacular and bilingual education in elementary and lower primary schools, and reintroduced English as the medium of instruction commencing in 2013.

Literature review

The rationale for the introduction and implementation of vernacular instruction in elementary schools and bilingual instruction in lower primary schools is not well-supported in the PNG community, even among highly educated people. These teaching strategies can be used to teach English literacy skills effectively (Kemelfield, 1986; Bialystock, 1991; Collier, 1989, 1992; Garcia, 1994; Genessee, 1987, 1994; Thomas & Collier, 2003a, 2003b; Collier & Thomas, 2004, 2007), if the teachers are adequately prepared and supported professionally during the implementation processes (Paraide, 1998, 2002) and Evans, Honan, Kippel, Muspratt, Paraide & Tawaiyole, 2006).

A further hindrance is that the critics of vernacular and bilingual instruction in PNG are not convinced that having English as the language of instruction, commencing in Grade 6 in the upper primary level and continuing through to the upper levels of education will assist the students to master the English literacy skills. It also seems to be not well-understood that English will be taught as a second language, commencing in Grade 3 in the lower primary level (Paraide, 1998, 2002; Guy, Paraide, Kippel & Reta, 2001, 2003). Empirical research have shown that the vernacular and bilingual teaching strategies can assist second language learners to master the speaking, reading, reading comprehension, and writing skills in the second language being learned, if the literacy skills in both the first and second languages are taught and supported well (Paraide, 2002 and Litteral, 2004).

In PNG, the implementation of a vernacular and bilingual language policy began in a few new elementary schools in the Milne Bay Province in 1994 followed by some new elementary schools in the New Ireland Province in 1995. In 1996, the elementary level of education also commenced in West New Britain, Eastern Highlands, Madang, Morobe, Simbu, Central, Manus, and Enga Provinces, and in the National Capital District. In 1997, the elementary level of education commenced in East New Britain, Autonomous Region of Bougainville, Western Highlands, Southern Highlands, Western, Gulf, East Sepik, and West Sepik Provinces. Finally, in 1998, Oro (Northern Province) began this implementation. Elementary school graduates proceed into grade 3 in lower primary school after three years of elementary education. (Department of Education, 1996b).

Bilingual education and vernacular instruction commenced in the lower primary level in a few schools in the Milne Bay Province in 1997. This is because, by then, the first cohort of elementary students had completed their elementary education. The elementary graduates advanced into grade three in the other provinces in the same sequence as the implementation of the elementary level of

education. More elementary schools were also established in all provinces at about the same time (Paraide, 1998).

Reviews on the implementation of the elementary curriculum (Paraide, 1998 and Evans, Guy, Honan, Kippel, Muspratt, Paraide & Tawaiyole, 2006) and lower primary curriculum (Paraide, 2002, and Guy, Paraide, Kippel & Reta, 2001 & 2003) found that even though elementary and primary school teachers had received NDOE/Donor workshops on the reform curriculum, the content and time allocation for these workshops were inadequate to build up teachers' capacity and confidence to implement the vernacular and bilingual teaching strategies. The cascading training strategy employed to prepare teachers to teach the reform curriculum was unsuitable because selected teachers trained to be trainers did not acquire the required capacity and competency to train their colleagues at the school level well. Some did not conduct workshops at all. Workshops conducted at the school level lacked content depth and clarity. As a result, teachers were not sufficiently confident to implement the vernacular and bilingual teaching strategy.

Elementary and primary school teachers who were trained by the Summer Institute of Linguistics (SIL) officers on the other hand, had sufficient confidence to apply the vernacular and bilingual teaching strategies. SIL personnel understand vernacular and bilingual teaching strategies well, are better trained to teach language literacy skills, and are more sensitive to the language learning needs of first and second language learners. Such expertise and experience were reflected in the content presented to teachers (Paraide, 1998 & 2002 and Guy, Paraide, Kippel and Reta, 2001 & 2003).

In PNG, because English instruction has become an established practice in formal learning environments, it is generally viewed as more effective than vernacular and bilingual instruction. This has contributed to resistance towards their implementation, even though Paraide (2002) drew attention to the fact that these teaching strategies had also been used successfully in PNG by church schools. Kemelfield (1986), Bialystock (1991), Collier (1992); Garcia (1994), Genessee (1994), Jonduo (1993), Paraide (2002), and Collier & Thomas (2007) have also claimed that these are effective teaching strategies.

