TransAcquisition Pedagogy: A Powerful Synergy of Māori and Western Knowledge Systems to Improve Emergent Bilingual Students' Reading and Writing in English

Dr. Sophie Tauwehe Tamati

Senior Lecturer, Te Puna Wānanga School of Māori and Indigenous Education, Faculty of Education and Social Work, University of Auckland, New Zealand.

Abstract

TransAcquisition will be presented as a culturally and linguistically sustaining pedagogy for the biliterate development of emergent bilingual students to use their home and school languages interdependently in mutually supportive ways to improve their achievement in reading and writing at school. The presentation will begin with a brief historical overview of Aotearoa/New Zealand's Kura Kaupapa Māori immersion schooling model (Ministry of Education, 1989). It was in these Māori language immersion schools that TransAcquisition pedagogy was developed in a doctoral intervention study using the students' pre-existing literacy in Māori to develop and improve their reading comprehension in English (Tamati, 2016). The study's quantitative findings show that the students' academic language and reading comprehension in English significantly improved as a result of the eight-week TransAcquisition intervention program. In this presentation, TransAcquisition is theoretically justified as a pedagogical approach at the 'interface' between Western and Māori knowledge systems (Durie, 2004, 2005, 2021). As an 'interface' approach that synergises the epistemological and pedagogical foundations of Māori and Western knowledge systems, TransAcquisition is both a *'power pedagogy'* and a *'pedagogy of power'* (Barnhardt, 2008; Macfarlane & Macfarlane, 2019). The process used to synergise Māori knowledge concepts with Cummins' (1978, 1979, 1981) theory of developmental language interdependence, Rata's (2015) theory of conceptual progression, and Williams' (2002) translanguaging teaching technique will be discussed in this presentation. The synergistic process produced new concepts of three-on-thee mapping, metashuttling, relational transfer, linguistic fluidity, and the Interrelational Translingual Network, which are applicable to the teaching and learning of bi/multilingual students everywhere. These new concepts align with the Read-to-Retell-to-Revoice-to-Rewrite stages of transacquisitional tasking, exemplifying the pedagogical use of target language interchange. The structured sequence of each tasking stage promotes the reciprocal transfer of semantic knowledge between the students' languages to support a greater understanding of the meaning

messages in both languages. By this means, the TransAcquisition tasking process develops the biliterate potential of emergent bilingual students by engaging them in cross-linguistic meaning-making and conceptual knowledge-building.

Background

TransAcquisition pedagogy was conceived, developed, trialed, and its effectiveness evaluated in a doctoral intervention study (Tamati, 2016) with emergent bilingual students in Aotearoa/New Zealand's Māori language immersion schools called Kura Kaupapa Māori (TAM, 2008). The twenty-four Year 7 and 8 students were between the ages of eleven and twelve, and by sheer coincidence, twelve were enrolled in each of the two participating Kura Kaupapa Māori schools. Although English was the home language of all the participating students, none had received any formal instruction on how to read and write in English at their respective kura schools. Bernstein's (2000) research was relevant to the study because it focused on the challenges of academic language for children unaccustomed to using it because of their social class. This was so because both kura schools were situated in low socioeconomic communities where families were experiencing the greatest socioeconomic disadvantage (Office of the Auditor-General, 2010). Without explicit instruction on how to read and write in English, the participating kura students were ill-equipped to bridge what Bernstein (2000) calls the "discursive gap" (p. 30) between the social English they spoke at home and the academic English of graded school readers.

Introduction

TransAcquisition pedagogy is a culturally and linguistically sustaining pedagogy for the biliterate development of emergent bi/multilingual students. This pedagogical approach enables these students to use their home and school languages interdependently in mutually supportive ways to improve their achievement in reading and writing in the instructional language of the school. TransAcquisition is theoretically justified by Cummins' (1981a, 1981b, 2001) idea of developmental language interdependence which underpins his Common Underlying Proficiency (CUP) model. However, as an extension of Cummins' thinking, TransAcquisition uses the entwined roots of Aotearoa/New Zealand's kahikatea trees to re-conceptualise his idea of a centralised meta-linguistic thinking system as an Interrelational Translingual Network. The Interrelational Translingual Network concept is an innovative advance on Cummins' original formulation of the interdependence principle because it reflects *the* dynamic conceptions of *bi/*multilingualism much more clearly. TransAcquisition is also an extension of Williams' (1994, 2002) translanguaging *practice* and aligns with García and Wei's description of translanguaging as "ways in which bilinguals use their complex semiotic repertoire to act, to know and to be." (García & Wei, 2014, p. 137). Drawing on Hopewell's (2011) research, TransAcquisition pedagogy helps emergent bi/multilingual students to understand how to "draw on all their metalinguistic resources to accelerate their bilingual and biliterate development" (p. 604).

TransAcquisition Pedagogy Metaphor

TransAcquisition pedagogy uses Aotearoa/New Zealand's kahikatea trees as a metaphor to reflect the metacognitive and meta-linguistic dynamism of the emergent bi/multilingual student's mind. Kahikatea trees normally grow in soft soil environments as groves where each tree entwines its buttressed roots with those of its neighbours to form a thick, matted footing that supports all the trees. TransAcquisition uses the distinctive root system of the kahikatea trees to illustrate Cummins' (1981a, 1981b, 2001) idea of developmental language interdependence which underpins his Common Underlying Proficiency (CUP) model. This metaphor of the kahikatea grove root system characterises languages as 'symbolic

trees' in the mind of the emergent bi/multilingual student which grow and develop individually and collectively in the language and literacy learning process. As a metaphoric representation of metalinguistic independence and interdependence, the entwined, entangled root system of the kahikatea trees symbolises the metacognitive web of metalinguistic and conceptual interrelationships between the languages of the emergent bi/multilingual student. In this way, the individual vitality of each language is enhanced when all the languages are utilised in the learning process.

