

Increasing the uptake of ICT amongst Pacific Island Early Childhood Education Centres in Manukau City

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Pacific Island early childhood education providers in Manukau City have low rates of use of information and communication technology. There are also significant barriers towards greater uptake. This is a pity not just for attending children, but because ECE centres can serve as a focus for community use of ICT. What can we do to improve the situation?

In July 2005 the Labour-led government announced the development of Foundations for Discovery, a strategy for improving the use of Information and Communications Technology (ICT) in the early childhood education (ECE) sector. This is the culmination so far of the increasing official recognition of the importance of ICT in education. ICT use in primary and secondary schools was already made a priority in the government's Digital Strategy.

With the increasing importance of ICT in society, there is consequentially increased talk of a 'digital divide', the gap between those with regular, effective access to digital technologies and those without. Measures like the Ministry's goal to have all primary and secondary schools connected to the internet with broadband seek to address this divide. However there are more challenges for the ECE sector as, unlike primary and secondary schooling, it is not centrally planned and so government does not directly fund ICT use for all ECE providers. Although it has announced a contestable fund for ICT in early childhood education, ECE centres are run autonomously, by their communities, the communities therefore have to lead the call for funding in their areas. This call for funding may also require exploring other resource avenues, such as private sponsorship.

The importance of the community to ECE

In July 2006 City of Manukau Education Trust (COMET) had already commissioned research regarding the use of ICT in Manukau's ECE centres. This research focused on understanding how ICT could be used for improving family and community connections with teaching and learning in early childhood centres¹.

The focus on community use is important. The national early childhood education curriculum is centred on family participation in a pre-primary child's learning. For this reason, early childhood education centres are an ideal focus for ICT use by the community. So when early childhood centres act as centres for ICT use in the community there are direct benefits for children's learning, direct benefits for the community which might not otherwise have access to ICT and also dynamic benefits from allowing children and their families to learn together.

The first stage of the research established the benefits to children's learning of ICT use, in particular digital cameras. It also showed that many of the imbalances in ICT use in wider society were mirrored in early childhood education

¹ Williamson, A. (2005). The use of information and communications technologies in early childhood education in Manukau City. Waitakere City, NZ: Wairua Consulting Limited for the City of Manukau Education Trust. Available online at www.comet.org.nz

in Manukau, especially in the lower rates of use by Pasifika providers. This became a special focus of COMET’s ongoing work, although the project is still concerned explicitly with the whole of Manukau’s ECE sector.

The Manukau Context

Households in less well-off urban areas—such as Manukau—are under-represented in home internet access statistics. The differences are most pronounced between homeowners and those who rely on housing assistance. In 2001, 50% of people owning their own homes had Internet access compared with only 11% of those living in state or local authority rental housing. Internet access data from the 2006 census has not yet been released. It’s reasonable to assume that although rates of household access to the internet will have increased, overall patterns of distribution will be similar to 2001. Research by the Ministry of Economic Development has identified the groups least likely to have access to the internet in their lives: they include Pasifika people, low income families, and single-parents. All of these groups are over-represented in Manukau City.

ECE in Manukau

Anecdotal evidence suggests that Manukau ECE providers lagged behind the national statistics for ICT use, and that Pasifika ECE centres were less well resourced than other types of providers, such as kindergartens, Kohanga Reo, and private ECE centres. However no research had been done by region about access to ICT in early childhood education, however, until COMET commissioned its study in early 2005.

Results from the research showed that although most centres had access to some ICT, the differences in use and resourcing was stark. For example, around three-quarters of early childhood centres in Manukau have internet access, but the majority accessed the Internet through a dial-up connection (47% of all providers).

Only around one in six providers used broadband internet connections, While 96% of centres in Manukau have access to at least one computer, many are dedicated for administrative purposes. The research identified Pasifika providers as less well resourced, on average. While 94% of kindergartens surveyed had access to at least one digital camera and used digital cameras to record children’s learning, only 40% of Pasifika providers did. (Kohanga Reo rates of use at 62%.)