Authorities in this area such as Alderson and Urquhart (1984), McLaughlin (1985), Wallace (1988), Goodman and Goodman (2004) and Lopez and Greenfield (2005) have asserted that once first language speakers have mastered literacy skills in their first language, they can transfer these skills to learning the English language. For example, Kemelfield (1986) in his literature review noted that in a trial program in Maine, USA, French-speaking children received their education in both French and English, gaining literacy first in their mother tongue. After five years, the children in the 'partial French' schools clearly outperformed those in the English only schools on various aspects of English language skills and on academic content such as mathematics, learned partly through French. Kemelfield also noted that an experimental group of Navajo (American Indian) children who received bilingual Navajo/English schooling from kindergarten to grade 6 had higher mean scores on English tests at all

grades above grade 3 than a controlled group of Navajo who received all their instruction in English.

Moreover, Paraide (2002) also found in her study of 2,400 grade three students' on their mastery of basic literacy and numeracy skill, that among three groups of grade three students in the sample, those who were instructed in the language which they knew best — either *Tok Ples* or *Tok Pisin* — in elementary school performed better in phoneme awareness, picture word matching and reading comprehension exercises in English, than those who had received their instruction exclusively in English. Also, their reasoning and application skills, and understanding of basic mathematical concepts (multiplication and division), colours and shapes were stronger than those who had received their instruction exclusively in English. A few students in the English group, who spoke English at home also performed better than their peers.

Purpose of the study

Many PNG teachers and the public alike are of the view that vernacular and bilingual instruction is not as effective as English instruction. Some have claimed in the media that vernacular and bilingual instruction is a backward step in the Papua New Guinea education system.

Therefore the focus of the study was on the use of vernacular and bilingual instruction in elementary and lower primary school. The primary purpose of this focus was to illustrate:

- the value of vernacular and bilingual instruction
- their impact on students' social development
- their impact on students' participation in mathematics lessons
- how cognitive development is enhanced by the use of vernacular languages in formal learning situations.

Methodology

Emanating from the qualitative research approach (Cohen & Manion, 1994), the case-study approach was used in this study because of the need to first assess and develop an in-depth understanding of how students cope with vernacular instruction in elementary school, to track how graduates from the elementary school site coped with bilingual instruction in grade three in the lower primary school and to find out how the teachers at both levels of school coped with vernacular and bilingual instruction and the integration of indigenous and western number and measurement in formal teaching.

Structured interviews

The purpose of the interviews was to gauge the students' parents' and teachers' views on vernacular instruction at the elementary and bilingual instruction at lower primary, benefits and non-benefits of these teaching strategies. Field notes, lesson observations and students' work were also used to collect the data.

The questions that guided the study were:

- How are the teachers and students coping with teaching and learning during the application of vernacular and bilingual teaching strategy?
- How well do students transfer their literacy skills across when learning a new language such as English?
- What are some of the cognitive benefits of the vernacular and bilingual teaching strategy?

It was anticipated that these questions would generate data that would inform the study on teachers' competency to use the vernacular and bilingual teaching strategy, how vernacular literacy skills are transferred across when learning English and students' cognitive benefits when they learn school subjects in the language they know best.

Procedure

A two-year case-study was conducted in one elementary and one lower primary school in the East New Britain Province. This approach was used in order to gauge an in-depth insight into how teachers and students were managing with vernacular and bilingual instruction. One class of forty students was tracked from grade two to grade three. A closer interaction with ten of these students was established during the two-year study to enable closer assessment of their progress. Two two-weeks and one one-week visit (five weeks) were made to both schools during the study.

Participants

The student and parent participants in the study were recommended by the head teacher of the elementary school who was also a participant in the study. This elementary school was selected because the language of instruction was *Tinatatuna*. The study tracked 40 students from grade two in the elementary school to grade three in the lower primary school in order to evaluate their educational progress and benefits if any from being instructed in a vernacular language in elementary school. This allowed me to observe what language of instruction was actually used in grade three and how the grade three teacher and students were managing with the bilingual teaching strategy. It also allowed me to observe if students were able to transfer the *Tinatatuna* literacy skills across when learning English for the first time in grade three. The other grade three teachers and the other lower primary teachers volunteered to participate in the study. I accepted their participation because it enabled me to make sense of their inner struggles, personal fears and professional inadequacies as they wrestled with the acceptance or non-acceptance of the use of the bilingual teaching strategy which was now replacing English instruction - one they were trained to use and had become normal practice for them. Pseudonyms are used throughout the writing in order to protect the privacy and the identity of the participants.