TransAcquisition Cognitive-linguistic Principles

The TransAcquisition kahikatea metaphor naturally aligns with Hornberger's (2004) ecological metalinguistic framework, which depicts language learning as an organic process whereby one language and literacy develops in relation to one or more of the emergent bi/multilingual student's 'other' languages and literacies. The transacquisitional language and literacy learning process is an organic process underpinned by three cognitive-linguistic principles. These principles enable emergent bi/multilingual students to use their languages interdependently in mutually supportive ways to acquire the academic language and academic knowledge intrinsic to reading and writing. These cognitive-linguistic principles are meta-linguistic fluidity, relational transfer, and cognitive metashuttling which are all pedagogically enacted in transacquisitional tasking to engage emergent bi/multilingual students in flexible bilingualism (Creese & Blackledge, 2010).

Metalinguistic fluidity is the natural, unconscious interflow of metalinguistic symbols and concepts between the languages of the emergent bi/multilingual student. This cognitive interflow of complex meanings is associated with the academic knowledge taught in schools. Central to the TransAcquisition approach is the idea that this cognitive interflow remains untapped and under-utilised without the explicit pedagogical intervention of transacquisitional tasking. The principle of metalinguistic fluidity aligns with what Creese and Blackledge (2010) describe as 'permeable boundaries between languages' when emergent bi/multilingual students engage in flexible bilingualism.

The principle of relational transfer refers to what occurs when the emergent bi/multilingual student's metalinguistic processes are focused on interlingual relationships. This principle is synonymous with pedagogies that emphasise the overlapping of languages rather than the separation of languages (see Centeno-Cortés & Jimenez, 2004; García, 2011; García & Leiva, 2014). Relational transfer is activated when metalinguistic fluidity is pedagogically utilised in the Read-to-Retell-to-Revoice-to-Rewrite transacquisitional tasking sequence. Transacquisitional tasking is used to expand vocabulary, deepen reading comprehension, and accelerate bilingual and biliterate development. The significance of relational transfer is justified by mounting evidence which confirms that transfer between languages and literacies accelerates both primary language and target language development (see Cummins, 2008c; Lowman et al., 2007; McCaffery et al., 2008). Transacquisitional tasking systematises the pedagogic use of metalinguistic fluidity and optimises relational transfer for accelerated bilingual and biliterate development in emergent bi/multilingual students.

The cognitive metashuttling principle describes the ability of emergent bi/multilingual students to think about their thinking while moving their thoughts back and forth between their languages. Cognitive metashuttling prompts students to focus on the reciprocal translingual interflow of concepts between their languages. While engaged in cognitive metashuttling, students use the intralingual and interlingual relationships in their linguistic repertoire to promote mutual language and literacy development. Intralingual relationships refer to the interconnected linguistic and conceptual relationships 'within' a language, while interlingual relationships refer to the interconnected linguistic and conceptual relationships 'between' languages. Not only does cognitive metashuttling enrich conceptual

understanding, it also supports progressive conceptual development when students use it to compare, contrast, and clarify their conceptual understanding.

Interrelational Translingual Network (ITN)

The kahikatea tree metaphor underpins the conceptualisation of the emergent bi/multilingual student's Interrelational Translingual Network (ITN) as the cognitive translingual facility by which the TransAcquisition cognitive-linguistic principles are pedagogically utilised. The ITN concept was inspired by the entwined entanglement of roots that gird the kahikatea trees together. As a refinement of Cummins' (1984, 2001) Common Underlying Proficiency model, the ITN is conceived as a web of linguistic and conceptual interrelationships between the syntactic instructions and semantic meanings of the emergent bi/multilingual student's languages. The ITN is, therefore, conceived as an evolving organic web of complex interconnected linguistic and conceptual interrelationships that expand when a new language and literacy are being learned.

The Interrelational Translingual Network (ITN) facility is activated when emergent bi/multilingual students engage in cross-linguistic analysis to identify linguistic and conceptual interrelationships at each stage of the Read-to-Retell-to-Revoice-to-Rewrite transacquisitional tasking sequence. This form of transacquisitional cross-linguistic analysis allows new knowledge to be integrated with previously acquired schemas to form new schemas in the biliterate learning process. The four tasking stages of transacquisitional tasking provide multiple opportunities for students to use the ITN for the processing of linguistic and conceptual schemas. By this means, transacquisitional tasking maximises the pedagogical value of engaging the bi/multilingual student's ITN to accelerate bilingual and biliterate development. It is via the ITN facility, that the centralised processing system in Cummins' (1984, 2001) Common Underlying Proficiency model is pedagogically operationalised in the biliterate teaching of reading and writing.

