Manaiakalani Whānau Capability Building and Classroom Instruction

Final Report – Executive Summary

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Overview

This report is the third milestone to the Manaiakalani Education Trust. It details the activities and findings of the "research and development" strand of research and incorporates the evaluative information provided by student achievement data. This milestone details the findings from ongoing student achievement and classroom observations across the cluster. In addition, reported are the findings from the case studies of the most effective teachers of reading with the primary schools which provide the impetus for developing hypotheses about effective teaching of reading in a digital learning environment.

Methods and Procedures

Data Sources

In 2015 we relied on the following sources of data: e-asTTle and Progressive Achievement Test (PAT) achievement; preliminary National Certificate of Educational Achievement (NCEA) standards; classroom observations, classroom site and student blog analysis of case study classes and parent/whānau interviews.

Analysis

e-asTTle and Progressive Achievement Test (PAT)

The cross-sectional analyses contain single time point snapshots, including comparisons of differences from normative averages between groups. The PAT tools were introduced to the schools in Term 1, 2015, whereas students were previously tested using e-asTTle reading and mathematics tests. Individual tests are analysed using scale scores for that test (PAT scale score or aWs). We used the PAT *scale score* to measure gains for each subject from Term 1, 2015 to Term 4, 2015. The longitudinal analyses include summary statistics of scale scores over time, across year levels, schools, school clusters and ethnicities, and between school types, school religion and gender. Additional cross-sectional and longitudinal analyses compared e-asTTle writing and PAT reading and mathematics achievement of students who transitioned to Tamaki College from within the Manaiakalani cluster against achievement of students who transitioned from outside the cluster.

National Certificate of Educational Achievement (NCEA)

NCEA data supplied by the school were analysed as percentage of students (roll-based) who attained qualifications including NCEA Level 1, 2, 3 and University Entrance (UE), level 1 literacy and numeracy from 2010 to 2015.

Pass rates for each qualification in each year were calculated based on the assumption that level 1 qualifications should be attained by Year 11 students, level 2 qualifications should be attained by Year 12 students and level 3 qualifications should be attained by Year 13 students.

Classroom observations

Descriptive statistics are provided which portray the percentages of blocks in which each of the variables was observed. Percentages of block containing each variable are presented in bar charts (side-by-side).

Case study teachers – reading

A selection of case study teachers was informed by the triangulation of three effectiveness measures following a ranking process to determine the "top 10" tier of practitioners from which convergence by any single teacher across measurements strengthened nomination. The final selection of eight cases was identified from comparisons of convergence across three sources of triangulated evidence:

1. Achievement in reading;
2. Observer "impressions";
3. Principal nominations.

Following identification of the eight case study teachers, teacher online planning, student blog posts and classroom observations were qualitatively and quantitatively analysed. The analyses were used to build instrumental case studies of effective teaching of reading within the digital learning environment.

Parent/whānau case studies

Initial analyses of the 2015 interviews with eight parents/caregivers identified several types of engagement. The analysis has led to the development of the *Fanau Engagement* hypothesis (Meredith, 2015) using two frameworks. The first is *cultural modes* to identify values, beliefs, practices and

aspirations. The second is *academic socialisation* where parents/caregivers describe how they support their children's education and learning (Suizzo, Pahlke, Chen, & Romero, 2014). Within this framework researchers examined parents'/caregivers' face-to-face and digital interactions at home, with schools and the community (Epstein, 1996; Epstein & Sanders, 2002).

Full analysis of the 2015 interviews resulted in three types of engagement: *learning at home; digital learning; other sites of learning.* The theoretical framework will identify patterns of parent/family involvement in learning, their literacy practices, home school interaction, community engagement and opportunities for community development (Riveria, 2014). Interviews will conclude in early 2016.

Summary of Results and Discussion

Student Achievement Data

e-asTTle writing

Despite achievement levels generally remaining below national levels, writing remains the area where students made most progress during 2015. Of the 10 schools within Manaiakalani in 2015 which assessed student writing using the e-asTTle writing tool, two had average student achievement levels above national normative comparisons at the end of the year, while eight had average levels that remained below normative comparisons. Within the school year, however, seven of the 10 schools had average progress rates above national comparative rates of progress, one had progress rates in line with averages, and two schools' progress rates were below average.

At the classroom level, six of the 58 classes had average achievement above national comparisons, 15 had average achievement at national levels and 37 had achievement levels on average below the national comparison. In terms of average classroom progress in writing within a year, 20 made accelerated progress, 33 made expected progress, and five classes made progress at rates below average.