The problem of ICT in early childhood education for Pasifika people in Manukau City, then, is twofold. They are the groups least likely to have access to ICT in early childhood education. But they are also the group least likely to have

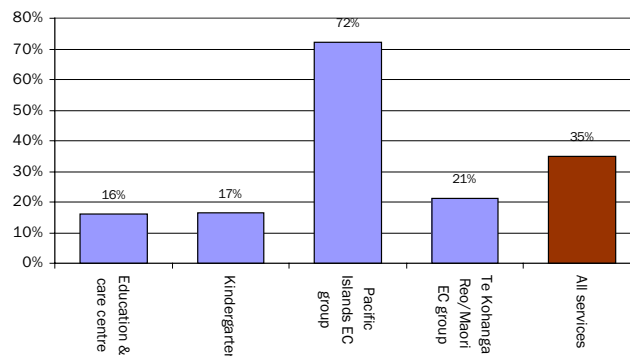


Figure 1. Services in which children do not use ICT.

experience with ICT in the home. In this way, a disadvantage may become entrenched (see figure 1).

What use is ICT in ECE?

Part of the purpose of the research that COMET commissioned was to establish how widespread and how useful ICT in ECE was. The results confirmed international research, but also revealed some striking characteristics of its applications that were particularly relevant in the Manukau context.

COMET’s research reinforced overseas findings that suggest digital cameras are at the cutting edge of ICT use in early childhood education. This is because they can be used with two distinct purposes—to enhance the educational experience of children within the centre and to allow greater involvement by parents in their children’s learning.

In a classroom environment, digital cameras can be used to record children in the act of learning. Children are very keen to have their accomplishments recorded, and the digital camera can act as an impetus for learning. Teachers and children using digital images will often write accompanying narratives to go in their portfolios, which reinforce learning that, has taken place. Digital images can also capture the objects which are being learned about.

Where a centre is linguistically diverse, photos can explain where words may not. Visual records can overcome language barriers within the kindergarten, and encourage cross-cultural interaction between children.

Digital records of learning are also useful for parents, in more ways than one. In a multicultural community, communication between the centre and parents is enhanced by the use of digital imagery. Visual records can be used to relate children’s learning to parents who may otherwise struggle to follow their progress because of language difficulties. Where cameras can be taken home they extend children’s learning beyond the centre and also

help build stronger connections with parents and whanau, who may not have these resources themselves at home (ownership rates are low in Manukau). Some centres with more than one digital camera are more likely to allow children to take the cameras home to record special events such as birthdays and weddings.

As noted above, Pasifika providers are much less likely to use digital cameras for these purposes than other parts of the sector in Manukau. Yet, ironically, stakeholders of Pasifika centres would be more likely to be among those potentially able to benefit the most from the uses described above. For example, language barriers are currently a challenge for many Pasifika parents in terms of becoming more involved in their children’s education.

Internet use is seen as a natural progression from using digital cameras and other ICT in that it allows this information to be handled effectively, for example processing and sending of digital images.

At some better resourced kindergartens, the ICT facilities allow families to communicate with family who are overseas, where costs for telephone communication are prohibitive. Aside from removing cost barriers for those families to keep in touch, email also allows families to send digital images allowing extended family members to be involved in the child’s learning, too.

Centres in Manukau use the Internet to improve the quality of ECE provision through teacher professional development for example by them contacting peers or accessing teaching resources online. The internet is also used to obtain language-based and cultural learning resources which are especially relevant to Pasifika providers and other centres in a culturally diverse city like Manukau. However, as noted above, the internet also has implications for other direct learning, although this potential is currently less well tapped by Manukau ECE centres. 17% of centres use the internet for children’s research, and at 7% children write and send emails (see table 1).

Barriers to greater use

There are some challenges to be addressed in order for all Manukau ECE centres to take full advantage of everything that ICT has to offer. Challenges include insufficient numbers of computers and a lack of access to broadband technologies. Although many early childhood centres have access to at least basic ICT and ECE providers know many of the benefits of ICT. More often than not, the teachers are keen to use ICT more—only one in every thirty providers in Manukau City thinks they are using ICT enough. The single biggest impediment to better ICT use cited by ECE providers is lack of money, or a lack of resources.

However, the mere presence of ICT is not enough—it has to be used appropriately in order to provide benefits in the ECE sector. That means staff have to be confident users and learners, in order to be able to harness the technology’s full potential. Research by the Ministry of Education indicates that developing professional capacity is the most important factor in improving ICT use in early childhood education. Over half (56%) of providers said patchy knowledge about ICT was preventing them from using it more. 38% said they would be using ICT more but for lack of training.

When Manukau ECE providers were asked to identify any problems associated with using computers, 53% suggested not having enough knowledge about computers; 45% said they faced problems with the related issue of lacking confidence in using computers; 30% struggled with a lack of technical support, 29% with a lack of training resources, and 21% with the general unreliability of computers (which, again, is a support issue).