Transacquisitional Tasking

Transacquisitional tasking is an example of epistemic ascent (Winch, 2013), whereby the sequential, structured tasking process ensures that the concepts already understood are brought into new relations of abstraction and generality, as more concepts are acquired and integrated into the emergent bi/multilingual student's cognitive schema. Transacquisitional tasking provides emergent bi/multilingual students with opportunities to behave as 'language users' to interpret, express, and negotiate meaning through their languages. The tasking sequence involves the consecutive staging of the Read-to-Retell-to-Revoice-to-Rewrite process using a written or digital text. The consecutive stages of the transacquisitional tasking sequence form a pedagogical scaffolding process to support emergent bi/multilingual students to use their languages interdependently in mutually supportive ways. The systematised, sequential, scaffolding process of transacquisitional tasking develops the emergent bi/multilingual student's academic register in the school's instructional language to promote improvements in reading comprehension and accuracy while enriching the necessary skills of writing.

Transacquisitional tasking activates the emergent bi/multilingual student's Interrelational Translingual Network (ITN) to promote bilingual and biliterate development. The entire tasking sequence reinforces the conceptual interrelationships 'between the languages' by requiring the emergent bi/multilingual student to draw on all his/her languages. By this means, transacquisitional tasking engages students in cross-metalinguistic meaning-making and conceptual knowledge-building. This, in turn, promotes the reciprocal transfer of knowledge between the languages to promote a greater understanding of the meaning of messages in each language.

The sequenced arrangement of the stages in transacquisitional tasking denotes ascending layers of cognitive and metalinguistic complexity to promote Rata's (2015) theory of conceptual progression. In the tradition of Vygotsky (1962), conceptual progression requires the explicit teaching of concepts from lower to higher-order meanings. Conceptual understanding is progressively deepened as concepts are taught in an ordered, sequential way. Conceptual progression promotes the acquisition of academic language which students need to do their schoolwork. It is via academic language that academic knowledge is expressed. Characterised by specialist abstract terms which cannot be 'caught' and therefore must be 'taught', Rata (2015) describes academic language as that which allows students to "think about what is not yet encountered in their experience by using concepts that are not known in their experience" (p. 174).

The First Reading > to Stage in Transacquisitional Tasking
Urquhart and Weir (1998) define skim reading as "reading for gist" (p. 102) where students focus 'only' on the main ideas of the target text. The following comments from the kura school students show how skim reading in the first Read>to stage of transacquisitional tasking helped them to develop two significant abilities. First, it helped them to retain the main ideas, and second, it enabled them to retain the plot sequence of their graded English target text. Remembering the order of sequential events in a target text is an important cognitive function. Skim reading plays an important role in developing sequential thinking. It does this by helping students to remove the 'noise' of less important details while attending to the order of the main ideas which are then stored in their long-term memory. For this reason, skim reading offers more than the ability to summarise—it also contributes to the cognitively important process of ordering information in sequence.

Te Ata
Te Ata was a confident, courteous, diligent Year 8 student. She was a natural leader and respected by all her peers. In her comment below, Te Ata instinctively recognises that trying to remember too much information 'clutters' the mind which contributes to 'cognitive overload' as a major barrier to learning.

"Skim reading helps you to write the main things in order so you don't have to remember the whole story; otherwise, your head would get cluttered."

Te Ata's description prompted me to coin the term 'cognitive clutter' to describe the irrelevant and unimportant information that can inhibit working memory and clutter a student's working memory. According to Baddeley (1992), working memory is:

A brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning (p. 556).

For Te Ata and her peers, skim reading helped them to clear away cognitive clutter and reduce the cognitive load on their working memory, thereby allowing language and literacy learning to proceed with minimal effort.

de Jong (2010) defines cognitive load (sometimes referred to as 'learning burden') as:
A theoretical notion … that cognitive capacity in working memory is limited, so that if a learning task requires too much capacity, learning will be hampered. The recommended remedy is to design instructional systems that optimize the use of working memory capacity and avoid cognitive overload (p. 105).

The Second Retell > to Stage in Transacquisitional Tasking

Retelling promotes the development of reading comprehension by requiring learners to focus their attention on the genre, language structures, and meaning of the story while organizing their thoughts in the retelling process (Morrow, 2005). Aroha's comments below show how the tasking process cognitively engaged the kura students and expanded their academic language and knowledge of English.

Aroha

Aroha was a self-motivated, self-managing Year 7 student, and her comments confirm that the Retell>to stage is an effective strategy to strengthen bi/multilingual students' reading comprehension skills.

"It's kinda hard but it's pretty cool telling it in your own words … it's easier doing my own words for the meaning 'cause you know what you're talking about."

Aroha's comments show that she enjoyed taking ownership of her learning. Using 'her own words' not only made it easier for her to make meaning of the text, but it also made it possible for her to take control of her language and literacy learning which added to her self-efficacy. In their study to investigate reading behaviours, Naseri and Zaferanieh (2012) found a significant positive correlation between self-efficacy beliefs and reading comprehension.

Mihi

Mihi was a straight-talking, no-nonsense, matter-of-fact Year 7 student. Her comment below reflects her holistic view of both her languages (Māori and English) as being inextricably interconnected. Mihi's comment confirms that she accessed and used both her languages simultaneously in mutually supportive ways while engaged in the transacquisitional retelling of a target text.

"To help me remember how to retell the story [in English] … I use Māori … so I can understand the story better."

Mihi's reasoning is supported by Hopewell (2011) who makes the following claim:
"When language environments are planned so that all languages are understood to be resources that can be accessed and invoked strategically in the service of language and literacy acquisition, the learning burden is decreased resulting in an acceleration of the overall language and literacy acquisition (p. 607)."

Further to this, Bialystok et. al. (2004), claim that "the two languages of a bilingual remain constantly active while processing is carried out in one of them" (p. 291). In addition to this, Kroll et. al. (2012) state that:
"The presence of activity among both languages when only one language is required, suggests that proficient bilinguals have acquired not only metalinguistic proficiency but also the cognitive skill that allows them to juggle the two languages with ease (p. 229)."

