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The case for open access: Opening up to a new culture of learning for teachers in early childhood

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This article examines the potential of open-access (OA) publishing to support the professionalization of early childhood care and education (ECCE). To frame this argument, the results of a pilot project on transitioning a print-based academic early childhood journal to OA, will be discussed. With the increase in multi-media and multi-literacies of ICT, new spaces for dynamic interchange for teachers to critically examine new ideas on knowledge and learning have been enabled. This ease of access to professional literature and debate is linked to a continuing process of democratisation of the early childhood profession. Open access allows early childhood teachers and educators to more easily access current research and engage in local, national and global debates while benefitting from an openness to new knowledge and understandings.

Introduction

It is only in recent years that ECCE services in New Zealand have had easy access to computers, digital cameras and the internet. Today most centres have come to rely on this access for the general management of services—which indicates an openness to ICT within the early childhood sector. Professional development and tertiary teacher-education programmes have again incorporated this aspect of ICT into their processes for ongoing professional learning. This has become increasingly important as keeping up-to-date is an expectation for the professional knowledge of registered teachers (Teachers Council, 2011). Due to the ongoing changes in thinking that have occurred, it is an inevitable step that early childhood journals will soon become available on-line in the future, not only for researchers and student-teachers but in order for current research to be accessible for practitioners and all others who are interested.

The past decade has seen an increased adoption of OA and expectations of 'openness' to new ideas made available through a new global network. Housewright & Schoenfeld (2008, quoted in Furlough, 2010) state that: "researchers at all levels, from undergraduates to faculty, consult non-electronic



publications less readily than electronic publications potentially increasing citations rates for electronic over print" (p. 2639). There is anecdotal evidence in New Zealand that those responsible for management of early childhood services neglect the provision and encouragement of professional reading for their staff due to the cost of journal subscriptions; with open access available, this becomes part of the solution.

For these reasons the editor (author Jean Rockel) of a New Zealand early childhood journal for practitioners and researchers, sought further understanding of the viability of open access through an examination of the literature. A pilot project regarding the use of OJS (Open Journal Software) was initiated in 2009–2010, concluding with an investigation of the literature on OA publishing in 2010–2011. This article examines the findings of this case study to examine the way new perceptions of knowledge have led to changes in the way ICT is impacting on the early childhood sector. There are three sections for the presentation of this discussion: 1) The ECCE profession; 2) Case study: *The First Years Ngā Tau Tuatahi*; and 3) Opening up to the democratisation process.

1) The ECCE profession

It is difficult to surmise whether teachers have demanded professional support and found it through the growing social acceptance of internet-based services, or whether the advantages of these services have enticed management to provide them as a result of increasing expectations. Early childhood has been marginalised more than other sectors of education in being a late-comer to the use of the internet for professional support due to the absence of computer hardware for teachers in early childhood services. This is evident from the lack of a comprehensive national data base of Ministry of Education email addresses across all ECCE services. With the lack of ICT experiences for many early childhood staff in services without computers and the internet, there may be some teachers who do not have the technical knowledge to confidently approach open access opportunities for professional development. In many cases early childhood teachers have not regularly kept up with new research mostly due to the lack of exposure to current literature, which could be helped by ease of access and in building technical competency.

Open access attracts narratives and research from wider sources than local. The validation of teachers' practice can now cross local, national and global boundaries by enabling participation in a relevant forum with researchers and practitioners across many countries. The process of OA opens up new spaces for engagement in dialogue with teachers in ECCE services. For example, teachers and researchers with infants and toddlers are now calling upon multidisciplinary sources of knowledge, including such diverse disciplines as Philosophy and Neuroscience in their professional reading (e.g. Dalli et al. 2011). The interactive nature of open access places new ideas into a collaborative arena of practice-based discussion.

The use of ICT reflects the changing multi-literacies which can enhance professional conversations. For example, recording children's narratives with the New Zealand Learning and Teaching Stories' format for assessment purposes are created within computer software programmes (Ministry of Education, 2004–2006). The national exemplars are now currently available on-line along with the



New Zealand early childhood curriculum, policy directives and other support material, which can be openly accessed from anywhere in the world: www.minedu.govt.nz/NZEducation/EducationPolicies/EarlyChildhood.aspx.

ECCE services often provide open weblogs and websites in order to communicate with families and the community; international blogs and weblinks inspire teachers, thus contributing to dialogue which moves discussion beyond geographical boundaries. The metaphor from the past is to consider the priests in the Abbey with sacred texts, acting as gate-keepers, which involved the priests in being those who provided the explanations. A more egalitarian principle prevails without gate-keepers.

