

Stakeholders, networks and links in early childhood policy: Network analysis and the *Transition to School: Position Statement*

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Abstract

The importance of a positive start to school has been highlighted in a range of national and international research. This has stimulated considerable ongoing research attention, as well as initiatives across policy and practice, all with the aim of promoting a positive transition to school for all children. Despite the common interests across these sectors, the links and/or relationships between and among research, policy and practice remain unclear. This article maps the potential online users of the *Transition to School: Position Statement* – a document developed collaboratively by researchers, policymakers and practitioners – and organisations whose ambit includes transition to school. Using network analysis, the authors identify the online network of stakeholders involved in the field of early childhood and the links between these, before considering how such links might influence discourse and policy formation around transition to school. The analysis highlights weak cross-sectoral links and online networks dominated by government departments and agencies. Implications of these results are explored and the potential for digital research methods in research about transition to school is considered.

Keywords

Early childhood, network analysis, network mapping, position statement, transition to school, transition to school policy

Background

Transition to school

A positive start to school has been linked to ongoing engagement with school and, through this, to positive social and educational outcomes (Dockett and Perry, 2007; Griebel and Niesel, 2013;

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Sayers et al., 2012; Vogler et al., 2008; Vrinoti et al., 2010). In Australia, considerable attention has been paid to the development of transition policies, programs and practices across departments of education and early childhood services, and organisations with a focus on child and community health and well-being, as well as parenting (e.g. see Centre for Community Child Health, 2008; Department of Education and Early Childhood Development, 2009; Hirst et al., 2011; Liddell et al., 2011; McTurk et al., 2008).

This increasing attention to a positive start to school has been influenced by economic and social agendas, including the established benefits of investing in the early years and the impetus for the development of a globalised, well-qualified workforce (Doyle et al., 2009). In addition, concerns about social exclusion and disadvantage, particularly among marginalised groups, have underpinned a federal government focus on the potential for a positive start to school and the associated ongoing engagement with school as factors in disrupting cycles of social and economic disadvantage (Australian Government, 2010; Dockett et al., 2010; Smart et al., 2008).

There are many views about what constitutes a positive start to school and how this might be achieved for all children. Some focus on conceptualisations of school readiness, particularly the readiness of children for school (Ackerman and Barnett, 2005). Others extend this focus to include the readiness of schools, families and communities (Dockett and Perry, 2009). Perspectives that emphasise transition, rather than readiness, characterise starting school as an ongoing process of continuity and change that occurs within the context of relationships (Dockett and Perry, 2007; Rimm-Kaufman and Pianta, 2000). While the latter perspective acknowledges that some elements of readiness contribute to the processes of transition, the focus tends to be on the ways in which relationships are built or maintained, the roles and identities of those involved, and the strengths of all participants (Dockett and Perry, 2013). One of the consequences of many stakeholders and many views of starting school can be that there is no common position, or even a common language, to inform research, policy and practice.

Transition to School: Position Statement

Position statements can fulfil a number of functions: they act as a form of advocacy, arguing for a unified position on a particular issue; synthesise and interpret research in order to share it in an accessible form; and generate pathways to link research, policy and practice. Over 2010–2011, a group of national and international researchers, doctoral students, policymakers and early childhood educators developed the *Transition to School: Position Statement* (Educational Transitions and Change (ETC) Research Group, 2011), which aimed to synthesise the wide range of transitions research, policy and practice into a position statement that would, in turn, inform and guide future research, policy and practice.

The *Transition to School: Position Statement* was developed to promote positive transitions to school and to recognise the diverse perspectives, experiences, approaches and issues that surround transition (Dockett and Perry, 2014). The position statement was launched publicly in 2011 and made available through the Charles Sturt University website, using a Creative Commons licence, through which the creators retain copyright, while allowing the non-commercial copying, distribution and use of the work. It was anticipated that the online availability of the document would facilitate its access and use.

The position statement aimed to contribute to the public commentary around starting school by offering perspectives that characterised transition through processes of relationship-building, continuity and change for all involved – not only children. Inherent in the development of the position statement was a focus on strengths-based perspectives, which recognise the strengths, insights and hopefulness that individuals bring to the transition (McCashen, 2005).

Connecting research, policy and practice

Interactions between research, policy and practice are often presumed, but not well understood. In some instances, there is a presumption of a simple linear model, where researchers ‘produce high-quality research, make it clear and accessible, and then practitioners should apply it to their work’ (Tseng, 2012: 4). The same presumption can exist to link research and policy. According to this model, research is closely related to policy and practice, directly usable and transferrable to these contexts, and practitioners and policymakers are consumers of research. However, such a direct link between research and practice is most often not the case (Nutley et al., 2007; Tseng, 2012).

More nuanced descriptions of the connections between research, policy and practice emphasise the importance of relationships and interactions, focusing on knowledge exchange and the importance of experience and understandings of local contexts in the interpretation and use of research evidence (Nutley et al., 2007). Such approaches argue for a more interactive understanding of the relationships between research, policy and practice, acknowledging the expertise of all involved and promoting input from policy and practice into research, as well as from research into policy and practice (Rickinson et al., 2011).

Interactions between researchers, policymakers and practitioners are required if research is to have an impact on practice, and if issues relevant to policymakers and practitioners are to become the focus of research (Lavis et al., 2003). Relationships and communication between and among these groups provide avenues for information-sharing and, through these, the generation of new ideas and approaches in each of the arenas of research, policy and practice. Effective interactions occur between and across contexts, rather than through the direct transfer of information from one context to another. Increasingly, these interactions involve digital communications, particularly the Internet (Dale et al., 2010).