The Retell > to Stage in Transacquisitional Tasking prompted each kura student to take ownership of their English language and literacy learning. This resulted in students experiencing higher levels of self-efficacy which was found to correlate with improved reading comprehension and higher academic achievement. The Retell>to stage helped them to eliminate cognitive clutter and thereby reduce the cognitive load or learning burden in order to optimise working memory to accelerate the development of reading comprehension. Engaging in the Retell>to stage allowed the kura students to access and use

both their languages simultaneously in mutually supportive ways. This enabled them to draw on all their metacognitive and meta-linguistic resources to develop and refine their reading skills in English.

The Revoice > to Stage in Transacquisitional Tasking

This third stage of transacquisitional tasking requires the emergent bi/multilingual student to use her/his entire linguistic repertoire to produce a bi/multilingual version of her/his retelling in the previous Retell>to stage. Revoicing encompasses the notion of cross-metalinguistic influence, which occurs in Second Language Acquisition when the influence of the student's other language(s) interacts with the language and literacy learning process. This aligns with Vygotsky (1962), who attributes to the emergent language learner the ability to transfer meaning with which she/he is already familiar to the new language system that he/she is learning. The revoicing process builds new knowledge as the emergent bi/multilingual student uses all his/her languages interdependently to demonstrate her/his reading comprehension of the stage one, Read>to text, and her/his stage two, Retell>to text.

The following student comments illustrate the pedagogical benefits of the Revoice>to stage. The comments show how revoicing acts as a conduit between the student's knowledge of words and understanding of the meaning of those words across languages, one to the other.

Marama: "The book in my head"

Marama was a diligent, motivated Year 8. She liked to be organised and enjoyed working with others, preferring to take the lead rather than follow. The following is a transcript of my conversation with Marama in which she explains how she visualised the target text pages and the words to complete the Revoice>to stage. The transcript shows how detailed and complex the process was and how metacognitively aware Marama was of what she was doing.

Researcher: What was it like revoicing?
Marama: "I just keep on looking at the page and then remembering the picture and then … the words and … I just put in my story."
Researcher: But you didn't have the book in front of you when you were revoicing it. So you're saying that you could see …
Marama: "… the book in my head."

Initially, I thought that Marama's visualizing strategy was her very own self-invented revoicing strategy. However, other students reported using the same visualisation strategy. This suggests that visualisation is an important cognitive capability triggered by the code-switching function of the revoicing process. Marama's use of the phrase, 'the book in my head' is a fascinating description of this cognitive strategy initiated and controlled by Marama. It is supported by Ness' study, which found that reading comprehension "involves recalling information from text, extracting themes, engaging in higher order thinking skills, constructing a mental picture of text, and understanding text structure" (Ness, 2011, p. 98).

Hīria and Waiora

Hīria was a deep thinking, Year 7 quiet achiever and Waiora was a self-motivated, self-monitoring, natural leader in Year 8. Like Marama, who talked about 'the book in her head', Hiria referred to 'pictures in her head' but went further to describe how she would place herself in the story as a character. These self-invented cognitive strategies to remember the sequence of events in the plot are examples of how revoicing triggered a flurry of complex cognitive processes.

The students' transcripts align with the literature that supports the use of code-switched story retelling to develop the bilingual students' critical biliteracy skills (Becker, 2001). The Revoice>to stage is the pivotal stage in the transacquisitional tasking sequence that promotes the development of critical biliteracy skills. This stage provided the kura students with opportunities to behave as 'language users' rather than 'language learners'. Engaging in the Revoice>to stage accelerated the development of critical biliteracy skills by allowing the students to use their own experiences and all their metalinguistic resources (Soares & Wood, 2010). This deepened their reading comprehension in English and extended their knowledge of both languages.

The Fourth and Final Rewrite > to Stage in Transacquisitional Tasking

The Rewrite>to stage is the fourth and final stage of transacquisitional tasking to provide bi/multilingual students with opportunities to write their Revoice>to text in a different text type/genre. Students are encouraged to complete most of their Rewrite>to text in the instructional language of the school while strategically using their 'other' language(s) as translingual authors. In this stage, examples of text types and genres for their Rewrite>text can include but are not limited to a recount, song, rap, play, comic strip, poem, poster, letter, survey, recipe, or game. When students need help choosing their Rewrite>to text type/genre, the teacher can provide individualised micro-teaching about text types and genres along with examples and resources to support and guide students in their writing throughout this stage.

The Rewrite>to stage of transacquisitional tasking aligns with Steven Kellman's (2024) definition of literary translingualism as the ability to write in more than one language or in a language other than the author's native tongue. According to Kellman (2020, see also Hugueny-Léger, 2024; see also Kellman & Lvovich, 2015; Kellman & Stavans, 2015; Kellman & Lvovich, 2021), translingualism differs from bi/multilingualism in that the prefix "trans" acknowledges the constant movement and interaction between languages in the bi/multilingual mind. This Rewrite>to stage enables the bi/multilingual student to engage in transacquisitional translingual authoring to attain what Kellman (2020) describes as "a new voice and a new identity" as translinguals. Kellman (2020) defines this transformative process as a form of "self-begetting" which is the desired outcome of transacquisitional tasking. The Rewrite>to stage of transacquisitional tasking empowers emergent bi/multilingual students to become 'translingual authors' who are capable of mediating their own languages that straddle linguistic systems to write their Rewrite>to texts.