The problem becomes even more pronounced in relation to Pasifika providers, who are more likely to be dependent on their teachers’ own learning. 68% of Pacific Islands early childhood centres do not have any formal professional development and rely on the help of friends and family.

The Smart Manukau Project

Having identified problems through research, the next step was to identify solutions. A meeting of early childhood representatives in July 2005 used the findings of the

Table 1. Children’s usage of ICT by Service Type.

Activity	Education & care centre	Home-based	Kinder-garten	Pacific Islands EC group	Play centre	Te Kohanga Reo/Māori EC group
Playing games on the computers	48%	0%	56%	20%	0%	63%
Watching videos or DVDs	60%	0%	39%	24%	0%	47%
Researching a topic on the Internet	20%	0%	28%	0%	0%	26%
Writing a note or as part of a role play	16%	0%	17%	4%	0%	37%
Creating their own presentations	8%	0%	22%	8%	0%	42%
Email	8%	0%	6%	0%	0%	16%
Taking pictures with digital cameras	32%	0%	56%	20%	0%	26%
Other	0%	0%	17%	4%	0%	0%

report, and an advisory group was established to gain participation from the sector in establishing goals for the use of ICT in Manukau. . The advisory group drew on the research to come up with goals for the Manukau ECE sector and COMET designed a pilot programme to show effective use of ICT in early childhood in Manukau. The goals were: that every early childhood centre in Manukau would be broadband connected; that every early childhood centre in Manukau would have a digital camera and a printer; that every ECE teacher in Manukau would have professional development to use ICT, and that every early childhood centre in Manukau would have a computer for office use and a computer for teaching purposes.

These goals, targetted for December 2006, were clearly intended to be inspirational. They send a clear message about the kinds of resourcing that Manukau ECE providers need. The next step was the establishment of the pilot programme. Two kindergartens were provided with a computer and digital camera.

During the Yendarra Kindergarten's participation in the Smart Manukau ICT pilot project, the Otara Library conducted an ICT workshop for parents with children at the centre.

This involved library staff showing parents how to use the library's online database and general internet browsing skills. While around half of parents were already library users with their children, very few had used the library's electronic resources before. This equipped them to get better value from the full range of the library's resources, and parents who were not previously members had the opportunity to build a relationship with the library and its staff.

The parents were shown how to set up free email accounts, from which they wrote email messages to their children at the kindergarten. Significantly, this was the first time some of the parents had ever sent an email. On returning to the Yendarra centre, they opened the emails with their children and read them together.

The pilot study highlighted the linkages that ICT was able to make between stakeholders like the ECE provider, parents and the library.

Having established a working model, COMET then prepared an advocacy document based on the research and successful pilot, so that early childhood centres could use it to support fund-raising and applications for resources not provided by government. Those resources include hardware (digital cameras, computers, scanners, printers,

laminators), and broadband internet connections, printer paper and other costs of technology which become an operating expense.

The document, prepared as a booklet called 'Plugging in to ICT: a Manukau Perspective' was launched on November 29, 2005². The Advocacy document clearly outlined the benefits of using ICT in Early Childhood centres.

The work done up to June 2006 helped the SmartCentres project secure funding from the Digital Futures strategy's Community Partnership Fund.

The appeals to the private sector for philanthropy have been persuasive. Ten Pasifika early childhood centres in Manukau took part in training during November 2006 in the use of software and equipment donated by IBM to enhance the access and use of new technologies in their centres. IBM's contribution, of a Kidsmart desk in each centre and accompanying professional development, was facilitated. The project aims to increase the connections of Manukau early childhood centres with communities and families through the use of technology.

The SmartCentres project is also partnering with the Auckland Kindergarten Association and the Franklin Kindergarten Association to work with 30 Manukau kindergartens and other centres to complete an audit of their existing technology equipment and professional capabilities. The audit then informs a centre plan for future ICT use, which the project develops, and Professional development in provided for the centres.

Since July 2005 COMET, with the help of Digital Strategy funding, has helped develop ICT plans and provided professional development at nearly 40 ECE centres in Manukau. COMET has employed a part-time staff member to work within the Pasifika sector on this project. Sustainability and resourcing are the biggest challenges in ongoing capacity building for the ECE centres. Meaningful professional development must be sustained, ongoing and accessible for everyone. COMET intends to keep working within the early childhood sector in Manukau to develop ICT capacity and use as a tool to enhance teaching and learning, administration, community connections and communications.

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² Available at www.comet.org.nz