Today's researchers in New Zealand (e.g. Dalli, White, Rockel & Duhn, 2011) can provide video research data with audio that incorporates a valuable way of re-visiting and replaying scenes of practice which enable further analysis when presented to other teachers and student-teachers for collaborative consideration and a critical response. Research that is inclusive of teachers' participation opens up further opportunities for dialogue on effective practice illustrated through pedagogical beliefs across many different contexts—locally, nationally and internationally.

Connectivity and a new learning culture

The importance of dynamic social interaction to make connections and gain new understandings is a valuable contribution to ongoing learning. For example, Vygotsky's social constructivist theory of learning (1978) illustrates the value of social processes for constructing new understandings. In a world of multi-media with Skype, DVD, YouTube, Video links, Podcasting, and social networking tools incorporated in Web 2.0, with rapidly growing use of Smart phone networks and other technologies building technological competencies, there is further provision for the use of such tools to help open up spaces for discussion across educational settings. This is illustrated by the growing numbers of on-line teacher-education programmes, which enable students to participate both nationally and internationally with consequent cross-fertilisation of ideas.

In an examination of 21st century economic and social life, McWilliam (2010) draws attention to the effectiveness of moving beyond traditional views of education in the sector, when addressing challenges of economic sustainability, to find alternative solutions to mega-problems that threaten economic and global sustainability. She comments that there is a call for moving beyond the confines of single disciplinary thinking with new ways that will "catalyse the creative imaginings necessary to meaningful problem-solving efforts" (p. 288). McWilliam outlines a learning culture where creative capacities are not simply generic, but context dependent, requiring: "specific technical and analytic capacities [and] ...diverse modes of social and civic participation" (p. 288). In this regard, she asks how prepared are young people for a "culture in which open networks outperform enclosed systems" (p. 289). Nevertheless she warns that frequency of computer use is no compensation for a lack of complexity in ideas. She comments that schools continue to be products of the Industrial and Information ages of the 19th and 20th century rather than designed for the high-level learning challenges that Pink describes as the Conceptual Age (Pink, 2005, cited in McWilliam). McWilliam (2010) concludes that there is a need for epistemological agility: "that is, a preparedness to tolerate the discomfort of moving into spaces where knowledge is uncertain" (p. 291). As early childhood teachers grapple



with new knowledge in a new learning culture that incorporates social processes there is much uncertainty that is unsettling and challenging. With the opportunity to discuss ideas with the use of multi-literacies and multi-media this takes issues into a new space for open debate and creative and thought-provoking responses.

2) Case study of *The First Years Ngā Tau Tuatahi*

In 2009–2010, a pilot project was set up for *The First Years, Ngā Tau Tuatahi Journal of Infant Toddler Education* to transition the print based academic journal into an on-line open access journal. Initially the editor had investigated the idea of using the OJS (Open Journal Software) to establish the effectiveness of this system through the support of the University of Auckland Summer Scholarship scheme. One of the scholars, Marisa Bromhead (author), was able to demonstrate the use of OJS in this project during 2010. This was followed up by a second Summer Scholarship project with two scholars in 2010–2011 (authors Marisa Bromhead and Donna Bregmen), that provided a more detailed investigation of the literature regarding open access. At the end of this project it was recommended that the on-line journal would need suitable funding for its housing and sustainability. This funding has yet to be realised.

Background

The First Years, Ngā Tau Tuatahi journal was set up in 1999 under the auspices of the Auckland College of Education, and published twice yearly as a professional journal for those involved and interested in the education and care of infants and toddlers. After the amalgamation of the College of Education with the University of Auckland in 2004, the journal was published with assistance from the School of Teaching, Learning and Development, at the Faculty of Education. *The First Years Ngā Tau Tuatahi* has an Editorial Committee and an Editorial Board and is a refereed journal that publishes articles and research on infant-toddler education. While it has a local and national profile, many international authors have published in the journal with a subsequent international readership. The nature of the audience which ranges from practitioners to academics, teacher-educators, and student-teachers, means there is a need for an authentic voice that speaks to different readers. In keeping the low cost of subscription, there is always the risk of the publication not remaining financially viable as it is a journal within a specialised niche market. The desire to move to a more innovative approach to increase readership and reduce cost was at the heart of the ICT project.