Key findings: Shifts in Reading Accuracy Scores

In summary, a review of the individual shifts in reading accuracy levels showed that the TransAcquisition Intervention had a larger effect on the students who initially scored low pre-intervention scores. Based on the analysis of shifts in reading accuracy by gender, TransAcquisition had a generally positive effect on all the boys who participated in the study, particularly the three boys who scored very low reading accuracy scores before the intervention.

- Seven students scored low levels of accuracy before the TransAcquisition Intervention. Of those seven students, three remained in the low levels with improved scores at that level, one made an upward shift to the medium level of accuracy, and three achieved high levels of accuracy after the intervention program.
- The students with low levels of accuracy before the intervention showed the greatest improvement of at least 10% in their accuracy scores after the intervention.
- The three students who scored low pre-intervention reading accuracy scores were boys who achieved medium reading accuracy scores after the intervention.
- Five students scored medium levels of accuracy before the intervention, and they all improved by around 5% to high levels of accuracy after the intervention program.

- The twelve students who scored high levels of reading accuracy before the intervention maintained their performance at high levels of accuracy (well within ±5% in accuracy score) after the intervention.

Key findings: Shifts in Self-correcting Behaviour
- A positive shift in self-correction scores occurred in all the kura students after the eight-week TransAcquisition Intervention.
- The lower quartile showed a shift in the kura students' use of self-correction strategies from 6% in the pre-intervention phase to 20% in the post-intervention phase. The median showed a shift from 17% to 31%, and the upper quartile showed a shift from 33% to 51%.
- The boys showed improvement in their use of self-correction strategies, shifting from 5% to 12%. In comparison, the girls showed greater improvement in their use of self-correction strategies, shifting from 31% to 63%.
- The Year 7 students showed significant improvement in their use of self-correction strategies, shifting from 36% to 60%. In comparison, the Year 8 students showed a greater improvement in the median, shifting from 12% to 29%.

Key findings: Shifts in using Meaning, Structure, and Visual Reading Cues
- A positive shift from 72.6% to 78.8% occurred in all the reading ability groups in the use of meaning, structure, and visual cues as the dominant self-correction collective cue.
- Overall, findings showed that the students became more aware of textual and contextual features of words/phrases as a result of the TransAcquisition Intervention program, which enabled them to 'recognise' their errors and then self-correct accordingly in their post-intervention reading assessment phase.
- Most of those students who were at low levels of accuracy before the intervention made positive changes in their self-correction scores after the intervention, with an increase in their use of meaning, structure, and visual cues.
- Students who were at high levels of accuracy before the intervention maintained their high levels of self-correction scores after the intervention.

Summary of Key Findings
The kura school students began to use more metacognitive strategies while reading in English as a result of the TransAcquisition Intervention. The overall improvement in self-correction rates showed that the students became more focused on textual features to read more accurately. Further to this, the TransAcquisition intervention program prompted greater awareness in the kura students to 'recognise' their errors and then correct those errors accordingly. The students' decoding skills improved between pre- and post-reading running record assessments as they demonstrated greater perseverance, confidence, and skill in risk-taking to improve their levels of reading accuracy in the post-intervention phase. Furthermore, the students not only demonstrated better decoding skills after the intervention, they also demonstrated gains in reading comprehension. These findings highlight the pedagogical effectiveness of TransAcquisition Pedagogy, which enabled the kura students to draw on all their metalinguistic resources to facilitate meaning-making in their reading.

English-medium Comparison Group
It was considered ethically questionable to use one of the two kura as a true control group. This prompted the decision to use an English-medium school as a convenient sample of real students to form the Comparison Group. After emailing relevant information about the study to six English-medium

school principals referred to me by an independent school advisor, one of the principals agreed to meet with me to discuss the research. After meeting with the principal, the Term 1 and Term 4 reading running record scores of 22 students with similar reading ages to those of the kura school students in the study's Intervention Group were ascertained. This English-medium school was a full primary situated in a high socio-economic community. Although the English-medium Comparison Group was not a true control group, the use of the reading running record scores provided a real-life comparison of expected student gains over time. To this extent, the weekly gain in the reading age of the English-medium Comparison Group was estimated as 6.21 days of improvement[1] in reading age per week. In contrast, the Māori immersion Intervention Group made 5.20 weeks improvement in reading age per week. These findings show that the rate of change in reading age of the Māori immersion Intervention Group was 5.87[2] times faster than that of the Comparison Group in the English-medium school.

Conclusion

In the Kura Kaupapa Māori language immersion context, TransAcquisition pedagogy (which I abbreviate as TAP) accelerated the emergent bilingual students' biliterate development in English while enhancing their pre-existing language/literacy in the Māori language. As an exemplar of Lee and McCarty's (2017) culturally sustaining/revitalising pedagogy, TAP is an effective pedagogical approach in contexts where cultural sustainability and language revitalisation are a priority. The effect of TAP can be attributed to the cumulative influence of the Read-to-Retell-to-Revoice-to-Rewrite transacquisitional tasking process on the cognitive and metalinguistic processes associated with each of the students' Interrelational Translingual Network (ITN). I call this the 'TAP effect' which enables emergent bi/multilingual students to use their languages in mutually supportive ways to accelerate their acquisition of academic language and deepen their understanding of academic knowledge. It is the 'TAP effect' that reflects and embraces the dynamic manifestations of multilingualism. In this regard, TAP is a learning and teaching approach that is theoretically and pedagogically predicated on the dynamism of multilingualism. For these reasons, TransAcquisition Pedagogy (TAP) has the potential to radically re-align pedagogical approaches currently in place in the education of emergent bilingual students around the world.