Data analysis

The coding technique was used to code the data. This allowed me to read the data and demarcate themes within it. In this case, phrases and words were

grouped under common themes which answered the research questions. Interpretations were done on the segments of data collated.

Results and discussion

Bilingual teaching strategy training

The PNG lower primary reform syllabus prescribes bilingual teaching in grades three, four and five (Department of Education, 2004a & 2004b). In East New Britain Province, lower primary school teachers in the school site should have been teaching in *Tinatatuna* (local vernacular) and English because most of the students and all the teachers were first language speakers of *Tinatatuna*, and the feeder elementary schools use *Tinatatuna* as the language of instruction. However, this was not the case.

The teachers claimed that they had not been well-prepared professionally to teach in bilingual teaching situations. This is demonstrated in the following excerpt from a teachers' discussion group interview.

Some of us have been to bridging workshops but the workshop content does not prepare us well to use the bilingual teaching strategy. We are still unsure about this bilingual teaching strategy.

Also, English as the dominant language of instruction was already an established practice in this particular school so the teachers were not convinced that bilingual teaching is an effective teaching strategy as illustrated in this excerpt from a teachers' discussion group interview.

We were trained to teach in English and we have been doing this since we graduated. We are more comfortable with teaching in English. Some of the students we have taught are now prominent people in government and private sectors so they understood subjects we taught in English. So teaching in English does work.

However, changes were observed during the study. This is exemplified by the following excerpts from the field notes:

First visit

I walked past all the grades four and five classrooms to get to the grade three classrooms. I noted that all the lessons were being taught in English.

Second visit

The teachers were now actually teaching in *Tinatatuna*, *Tok Pisin*, and English. They now also communicated in these three languages, interchangeably, when addressing students outside the classroom.

Third visit

The teachers were still teaching and communicating to students in *Tinatatuna*, *Tok Pisin* and English.

The teachers began using *Tinatatuna*, *Tok Pisin*, and English for teaching and communication during term two. This suggests that they were beginning to accept the bilingual teaching strategy. However, their effectiveness in implementing bilingual teaching was affected by inadequate teacher training. The following response from Rose exemplifies teachers' concerns about their preparedness in using bilingual teaching.

I have never taught in the lower primary level. Initially, I was not sure of how to teach this particular group of students. However, yesterday I learned we are supposed to use Tinatatuna and English when we are teaching in grade three. When I first became aware of this, I was not sure of how I could best do this.

Rose has never taught in grade three and was unsure about the bilingual teaching strategy. The teachers in this particular school also stated that they did not know much about the bilingual teaching strategy. The following excerpt from a teachers' group discussion further elaborates on the insufficient bilingual teaching preparation:

In the past, only bridging (grade three) teachers were selected to attend workshops, but the knowledge they gain was not passed on to other teachers in the school or they passed on only bits of what they learned. When they moved to other schools they did not teach at the lower primary level but in the upper primary.

This data shows that only grade three teachers were selected to attend bridging workshops. This suggests flaws with the cascading training strategy because those trained did not pass on the information gained to their colleagues as expected with this particular training strategy. It also suggests flaws in the targeted training for grade three teachers only because bilingual teaching is prescribed for all three grades in the lower primary school. Grades four and five teachers were not supported to use the bilingual teaching strategy in this case.

Integrating indigenous knowledge in mathematics education

The integration of indigenous knowledge in the students' mathematics education was weak in the lower primary school site. This was already strong in the elementary school site. The following excerpts from a teachers' focus group discussion underscore the strength of integrating indigenous knowledge in the teaching of mathematics in elementary school.

These students know a lot more than we assumed. They used their indigenous number knowledge to work out the answers. You know that counting (referring to the demonstration). I watched them work out the answer for 14×12 . All they did was add another two sets of twelve to the twelve sets of twelve that they had already grouped to work out the answer — 168. They can count in sets. My goodness!

One of the teachers commented on a student being confident in disputing the answer written on the board and providing a rationale for her disputing the answer. This was made possible because the student was empowered through the use of local vernacular. The teacher commented that if the language of instruction was in English, this particular student would not have had the confidence to correct the teacher. This is expressed in the next excerpt.