Rationale for the project

The final part of the project focused on literature specific to OA publishing and OA journals to gauge whether or not a move to OA would be beneficial to *The First Years Ngā Tau Tuatahi*. As traditional print-based text moves into the digital realm, expanded internet use is hugely influential. A relevant example in early childhood is that tertiary providers now prefer to provide course materials with on-line links rather than printing and binding course readings for students to purchase. This is for reasons of efficiency and cost.

Pressure to ‘publish or perish’



The project has also shown the preferred options that academics in early childhood are choosing due to the increased pressure to publish in order to provide student-teachers and practitioners with evidence-based practice and performance based research funding for their institutions. *The First Years Ngā Tau Tuatahi* publication is popular because of the mix of research articles with practitioners' perspectives. Teachers undertaking research provide video, photographs and web links to accompany their articles which broadens exposure to collaborative ideas. The project has also shown that there are an increasing number of journals that are either switching to OA and OJS or using a combination of traditional print models and OA. As a result of this case study, several important benefits have emerged from the literature, such as: cost reduction for OA in comparison to non-OA; citation increase on OA articles; and reputation of the journal. To extend readership would bring many cumulative benefits such as increasing the readership and gaining more authors.

Method

The aim of this research project was to source and record relevant and informative literature and articles regarding OA journals and publishing and the arguments for both benefits and challenges. With OA being a relatively new model of publishing the researchers focused on current research and statistics the formulated research questions which formed the structure of the project (see Results section). The methods that were used in sourcing the relevant literature involved the process of discovering key words needed when searching the internet data bases and classifying the articles that were found as a result of the search as to their relevance. *The World Wide Web* and *Web of Science* were used with a search of their data bases for relevant articles. The ranking system was compiled after formulating key research questions in relation to the articles. The ranking "code" was a colour associated with a corresponding heading. This helped when re-reading the 69 articles that were compiled into the Endnote programme, noting what each one referred to and the focus of each article. Once articles were sourced, topics were discussed and further plans made for project direction. As this was progressing, names frequently referred to were identified as key people in relation to OA journals and OJS.

Results and discussion

The OA movement has been supported by OJS software developed at Simon Fraser University in Canada which can be utilised as a free web platform for launching OA journals and housing their complete editorial management process. The structure of this project provided headings for the searches:

- 1) Political: Who owns the knowledge in the world?
- 2) Conceptual: Understanding people's perceptions of on-line versus print based knowledge.
- 3) Empirical: Usage Statistics: Journal Impact Factor, metadata, calculated costs, increased readership and citation.
- 4) Implementation: What subscription/OA models have other journals chosen and why?
- 5) The Processes, challenges, and obstacles involved in regard to copyright.
- 6) Who Pays?
- 7) Who does Open Access work best for and why?



- 8) What is the reputation of OA journals?
- 9) How do content and peer review in OA journals influence perceptions of quality and reputation?
- 10) Are OA journals recognized alongside other prestigious closed journals?

It is clear that OA requires a paradigm shift away from the familiar 'user pays' model of publishing but it clearly relieves financial strain for the user when accessing up-to-date research at the click of a mouse. These new technical advances in communication technology are still competing with traditional print-based models of communication. However, Eysenbach's (2006) study suggested that: "OA articles are more quickly recognized and their results are picked up and discussed by peers to a larger extent" (p. 696).

The final recommendation was that *The First Years, Ngā Tau Tuatahi* Journal would benefit from further development into an on-line OA journal using a flexible model to ensure the journal's long term sustainability. This would in turn increase international readership and the contribution to research in the niche market of infant and toddler academic journals in education, in New Zealand and internationally.

3) Opening up to the democratisation process

Open Access encompasses democratic and egalitarian ideals about knowledge and its accessibility and availability to all citizens. Historically journals were established to disseminate research and knowledge more quickly to other colleagues and researchers and, in so doing, unite the researching community. Daly & Organ (2009) point out: "the old model of a print item available on the shelves of every academic library is now supplemented, or replaced, by one in which a digital copy is available universally on the Internet and located through search engines such as Google and Yahoo" (p. 149).

Open access defined

The first official definition of Open Access was the Budapest Open Access Initiative in 2002 (<http://www.soros.org/openaccess/read.shtml>) which states:

By 'open access' to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited (p. 1).

This was followed by the Bethesda Statement on Open Access Publishing in 2003 (<http://www.earlham.edu/~peters/fos/bethesda.htm>) and a series of further statements and declarations worldwide have ensued, as researchers have gained support within their various working groups and universities to influence policy.