In the school cohort 1 and 2, compared with 2014, slightly fewer schools had average achievement that was accelerated. Of the eight schools whose achievement levels have been tracked since 2012, one school has average levels above normative comparisons, while the rest were below. Progress was accelerated, on average, for five of the eight schools and in line with normative comparisons for one. In two schools rates of progress dipped below national rates. This number indicates some decline in progress compared with 2014, when seven out of eight schools made accelerated progress in writing.

At the classroom level, 34 of the 47 classes were below national comparisons on average, while 13 of the classes were at or above expected levels. Fifteen classes made accelerated progress, 27 made average progress, while five classes' average progress was less than the normative comparison, two of these were in primary schools.

There was a difference between the genders in writing achievement, but not in rates of progress. At the end of 2015, across the whole cluster, girls continued to outperform boys in writing on average. Overall girls scored more than 50 e-asTTle points (approximately a year's growth) greater than boys. The difference is noted in both school cohort 1 and 2 and when newer schools are included into the analyses. In terms of progress, both girls and boys made accelerated progress compared with national averages, and at similar rates. Across the cluster as a whole, NZ European students outperformed other ethnicities; however this effect is not present in the schools that have been part of Manaiakalani since 2012, which likely reflects the different demographic patterns in the Manaiakalani schools. In school cohort 1 and 2, Pasifika and Maori students both had effect size gains of 0.19 (above expected), students categorised 'Other' had effect size gains of 0.32, while the small number of NZ European students made overall expected gain.

The emerging differences between year levels is highlighted as a pattern in writing in 2015. While all other year levels perform approximately one year below average in school cohort 1 and 2, the gap for Year 9 and 10 student achievement is greater. Moreover, whereas all other year levels made accelerated progress within the year on average, rates of progress in these upper year levels were negative (students lost ground within the year). In the writing test in Term 4, 2015, Year 9 and 10 students performed on average at levels that merit concern. It will need to be a matter of cluster investigation as to whether these test scores represent concerning patterns of learning or whether there is an issue of assessment which underpins these results. Transition analyses suggest that those students who enter Year 9 from Manaiakalani schools score on average higher in writing than those who enter from other schools, however, there is great variability in the scores of both groups, so the differences are non-significant.

Progressive Achievement Test (PAT) reading

Progress in reading was generally at national levels, but achievement levels in reading remained lower than national. Average progress levels during the 2015 school year in reading were, in general, in line with expected growth over 12 months. At the end of 2015, nine of the 10 cluster schools scored below national expectations in reading, while one scored at expectations. End of year expected achievement, using PAT benchmarks, is deemed equivalent to beginning of year levels for the subsequent year (e.g., the end of Year 4 mean is estimated to be the beginning of Year 5 mean). Thus, to achieve at

rates commensurate with the norms, students need to make 12 month's average progress within the school year. In eight schools students made this expected progress on average in reading, and in two schools students scored lower than expected progress on average. Similarly, most classes across the cluster (40 of 59) made progress in line with normative comparisons between the beginning and end of the year. When primary school classes are considered separately, 44 of the 48 classes had averages gains at or above expectations.

Similar rates of progress were found within school cohort 1 and 2. Of these schools, all had average achievement levels below normative expectations in reading at the end of the year. Six of those eight schools had progress rates in line with expectations (i.e., meeting the beginning of year mean for the subsequent year by year's end), while two had progress rates below expectations. Of the 37 primary school classes, 34 had rates of progress at or above expected levels. The rates of progress shown in PAT are likely also influenced by the normative expectations, because end of year achievement using PAT is deemed to be equivalent to the next year's beginning of year achievement. Thus to make within year expected progress, students need to gain a full year's learning in the school year.

Gender differences in reading are slightly less marked than those in writing. Across the whole cluster, girls on average outperformed boys by approximately five scale score points (six month's progress). This difference is apparent in both school cohort 1 and 2 and the cluster combined, although slightly smaller (four scale score points) when school cohort 1 and 2 are considered alone.

Across the whole cluster, there were differences in progress according to ethnicity in reading, with only NZ European and 'Other' students making expected progress overall. For school cohort 1 and 2, ethnicities did not differ in terms of relative progress, although 'Other' students were the highest performing group. There are likely differences between individual schools in terms of the interaction between year level, ethnicity and progress rates which will be important at individual school levels.