Author's Biography

Kia ora (Greetings), as a practitioner and researcher in Bilingual Education, I conceived and developed TransAcquisition Pedagogy in my doctoral study (Tamati, 2016). TransAcquisition accelerates biliterate development in emergent bi/multilingual students to enrich their reading comprehension, improve their writing skills, and lift their overall academic achievement. TransAcquisition uses the Read-to-Retell-to-Revoice-to-Rewrite tasking scaffolding sequence to empower linguistically and culturally diverse students to use concepts in their home language(s) to acquire the academic language of English. In the four stages of the TransAcquisition tasking sequence, emergent bi/multilingual students use meta-linguistic fluidity, relational transfer, and cognitive metashuttling to improve their reading and writing in English while deepening their conceptual understanding across all their languages. TransAcquisition Pedagogy is now being used in New Zealand's English-medium schools with bi/multilingual students to fast-track their literacy development in English.

I'm also an educational innovator, addicted to the thrill of creating 'first-of-a-kind' technologies. I love the feeling of 'seeing' a 'solution' in my mind's eye and then the surge of energy to map out the steps in the design process to create the prototype. I created 'Hika' the first smartphone (iPhone) app to learn the

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[1] 0.017 (years) x 365 (days) = 6.21 days improvement per week
[2] 5.2 (weeks) = 36.47 days; 36.47 ÷ 6.21 = 5.87.

Māori language, and 'Māori Mai Me' as the first Virtual Reality app to learn Māori. I'm now co-leading projects in the design and development of avatar and robotic innovations for Māori Sign Language.

As a specialist in Māori-medium education and Māori language revitalisation, I helped to establish the Huarahi Māori-medium Initial Teacher Education programme in 1998 to deliver the Huarahi Māori Bachelor of Education (Teaching) degree. With the guidance of kaumātua (elders) who were native speakers of Māori and experienced educators, I wrote all the Reo Māori courses for the degree program to revitalise and normalise the Māori language in AotearoaNZ. Since its inception, graduates of the Huarahi Māori program are now teaching in Māori-immersion schools called Kura Kaupapa Māori and tribal Māori language schools called Kura-ā-Iwi. Graduates are also teaching Māori bilingual and immersion classes in English-medium schools, while others are teaching the Māori language in English-medium primary and secondary schools. I consider my part in the development and establishment of the Huarahi Māori program as a lifetime achievement to save our language from the brink of linguistic death in the 1970s and 1980s, for my people, our language, and our culture.

References

1. Archer, L. & Francis, B. (2007). Understanding minority ethnic achievement. Race, gender, class and 'success'. New York: Routledge.
2. Aronin, L. (2015). Current multilingualism and new developments in multilingualism research. In P. Safont Jordà & L.Portolés Falomir (Eds.), *Learning and using multiple languages. Current findings from research on multilingualism* (pp. 1–28). Cambridge: Cambridge Scholars Publishing.
3. Backhaus, P. (2006). Multilingualism in Tokyo: a look into the metalinguistic landscape. In D. Gorter (Ed.), *Metalinguistic Landscape: A New Approach to Multilingualism,* pp. 52 – 66. Clevedon, London: Multilingual Matters.
4. Baddeley, A. (1992). Working memory. *Science, 255*(5044), pp. 556–559.
5. Bauer, W. (2008). Is the health of te reo Māori improving? *Te Reo*, 51, 33–73.
6. *Becker, R. (2001). Spanish-English code switching in a bilingual academic context. Reading Horizons, 42(2), 99–115.*
7. Bernstein, B. (2000). *Pedagogy, symbolic control, and identity: Theory, research, critique*. Oxford, UK: Rowman and Littlefield.
8. Berryman, M., & Glynn, T. (2004). Whānau participation: Māori students' transition to English. *Proceedings of the Language Acquisition Research Forum,* 143–158. Wellington, New Zealand: Ministry of Education.
9. Bialystok, E., Craik, F. I. M., Klein, R., & Viswanathan, M. (2004). Bilingualism, aging, and cognitive control: Evidence from the Simon Task. *Psychology and Aging*, *19*(2), 290–303.
10. Birnie, I.A.C. (2018). *'Gàidhlig ga bruidhinn an seo?'* – Metalinguistic practices and Gaelic language management initiatives in Stornoway, the Western Isles of Scotland. (Unpublished doctoral thesis). University of Aberdeen, Aberdeen.
11. Burke Johnson, R. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26.
12. Centeno-Cortés, B., & Jiménez, A. (2004). Problem-solving tasks in a foreign language: The importance of the L1 in private verbal thinking. *International Journal of Applied Metalinguistics, 14*(1)*,* 7–35.
13. Clay, M. M. (1967). The reading behaviour of five year old children: A research report. *New Zealand Journal of Educational Studies, 2(1)*, 11–31.
14. Clay, M. M. (1969). Reading errors and self correction behaviour. *British Journal of Educational Psychology, 39*, 47–56.

15. Creese, A., & Blackledge, A. J. (2010). Translanguaging in the bilingual classroom: A pedagogy for learning and teaching? *The Modern Language Journal, 94*(1), 103–115.

16. Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: SAGE.

17. Cummins, J. (1981a). *Bilingualism and minority language children*. Ontario, Canada: Ontario Institute for Studies in Education.