Yes, and Mixina disputed that answer you wrote on the board for $9 \times 6 = 56$. She showed you why it was wrong and that the answer should be 54. That was confidence. She would not have spoken out, if you had been using English to teach.

Another teacher testified that:

The students were able to contribute a lot more during the lesson and at the same time learn new English words in the other subjects.

Some teachers, in this particular group had the misconception that, bilingual teaching was only used in language lessons, as shown in the following statement:

And you know what, some of us used to think that bilingual teaching was only done in language lessons. Now we know that we should use it to teach all subjects.

Data presented here indicates that vernacular can be used successfully in not only teaching subject content but also to empower and to build confidence in children. Children are empowered and confident in rationalizing and understanding what they learn and contribute meaningfully towards their own learning by critiquing what is being taught and, in the process, construct their own knowledge. Teachers in this study realised that students were capable of solving mathematical problems - multiplication during the demonstration. They noted also that students were able to demonstrate how they worked out the answers. The data also shows that teachers were more aware that the students already had literacy and numeracy skills in *Tinatatuna* and witnessed the application of these skills.

Bilingual teaching strategy - emergence of positive views

The use of the bilingual teaching strategy was a challenge for all the lower primary school teachers. However, the teachers began to embrace it once they observed the value of this particular teaching strategy. Also their lessons began to move towards more child-centred ones. The following field notes show these observed changes.

I entered Rose's classroom quietly the next day. I noted that the lesson this time was predominately in *Tok Pisin* and *Tinatatuna*. The students were counting in sets of 5s, 6s, 7s, and 12s. The students were using stones to work out the answers. I also noted that the students' answers in their books were correct. Once they worked out the answers, they wrote

them in their books. Then the teacher corrected these exercises with the whole class. The students seemed to enjoy this lesson more than the ones done predominantly in English.

I noted a lot of discussions going on among the students in each group. This was a marked change from the previous lessons that I had observed. The discussions in this particular case were predominantly in *Tinatatuna*. The students communicated with the teacher in both *Tok Pisin* and *Tinatatuna*. English was now notably less dominant in this particular lesson.

The teacher's use of the bilingual teaching strategy allowed the students to participate well during the lesson. The students' discussions regarding the mathematical problems increased when *Tinatatuna* was the predominant language of interaction. The teacher was impressed by the students' progress as highlighted in this response.

They are very good in the mathematics operations. They work really fast, so I have increased their work load to keep up with them. Some people say that they do not understand mathematical concepts well. I heard some teachers say that their understanding of mathematics is not good. But that is not true. We just lack the knowledge to assist the students' learning better.

The students were progressing well in their learning of basic mathematics. This illustrates that learning school subjects in *Tinatatuna* in elementary school had not disadvantaged their cognitive development. The students were able to apply what they already knew to new knowledge learned. For example, in number knowledge, they were capable of counting in more advanced numbers. They were already applying this knowledge to more complex number operations when counting *tabu- Tolai* currency.

During a reading exercise, the students were able to read a simple, unfamiliar English text with which they were presented. They were able to sound the letters and say the English words.

When the teachers witness the benefits of the vernacular and bilingual teaching strategy they began to implement it. This is highlighted in this excerpt from a teachers' focus group discussion.

The use of vernacular is very good. When we teach in vernacular and explain knowledge and concepts, or give instructions in vernacular and then in English, the students understand well, and therefore do the activities well.

*There are two children in my class. I found that when they first started here they were restless and quiet. I thought they had learning problems but I noted that when I spoke to them and explained the activities in *Tinatatuna* they did them well. I also noted that they knew a lot, they*

could write, and they were very good in mathematics, just like the bright students, but they can only speak in Tinatatuna. However, they completed their work quickly and gave it to me to check. This is Kiroro and Matis. Matis knows how to write Tinatatuna well. When I read his work, I realised that he is more competent than I am in writing Tinatatuna. They are working very well now.

The teachers noted the positive benefit of vernacular and bilingual education. They witnessed the students' increased participation in class activities because the language of interaction was one that the students know best. Teachers began to acknowledge that the capable students did not participate well in class because they did not yet have sufficient English vocabulary to understand instructions and subject content taught in English, and could not yet communicate with others in English.