For most year levels progress was at expected rates, that is, most year levels made 12 month's progress within the school year. The exception to this is Year 5, and Years 9 and 10. In both school cohort 1 and 2 and across the wider cluster, Year 5 students made slightly less than a year's progress, likely reflecting a slightly higher expected growth rate in Year 5 within the normative comparisons. Years 9 and 10 made little progress across the year, scoring at levels similar to their beginning of year levels, thus falling away from the normative comparison. As with writing, there is a need to investigate whether students are failing to learn more widely, or whether issues of assessment impact these results.

Progressive Achievement Test (PAT) mathematics

There was some variability in progress rates across the cluster between schools in mathematics. Across the wider cluster, one school had achievement levels above the normative comparisons. The remaining nine schools achieved below end of year expectations. As is the case with PAT generally, the end of year normative estimate is the beginning of the next year's normative comparison. In three of the 10 schools, progress exceeded the 12 month's normative progress; in five schools progress was equivalent to 12 month's progress and in two schools average progress was less than the normative estimate. A large majority of classes (41 of 57) made on average a year's progress within the 2015 school year. Eight classes made on average greater gains, another eight made less progress than the normative expectation. Of the 35 primary school mathematics classes in school cohort 1 and 2, 32 had rates of progress at or above expected. Unlike reading and writing, there was no marked difference between genders in mathematics achievement. Across the whole cluster NZ European and 'Other' students made greatest progress in mathematics (ES = 0.15 - 0.16 above expected progress). When school cohort 1 and 2 are considered in isolation, all ethnicities made expected progress, with the exception of Pasifika students. As with reading, individual schools will need to inquire into the interactions between ethnicity and progress at each of the year levels.

As with reading and writing, attainment began to fall away in comparison with normative expectations in older year levels. This effect becomes apparent from Year 7, at which point average progress fails to keep pace with the normative (12 month's) estimates.

National Certificate of Educational Achievement (NCEA)

Preliminary results from the 2015 NCEA data provided by the school indicate key areas of improvement in Levels 2 and 3 in particular, in terms of both quantity of qualifications gained and the quality of the learning in the subject areas. To date 39% of students have achieved level 1 qualifications, less than the 50% of students who achieved Level 1 in 2014. Of the 42 students who have achieved Level 1, 22 achieved either a merit or excellence endorsement. At Level 2 the percentage of students achieving the qualification was 68%, similar to 2014 (70%). Of the 64 students who achieved a level 2 qualification, 18 received a merit or excellence endorsement. At Level 3, 59% of students achieved the qualification. Of note is the number of students working toward Level 3 in the year. Of the 94 students, 56 gained the qualification, 10 with merit or excellence endorsements. Of the 29 students who indicated that they wanted to go on to University study, 24 achieved a University Entrance qualification. The results represent significant advances in the number of students leaving school with higher education opportunities.

Classroom Observations

Most observed classes across Term 1, 2015 (22 out of 33) to Term 3, 2015 (24 out of 29) were reading lessons, in line with a focus on development in reading achievement across the cluster. Almost all classes (82 - 89%) had high levels of implementation and digital access (over 90% students with access to devices) across the whole year. There were also consistently high levels of group teaching with 61.9% of blocks of time in Term 4, 2014, 50% in Term 1 2015 and 53.8% in Term 3, 2015, where teachers were working with a group.

In general, changes over time in the way teachers work with students are becoming apparent. There seem to be shifts toward more open-ended and cognitively engaging forms of teaching interactions. This is apparent in the numbers of three minute blocks that were coded as focussed on extended discussion, accounting for 54.3% in Term 4, 2014, 36.8% in Term 1, 2015 and 54.5% in Term 3, 2015 respectively. It seems that teachers are increasingly creating spaces in classes that allow learners to engage in discussion around texts.

The teachers' lessons still feature a mixture of instructional types. Teachers' interactions mostly focused on practice (59.5% of blocks in Term 4, 2014, 55.7% in Term 1, 2015 and 62.8% in Term 3, 2015). Teachers also asked students to link to prior knowledge and to have metacognitive discussions about strategies with 27% of blocks coded as these types both at the beginning and end of the year. The only instructional type less well represented was critical appraisal of content or texts (6.7% of blocks in Term 4, 2014, 11.8% in Term 1, 2015 and 4.7% in Term 3, 2015). Skills to evaluate the author's position, the credibility of text or the intended effect of a text on the reader are vital tools for students engaged in digital learning environments.