18. Cummins, J. (1981b). The role of primary language development in promoting educational success for language minority students. In P. Dolson (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 16–62). Los Angeles, CA: State

19. Cummins, J. (2001). *Negotiating identities: Education for empowerment in a diverse society* (2nd ed.). Los Angeles, CA: California Association for Bilingual Education.

20. Cummins, J. (2007). Rethinking monolingual instructional strategies in multilingual classrooms. *The Canadian Journal of Applied Metalinguistics, 10*(2), 221–240.

21. Cummins J. (2008c). Teaching for transfer: challenging the two solitudes assumption in bilingual education. In J. Cummins & N. H. Hornberger (Eds.), *Encyclopedia of language and education* (2nd ed., Vol. 5., pp. 65–76). New York, NY: Springer.

22. Education Review Office. (2018). Responding to language diversity in Auckland. Wellington, New Zealand: Author.

23. García, O. (2011). From language garden to sustainable languaging: Bilingual education in a global world. *NABE Perspectives*, 5–10.

24. García, O., & Leiva. C. (2014). Theorizing and enacting translanguaging for social justice. In A. Creese & A. Blackledge (Eds.), *Heteroglossia as practice and pedagogy* (pp. 199–216). New York, NY: Springer.

25. García, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education.* New York, NY: Palgrave Macmillan.

26. Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

27. Good, T., & Nichols, S. (2001). Expectancy effects in the classroom: A special focus on improving the reading performance of minority students in first-grade classrooms. *Educational Psychologist,* 36(2), pp. 113-126.

28. Gorter, D. (2006). Introduction: The Study of the Metalinguistic Landscape as a New Approach to Multilingualism. In D. Gorter, (Ed.) *Metalinguistic landscape*, (pp. 1–6). Clevedon, London: Multilingual Matters.

29. Hill, R. K. (2011). Rethinking English in Māori-medium education. *International Journal of Bilingual Education and Bilingualism, 14*(6), 719–732.

30. Hill, R. K. (2015). Transitioning from Māori-medium to English: Pursuing biliteracy. *New Zealand Journal of Educational Studies,* 1–20. doi:10.1007/s40841-015-0034-8

31. Hill, R. (2017). Level 2 Māori Medium Programs: What are the perceptions of parents and students on this form of education? *NZ Journal Education Studies*. https://doi.org/0.1007/s40841-017-0088-x

32. Hill, R. K., & May, S. (2014). Balancing the languages in Māori-medium education in Aotearoa/New Zealand. In D. Gorter, V. Zenotz, & J. Cenoz. (Eds.), *Minority languages and multilingual education: Bridging the local and the global* (pp. 171–189). New York, NY: Springer.

33. Hopewell, S. (2011). Leveraging bilingualism to accelerate English reading comprehension. *International Journal of Bilingual Education and Bilingualism, 14*(5), 603–620.

34. Hornberger, N. H. (2004). The continua of biliteracy and the bilingual educator: Educational metalinguistics in practice. *International Journal of Bilingual Education and Bilingualism, 7*(2–3), 155–171.

35. Hugueny-Léger, E. (2024). Translingual creative writing in, and beyond, modern languages. *Modern Languages Open*, *0*(1), 1. https://doi.org/10.3828/mlo.v0i0.498.

36. Kellman, S. G. (2000). The Translingual Imagination. Lincoln: University of Nebraska Press.

37. Kellman, S. (2020) *Nimble Tongues: Studies in literary translingualism*. Purdue University Press. https://doi.org/10.2307/j.ctvhhhdz6

38. Kellman, S. & Lvovich, N. (Eds). (2015). Literary translingualism: Multilingual identity and creativity. Special Issue of *L2 Journal*, vol. 7, no. 1. https://doi.org/10.5070/L27125046

39. Kellman, S. & Stavans, I. (2015). The translingual sensibility: A conversation between Steven G. Kellman and Ilan Stavans." *L2 Journal*, vol. 7, no. 1, 2015, pp. 6–17.

40. Kellman, S. & Lvovich, N. (Eds). (2021). *The Routledge Handbook of Literary Translingualism.* Routledge. https://doi.org/10.4324/9780429298745

41. Kroll, J. F., Dussias, P. E., Bogulski, C. A., Kroff, J. R. V. (2012). Juggling two languages in one mind: What bilinguals tell us about language processing and its consequences for cognition. *Psychology of Learning and Motivation – Advances in Research and Theory*, *56*, 229–262. https://doi.org/10.1016/B978-0-12-394393-4.00007-8

42. Lee, T. S., & McCarty, T. (2017). Upholding indigenous education sovereignty through critical culturally sustaining/revitalizing pedagogy. In D. Paris & H. S. Alim, (Eds.), *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world,* pp. 61-82*.* New York: Teachers College Press.

43. Leyre Ruiz de Zarobe & Yolanda Ruiz de Zarobe, (2015). New perspectives on multilingualism and L2 acquisition: an introduction. *International Journal of Multilingualism*, Vol. 12, No. 4, 393–403. Retrieved 28 January. 2019, from doi: https://doi.org/10.1080/14790718.2015.1071021

44. Lowman, C., Fitzgerald, T., Rapira, P., & Clark, R. (2007). First language literacy skill transfer in a second language learning environment: Strategies for biliteracy. *Set, 2,* 24–28.

45. Mahuika, R., Berryman, M., & Bishop, R. (2011). Issues of culture and assessment in New Zealand education pertaining to Māori students. *Assessment Matters*, *3*, 183-198.