Continued changes in teaching strategies

The changes in the lower primary teachers' teaching strategies and their attitudes towards bilingual education continued to change in the duration of the study as demonstrated in this excerpt from a teachers' group discussion.

We have done some inservice sessions on bridging and integration of knowledge, but it is confusing because the trainers seem to tell us different things. However, when you did that demonstration the other day on bilingual teaching it became very clear. Others have not made bilingual teaching and integration across the curriculum very clear as you did.

In the mathematics lessons, I find that these children are learning well and faster. They are able to explore, and I have noted that when doing mathematical problems, they apply the knowledge that they learned in elementary school to their learning here.

This further illuminates inadequate teachers' preparation before and during the implementation of the lower primary curriculum. When the teachers witnessed the value of the bilingual teaching strategy, they were willing to implement it.

Conclusion

The study found that there are academic achievement benefits for students being bilingual. The students in this case began to understand some English texts and instruction and also understood number knowledge and concept and apply them to more advanced activities. They were able to understand the multiplication process well. When students are forced to learn and use only a new language, it can be harmful and obstructive to their cognitive and social development. For example, some of the grade three students who were not competent in the English language in this study did not participate well in activities when English was the dominant language of instruction. However, when the teacher explained given tasks in *Tinatatuna*, the teacher learned that they knew the content well

and that they were not slow learners as the teacher had first assumed. They just did not understand the instruction and therefore did not carry out the tasks well.

Beginning schooling in the students' first language and using this language for continual learning and development, while English is being learned, is the best way for students to develop to their full potential in schooling. This was particularly visible when the language of instruction used to teach other school subjects was *Tinatatuna*. Students learned new English words as they were exposed to them but were still able to advance well in learning their other subjects well as in the case of mathematics.

Students can successfully transfer their literacy and numeracy skills from their first language to the new language being learned. For example the students were able to transfer their *Tinatatuna* literacy skills across when learning English. They were also able to transfer their indigenous number knowledge to the classroom multiplication activities.

These findings support learning experts such as Bialystock (1991), Collier (1989, 1992), Garcia (1994), Genessee (1987, 1994), Thomas and Collier (1997, 2003a, 2003b), and Collier and Thomas (2004, 2007), who argued that both cognitive development and academic development in the first language have positive effects on second language learning. Academic skills, literacy development, concept formation, subject knowledge, and strategy development that are learned in the first language can be transferred to the second language. Matsuura (2008) also argues that Indigenous language instructions support progress towards sustainable development and harmonious relationship between the global and local context.

The findings also support the findings in another study which evaluated the implementation of the elementary curriculum in PNG by Evans, Guy, Honan, Kippel, Muspratt, Paraide & Tawailoye (2006:83-84), which found that vernacular instruction, child-centred activities and integration of indigenous and western knowledge was an emerging strength in most of the elementary school sites in eight provinces. While vernacular and bilingual education was being accepted by some teachers and communities many more resisted their implementation. This study identified the following as hindrances during the implementation stages:

- The general public view vernacular and bilingual instruction as inferior to English instruction.
- Existing primary school teachers were trained to teach in English and English instruction is an established practice. Therefore they were reluctant to use the bilingual teaching strategy.
- The teachers' negative attitudes on vernacular and bilingual teaching strategies influenced their degree of commitment to implementing them.

- The teachers were not adequately aware of the wealth of indigenous knowledge that is similar to subject contents taught in formal learning environments.
- The primary school teachers received inadequate training and professional support on the bilingual teaching strategy before and during the implementation stages.
- The cascading training strategy employed to prepare teachers to teach the reform curriculum was inappropriate because teachers selected for training did not acquire the required capacity to train their colleagues well.
- The teachers were inadequately monitored during the implementation stages of the lower primary reform curriculum.
- Vernacular and bilingual education is not included in primary school teachers colleges' courses.

The study and literature review show that vernacular and bilingual instruction is equally effective as English instruction. However, the cognitive development benefits gained from vernacular and bilingual education outweighs that of English education especially when students are not competent in the English language. The findings support the previous language policy and provide essence for its revival. However, for the school system to gain maximum benefit from vernacular and bilingual education in future, the hindrances discussed in this paper should be evaluated and addressed well before implementation commences. Teachers' capacity to implement the vernacular and bilingual teaching strategy must be well monitored, and remedial strategies must be employed during the implementation stages so their effectiveness can be sufficiently exposed and better established in the PNG school system.

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