The Open Access movement has gained the most momentum in the science and medical fields. This has been greatly motivated by the moral and ethical obligations associated with tax-payer dollars funding research, "...so that those who fund the research get the benefits of the research freely and without additional payment" (Yiotis, 2005, p. 160).

Equity issues

The development of the World Wide Web has greatly affected globalisation and the linking of economies and shared development of knowledge.

OA archives and journals are evidence that the world is moving in the direction of democratization of information and knowledge by removing access restrictions in the form of copyright protection or fee-based dissemination policies (Yiotis, 2005, p. 160-161).

Willinsky (2006) states that it is not possible to predict which model will be shown to be the best way to increase access to research and scholarship. He argues:

What is perfectly clear is that the Internet is already leading, much as the printing press did centuries ago, to a greater circulation of this work. How much greater that circulation will be, and to whose benefit, are the questions that we should all be asking (p. 9079).

As OA provides availability to all on a global scale, no matter the economic position of the individual, it thus provides greater access to those in the developing world. While this shows positivity in potential, it may be accompanied by confusion as the widespread base of information can be challenging when users are seeking what has value, and the knowledge of appropriate filters is required.

'Free' and 'Freedom'?

At the heart of the Open Access movement are democratic ideals of equal rights to information. As Haggerty (2008) points out: "Open access is not just something one might or might not do. Instead, it is a widespread social movement informed by the normative position that knowledge should be as widely accessible as possible" (p. 7). This is further supported by Bernius (2010) who states: "focusing on non-excludability leads directly to the fountainhead of the OA movement" (p. 599).

Open Access is associated with the concept that information that is free is free not just in terms of no cost but free as not bound to exclusionary practices. Furlough (2010) explains that:

Supporters of open access argue that research findings are a 'public good', defined as a resource that cannot be exclusively consumed and that may be considered as a commonly owned thing. In the public-good model, the ideas expressed in research findings belong to everyone, and although fee-based publishing



enables their distribution, it also has the potential to prevent access to these ideas, thwarting the purpose of research (p. 2631).

Open Access is a shift away from unaffordable subscription fees that greatly reduce access to research, as even the wealthiest University libraries could never afford to subscribe to all of the journals that are available at current subscription prices. Pinfield (2009) points out that: “The fact that the content is free at the point of access does not, of course, mean that no costs have been incurred in generating it; rather that the costs are not met as part of the access process itself, but at other stages of the content production process” (p. 166).

There may be confusion with OA in reference to ‘freedom’—who does the freedom refer and relate to? Does this refer to the freedom of the author whose article is published on-line for public viewing; or freedom of viewing by those reading the articles, as there are not the expensive subscriptions or membership fees to pay in order to view the articles? The discourse of ‘free’ and ‘freedom’ leads to further discussion relevant to various models of OA publishing along the continuum from open to closed. The political implications are that not every institution is willing to have its electronic door ‘left open’ and may prefer to restrict access to outside users. It is a reasonable response to economic pressures as even large computer system resources in libraries are finite; accordingly, the networking technology appears to be more advanced than networking policy (Sutton, 1992). The ongoing critique regarding the trend to impose western models over other alternative models must continue in the search for understanding the fast-expanding virtual revolution when ‘free’ may have a cost (Kendall, 2011).

Processes, challenges, and obstacles

Economic viability

Inevitably when looking at the model of OA one of the key questions on everyone’s minds is whether or not it is economically viable. Cooney-McQuat, Busch & Kahn (2010) comment:

In the early days of OA publishing, concerns were voiced as to whether the OA model would prove economically sustainable. However, as OA journals have grown in scale and prestige, the model has been established as a credible alternative to subscription-based publishing (p. 102).

There are many different models of OA. In comparison to the subscription model, operating under OA is a relatively low-risk way to start a new journal (Cooney-McQuat, Busch & Kahn, 2010). This can be seen in the expanding field of early childhood research journals with specialised theoretical and multidisciplinary perspectives. New journals are established to fill a previous niche as indicated in the statement by the Budapest Open Access Initiative (2002):

... many different initiatives have shown that open access is economically feasible, that it gives readers extraordinary power to find and make use of relevant literature, and that it gives authors



and their works vast and measurable new visibility, readership, and impact (p. 1).