46. May, S. (2008). Bilingual/immersion education: What the research tells us. In J. Cummins and N. Hornberger (Eds.), Bilingual education: The encyclopedia of language and education. Second edition, Volume 5, (pp. 19-34). New York: Springer.

47. May, S., & Hill, R. K. (2004). *Māori-medium education: Current issues and future prospects Proceedings of the Language Acquisition Research Forum*, 5–37. Wellington, New Zealand: Ministry of Education.

48. McCaffery, J., Villers, H., & Lowman, C. (2008). *Biliteracy: Finding the words to write in two languages within a diverse school setting*. Paper presented at the 2nd Language Education and Diversity Conference, Hamilton, New Zealand.

49. Ministry of Education. (2000). *Using running records: A resource for New Zealand classroom teachers*. Wellington, New Zealand: Learning Media.

50. Mitchell, J. (2003). *Immigration and National Identity in 1970s New Zealand*. (Unpublished doctoral thesis). University of Otago, Dunedin.

51. Morrow, L. M. (2005). *Literacy development in the early years: Helping children read and write*. Boston, MA: Allyn and Bacon.

52. Naseri, M., & Zaferanieh, E. (2012). The relationship between reading self-efficacy beliefs, reading strategy use and reading comprehension level of Iranian EFL learners. *World Journal of Education, 2*(2). https://doi.org/10.5430/wje.v2n2p64

53. Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, UK: Cambridge University Press.

54. Ness, M. (2011). Explicit reading comprehension instruction in elementary classrooms: Teacher use of reading comprehension strategies. *Journal of Research in Childhood Education, 25*(1), 98–117.

55. Office of the Auditor-General. (2010). Central government: Results of the 2009/10 audits. Retrieved from http://www.oag.govt.nz/2010/2009-10/docs/central-govt-2009-10.pdf

56. OECD (2017), *International Migration Outlook 2017* (Summary), OECD Publishing, Paris. https://doi.org/10.1787/f3a4fe3e-en

57. Onwuegbuzie, A. J., & Teddlie, C. (2003). A framework for analyzing data in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 351–383). Thousand Oaks, CA: SAGE.

58. Rata, E. (2015). A pedagogy of conceptual progression and the case for academic knowledge. *British Educational Research Journal, 42*(1), 168–184. doi:10.1002/berj.3195

59. Rubie-Davies, C., Hattie, J., & Hamilton, R. (2006). Expecting the best for students: Teacher expectations and academic outcomes. *British Journal of Educational Psychology,* 73(3), pp. 429-444.

60. Schleppegrell, M. J. (2012). Academic language in teaching and learning: Introduction to the special issue. *The Elementary School Journal, 112*(3)*,* 409–418.

61. Shohamy, E. G., Rafael, E. B., & Barni, M. (Eds.). (2010). *Metalinguistic landscape in the city*. New York: Multilingual Matters.

62. Smith, G. H. (1997). *The development of kaupapa Maori: Theory and praxis* (Unpublished doctoral thesis). University of Auckland, Auckland, New Zealand.

63. Soares, L. B., & Wood, K. (2010). A critical literacy perspective for teaching and learning social studies. *The Reading Teacher*, *63*(6), 486–494.

64. Statistics New Zealand, (2015). Retrieved from: https://www.stats.govt.nz/infographics/major-ethnic-groups-in-new-zealand

65. Tākao, N., Grennell, D., McKegg, K., & Wehipeihana, N. (2010). *Te Piko o te Māhuri: The key attributes of successful Kura Kaupapa Māori*. Retrieved on 28 February, 2019, from https://www.educationcounts.govt.nz/publications/maori/105966/80403/1.-the-nature-of-success

66. Tamati, S. T. (2011). The trans-acquisitional approach: A bridge to English in kura kaupapa Māori. *Pacific-Asian Education*, *23*(1), 91–102.

67. Tamati, S. T. (2016). *Transacquisition pedagogy for bilingual education: A study in kura kaupapa Māori.* (Unpublished doctoral thesis). University of Auckland, Auckland.

68. Te Aho Matua. (2008). *Te Aho Matua o Ngā Kura Kaupapa Māori*. Retrieved July 11, 2015, from https://nzccs.wikispaces.com/file/view/Supplement_TeAho32Feb08.pdf

69. Turner, H. B. (2013). Teacher expectations, ethnicity and the achievement gap. Master of Education Thesis, University of Auckland.

70. UNICEF Office of Research (2018). 'An Unfair Start: Inequality in Children's Education in Rich Countries', *Innocenti Report Card 15*, UNICEF Office of Research – Innocenti, Florence.

71. Urquhart, S., & Weir, C. (1998). *Reading in a second language: Process, product and practice*. London, UK: Longman.

72. Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA: MIT Press.

73. Williams, C. (1994). *Arfarniad o Ddulliau Dysgu ac Addysgu yng Nghyd-destun Addysg Uwchradd Ddwyieithog [An evaluation of teaching and learning methods in the context of bilingual secondary education]* (Unpublished PhD thesis). University of Wales, Bangor, Wales.

74. Williams, C. (2002). *Ennill iaith: Astudiaethau o sefyllfa drochi yn 11–16 oed = A language gained: A study of language immersion at 11–16 years of age.* Bangor, Wales: Ysgol Addysg Prifysgol Cymru.

75. Winch, C. (2013). Curriculum design and epistemic ascent. *Journal of Philosophy of Education, 47*(1), 128–146.