In reading lessons at the end of the year 2015, teacher-led activities were less constrained and focused more on deeper thinking than the tasks that were assigned by teachers as independent reading tasks. In this way, the profile of reading lessons with the teacher contrasts with the independent tasks assigned to students. Whereas teachers seemed to be working to extend student thinking through extended discussion, independent tasks remained predominantly focused on reading a single text (66.5% of blocks) and answering a constrained practice worksheet (53% of blocks). Therefore, although discussions may extend student thinking, the structures of independent tasks seem to lend themselves more to testing comprehension through closed questions. The opportunities for extended thinking observed previously, through digital learning objects creation (14.9% in Term 3, 2015) and the use of multiple texts (13.5% in Term 3, 2015), were much less apparent in the final 2015 observations, which focused on reading.

There was a continued high level of digital task management over time. Teachers therefore seemed to be implementing the collaborative and efficiency affordances of the digital learning environment at a high level. Collaboration and joint authoring was taken up during 2015. Students tended to work more collaboratively on jointly authored texts and using digital means with an increase from 0.5% in Term 4, 2014, to 23.3% in Term 3, 2015. Face-to-face collaboration was less evident with a decrease from 19% in Term 4, 2014, 17.1% in Term 1, 2015 to 5.1% in Term 3, 2015, possibly reflecting the independent task assignment of worksheets.

Case Study Teachers – Reading

From analysing the practices of teachers who were effective in teaching reading in 2015, it would seem that more effective teaching may result from affordances of the digital learning environment to promote not only greater reading expertise but also agency over that reading.

Increased engagement in reading

Students learn to read by reading. Thus reading instruction needs to engage students in the practice of reading. Practices that seemed instrumental for reading engagement were providing opportunities and support for independent reading and extending the quantity of reading through providing supplementary texts as part of instruction. In the case study classes, teachers drew on digital tools to provide both the opportunity for self-chosen reading materials and teacher selected materials to supplement instruction. Case study teachers used both digital (for example video recording) and traditional sustained silent reading means to develop students' independent reading skills, knowledge of books and routines for independent reading for both recreation (novels) and information (current events). Case study teachers also took the opportunity to increase reading mileage through reading instruction that drew on multiple texts, through layering texts (e.g., text sets) or supplementary texts (e.g., contrastive texts).

Instruction and support for depth of understanding

Case study teachers supported depth of understanding through instruction in reading comprehension strategies and vocabulary. Most tutorial (teaching) interactions occurred face-to-face, supported by digital tools, such as digital modelling books. As with building mileage, building comprehension combined both student directed and teacher directed approaches. Students were supported to become aware of and monitor their own skills and strategies through self-assessment and goal setting. Teachers supported reading comprehension strategies through focussed lessons led by learning intentions. Vocabulary strategies and word consciousness are areas where there was less instruction

and appears likely to be catalytic for supporting comprehension and thinking, supported by multimedia. Similarly, critical skills, perspective taking and language choices are all areas where there is opportunity to extend instruction.

Greater opportunity for in-task support

Case study teachers provided structures and supports for students to employ before, during and after independent and instructional reading. In-task support could come from online tools or scaffolds. Examples include thinking prompts or guides, developed by teachers to structure students' thinking about texts. Direct in-task support was also achieved through collaboration. Case study teachers used the digital learning environment to create shared spaces for thinking, for example, through shared documents. Another potentially powerful practice was peer feedback, most commonly through responding to blog posts, but potentially also through other media (e.g., face-to-face feedback about podcasts, group self-assessments on a digital learning object).

Challenging tasks and high expectations

Case study teachers developed students' abilities in higher order thinking. They tended to do this through asking students to evaluate their reading, justify their thinking and to develop agency over their interpretation. Teachers also supported students to self-monitor the depth of that thinking through levelled approaches and thinking taxonomies.

Connections between reading and writing were an opportunity to increase the complexity of tasks and agency over reading. In such cases, students used their reading as "knowledge fuel" for writing or for creating, thereby reading for a student defined purpose rather than to answer teacher assigned questions. Creativity and innovation were also apparent in case study classes, and these served to increase the challenge when students were asked to "repurpose" their reading to another form. Examples include written arguments as an approach to book sharing (why you should read this book), advertisements for books, diagrams to summarise content, and reading advice columns.