Library budgets are often stretched, making journal subscription hard to maintain. Cooney-McQuat, Busch & Kahn (2010) sum up the consequences of reduced subscriptions: “Lower circulation numbers lead to declining visibility, fewer readers means fewer citations, which leads to lower impact factors, and this in turn reduces the ability to attract high-quality research” (p. 3). Eysenbach (2006) studied OA and non-OA articles over the 4–13 months after publication and found that: “OA articles are cited earlier and are, on average, cited more often than non-OA articles” (p. 5). This conclusion was drawn from the study of the data collected over a period of time. Eysenbach’s research demonstrates the increased viewing of articles when they are OA, and recognition of the viability of OA.

Copyright

When it comes to copyright, there seems to be no set answer regarding the copyright law for the internet. There has been a copyright law for printed press; for example, currently, copyright ownership is held by the publisher of an article as the authors sign over their copyright to the publishers when they agree for the article(s) to be published. This is easy to ‘police’ as when printed copies are illegally copied and distributed, there is evidence. Furlough (2010) covered the confusion of copyright as follows:

Copyright management is already a decentralized and confusing system, and when use and distribution rights are separated from publishing rights, it can be difficult for researchers and libraries to support ethical use of research with certainty. But once archived, and found by a reader, it may not be obvious what can be done with the work (Distribute it? Print it? Copy it?) and under what conditions (Only with permission? Never?). OA publishers, content aggregators such as libraries, and some authors have increasingly relied on Creative Commons (<http://creativecommons.org>) licenses to clearly and simply indicate these terms. Although these provide a neat solution for users, they are not used widely enough to ensure that an indexing service could reliably capture rights information as part of its index (p. 2640).

With the introduction of PDF files and the Internet, these files can be distributed far more quickly and reproduced at a click of a button. The ability to police copyright of articles on the Internet is much harder.

Borrull and Oppenheim (2004) talk about the complexity of copyright and the internet and makes a notable point that: “the expanding area of the internet law shows that it is often difficult to apply traditional legal concepts to criminal and civil disputes relating to the internet” and add that: “a new body of law is needed” (p. 47). All laws fall back to the copyright of published text, where the loop-holes begin to appear. ‘Policing’ breach of copyright on the internet becomes difficult when it goes between countries as many countries have different copyright laws. The main point that is of concern by several parties is that there is a need: “to develop laws that give high levels of protection to copyrighted materials on the internet” (p. 46). With governments having to make such laws, and being able to



work with other countries as well, the purpose of OA and its characteristics are required to be understood and taken into account. Currently in New Zealand there is reform to deal with infringement of copyright. The Copyright (Infringing File Sharing) Act 2011 came into place on 1 September 2011 which highlights restrictions on downloading. The new legal requirements will deal with copyright infringement by clarifying copyright requirements. This process excludes Creative Commons licenses associated with OA.

Conclusion

There is huge potential for ECCE teachers to participate alongside other academics and teachers locally, nationally and globally in accessing research and engaging in conversations about reflective thinking. The democratisation process is at the heart of advocacy for OA and the professionalization of early childhood. From an epistemological point of view, on-line journals offer a valued space in which to share knowledge globally and to provoke critical responses.

The First Years Ngā Tau Tuatahi journal aims to publish embodied knowledge through narratives and research findings. There are new challenges as the journal embraces multiple perspectives and multi-literacies. For example, in the future the readers themselves may become part of the peer review process as they are able to respond on-line through the journal website. In the traditional form of publishing, questions that preoccupied the editing process were whether the author should write in the first or third person; there are now bigger questions when considering the different audiences and the state of flux with new ideas.

ECCE in New Zealand involves a commodified arrangement of early childhood services rather than public education and many early childhood teachers have a lesser sense of global debate on the changing perspectives of education. OA is an option of publication and communication that should be viewed and introduced as a positive option for moving forward and improving accessibility to sourcing new ideas. OA is another tool in the advancement of new views of knowledge production.

There is currently a move to tighten up accountability for adhering to copyright regulation. This may mean that early childhood users of OA publications will become more astute about what can be read and reproduced as they confront wide-spread information from a multitude of sources and gain the necessary insights and technological competencies.

The peer review process continues to assist in leading the reputation of journals whether electronic or non-electronic journals. The process of publishing in an open access environment remains competitive, but is effective as it offers wider readership with increased citations. For ECCE services open access provides a more economical option for teachers' professional learning, but relies on the integrity of the user to filter information to gain access to high value sites. The ease of access is also dependent on the availability of computers and the internet in ECCE services. There is the potential for broad global networks to offer an increased research base for New Zealand teachers in the field of care and education within a variety of contexts that will stimulate further local



research through valuable dialogue and debate and lead to new understandings that will ultimately benefit teachers' practice.

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