Closer connections to students' interests and reading histories

Case study teachers used the digital learning environment to build on what students knew about. They did this by incorporating texts that reflected students' values, language backgrounds and identities. Such texts were international as well as local. For example, the use of Samoan and Tongan newspapers, as well as New Zealand content. Teachers also sought to incorporate students' personal reading histories, and well as inviting students to share their differing perspectives on the content of their reading. Case study teachers therefore used the digital learning environment to provide a wider range of texts that made links to personal histories, and also as a tool to support students' thinking about how texts had links to their lives and histories.

Recommendations

1. Continue to embed the effective practices in writing

While there is some evidence that writing continues to be the area of greatest acceleration, there are also signs that slightly less acceleration may have been achieved in writing over 2015 than in 2014. And, while girls and boys both make accelerated progress in writing on average, girls continue to outperform boys by approximately a year's learning. Thus there is a need to continue to reinforce the most effective practices in writing, including highly engaged learners, complex, creative tasks and powerful conversations.

2. Develop a shared understanding of effective practices in reading including innovative digital practices which broaden and deepen reading

The analysis of some of the most effective teachers of reading highlights some potentially effective practices, likely to develop reading ability. Some of these practices are effective in traditional environments, and have potential to be amplified by digital learning environments, such as making links to students' lives outside schools. Others are innovative practices that are made possible by digital learning environments, for example repurposing content across modes to create a digital learning object. Finally, a set of effective practices respond to the additional reading skills demanded of learners within a digital learning environment, for example perspective taking about social issues or critical appraisal of evidence in texts. We recommend therefore that with Manaiakalani we develop a shared set of hypotheses about the relationships between effective teaching and accelerated learning in reading. Once these are agreed, we recommend that the cluster work to embed these practices throughout the cluster. The following key areas seem to be key levers that case study teachers drew on the digital learning environment to enhance reading:

a) **Promote engagement in reading, comprehension and higher order thinking.** This might include supporting students' independent monitoring of their reading enjoyment, interests, engagement and mileage.

b) **Promote instruction for depth of understanding and independence.** This might include both teacher-led and student-led approaches to depth, as well as intertextual approaches to deep understanding of topics through reading and an increased focus on vocabulary learning and use.

c) **Provide in-task support for thinking about reading.** This might include opportunities and support for students to develop independence in higher order thinking and agency over their interpretations. It would also include critical appraisal of what is read and the intended influences of texts on their readers.

d) **Increasing the challenge and expectations in assigned texts and tasks.** This might include leveraging from the multiple text reading, and the reading-writing connections drawn within the 'learn, create, share' learning cycle. This might also include a greater emphasis on creativity and repurposing the 'learning' from multiple sources using multiple modes.

e) **Making connections.** This might include explicit teacher selection of texts that make links to students' communities and reading histories. It might also include supporting students to make links between texts that they have read, or in juxtaposing texts, comparing and contrasting, and taking an agentive stance to how texts position them as readers.

3. Investigate subject-specific literacies and pedagogies supporting adolescent literacy

In both cross-sectional and longitudinal measures of student achievement, an emerging pattern is the need to keep pace with the normative comparisons in older year levels. International research suggests that there are additional, more specialised literacy demands of students as the texts they encounter become more complex and subject specific. While general literacy skills suffice for students in the middle primary years, it seems likely that more subject specialised demands are impacting on students in these older year levels. Thus, we recommend that we work with Manaiakalani to pay particular attention to the specialised reading and writing demands for learners in the upper primary and junior secondary years. Each of the hypothesised effective practices in reading previously mentioned will likely be relevant to this endeavour, as teachers work to increase the challenge, complexity and higher order thinking of students into secondary school.

References

Epstein, J. L. (1996). School/family/community partnerships: caring for the children we share. *Phi Delta Kappan 76,* 701-712.

Epstein, J. L., & Sanders, M. G. (2002). Family, school and community partnership. M. H. Bornstein. (Ed.). *Handbook of parenting: Practical issues in parenting, 5,* 404-437. Mahwah, NJ: Erlbaum.

Meredith, M. (2015). *Fanau Engagement: Understanding the effects of digital learning and home school partnership.* Paper presented at the Language, Education and Diversity 2015 Conference, University of Auckland.

Riviera, H. H. (2014). Studying the impact of technology-influenced activities among low-income Spanish-speaking immigrant families. *Journal of Latinos and Education, 13*(3), 196-211.

Suizzo, M., Pahlke, E., Yarnell, L., Chen, K., & Romero, S. (2014). *Home-based parental involvement in young children's learning across U.S. ethnic groups: Cultural models of academic socialization. Journal of Family Issues, 53*(2), 254-284.