The collaborative involvement of researchers, policymakers and practitioners in the development of the *Transition to School: Position Statement* offered opportunities to generate a common language around issues related to transition; to consider ways in which research could influence policy and practice; and to create pathways such that issues of transition policy and practice could generate new approaches to research. While those involved were primarily educators, some participants from the health sector were also involved. Evaluative feedback about the statement and the processes involved in its development indicated high levels of acceptance and ownership of the document, and a willingness to utilise it across research, policy and practice. It was anticipated that the collaboration involved in the development of the position statement, and the positive response it generated, would result in its use across a wide range of contexts. In order to assist in identifying what that wide range of contexts might include, and to gauge the potential users of the document, we utilised network analysis to map organisations with an interest in transition to school and the online connections between these organisations.

Mapping networks

Maps provide a graphical representation of a landscape. They enable us to imagine – to visualise that which we cannot see perhaps due to sensory limitation or location or scale. This cartographic metaphor has become a helpful way of exploring the terrain of digital communications networks. Such exploration is of value in investigating digitally mediated social and organisational interaction, behaviours and practices.

The pervasive nature of broadband networks, mobile communications, and both personal and organisational digital presence are relevant for this discussion. For example, it has become commonplace for an organisation to have a website and for an individual to have a social networking

profile on a site such as Facebook. As digital communications technologies continue to embed themselves into the fabric of our daily lives, our social and organisational practices become increasingly digitally mediated. There is a convergence between social networks of interpersonal relating and networks of digital communications. A dichotomy – a ‘digital dualism’ (Jurgenson, 2011) – between the *real* and the *virtual* becomes less tenuous than it has been previously. The proliferation of social and organisational interaction with online presence provides an opportunity to explore the Internet not only as a repository of digital documents, but also as a web of social and organisational networks – as a social phenomenon.

Analysis of these networks of relationship and interaction can be revealing, assisting us in understanding how the overlay of digital communications and new media onto existing and new social and organisational networks relates to emergent social and organisational practices within a wider sociocultural context. Research that uses digital data sets to explore patterns of interrelating within online spaces is broadly described as network analysis. For example, the patterns of hyperlinks – those elements in an electronic document that, when clicked, link to another place in that document or to another document – to and from websites may provide meaningful data, and so too may the flow of messages across social networking platforms such as Twitter. Gruzdt et al. (2011), for instance, use data from Twitter to explore how the concept of community has evolved to incorporate the online extension of relationships beyond the co-present and physical to the distributed and networked. Such analysis can provide insight into sociocultural events of significance. As one example, Lotan et al. (2011) have analysed Twitter data (the flow of messages across users of the platform) to identify ways in which the events of the Arab Spring in Tunisia and Egypt were amplified and rapidly distributed to a global audience via networks of Twitter users. In a further example, Harris et al. (2014) have explored the potential of Twitter for the dissemination of credible information about childhood obesity.

Analysis of the patterns of interconnection that are enabled by the practice of hyperlinking between websites suggests that such practices are more than *informational*; they can also be *relational*. In this relational sense, the hyperlink may convey symbolic meaning, affiliation, deference or even hostility. For example, studies of the hyperlinking practices between environmental groups suggest that these linkages enable diverse groups to generate a collective identity on the Web – to identify who is ‘in’ and who is ‘out’. In their exploration of climate-change debate online, Rogers and Marres (2000: 156–157) note the significance of meaningful reciprocation in participation: ‘Greenpeace does not link to Shell but Shell links to Greenpeace’. This acknowledgement of participation within networks of online debate and campaigning is significant not only for the participants themselves, but also, due to the public nature of the Web, for those engaging with online media in order to inform and involve themselves with regard to the issue (through search engines or social media sites, for example). The relational nature of hyperlinks creates a public forum for alliances, which can connect ‘previously disparate groups and their audiences’ and ‘create a sense of “critical mass” or authority for the message’ (Ackland and Gibson, 2013: 232).

The context within which hyperlink patterns and practices are being explored can alter how these patterns and practices are interpreted. In political communication, for instance, hyperlinks may signify a poor view or negative relationship between organisations. Ackland and Gibson (2013: 233) note that whilst social movements use hyperlinked interconnection as identity reinforcement, for political parties hyperlinks can also act as ‘rejection devices’, representative of a negative symbolic relationship. For instance, Bill Shorten (2014) links to Joe Hockey (@JoeHockey) in a posting about the Australian health-care system on Twitter.¹ Examination of the context of the tweets reveals that, in the post, Shorten is critical of Hockey’s policy on the funding of health care. Context, as always, is everything.

Network analysis can draw out significant factors in the pattern of relationship between online actors. However, the data are not deterministic. An understanding of specificity of context and the acknowledgement of interpretation are essential in research if meaning is to be derived. boyd and Crawford (2012: 668–671) highlight the importance of a nuanced interpretation of the large-scale data sets that can be harvested from digital communications networks and new media as presenting one of the ‘critical questions for big data’. They elaborate:

Interpretation is at the center of data analysis ... Data analysis is most effective when researchers take account of the complex methodological processes that underlie the analysis of that data ... Data are not generic. There is value to analysing data abstractions, yet retaining context remains critical. (boyd and Crawford, 2012: 668–671)

The value of digital research methods such as network analysis is that they are grounded in the milieu of digital communications. Network analysis is an approach that operates within the data structures of the Web, appropriating the algorithms of search engines and social media environments to produce rich data. In this sense, network analysis can offer a ‘naturalistic’ (Lincoln and Guba, 1985; Owen, 2008) approach to research – one grounded in the context and amongst the practices being investigated. Visualisation – the graphical representation of the data set – is often used to assist in analysis, as an aid in the identification of patterns within the data and as a basis for further exploration.

Mapping policy around transition to school

The *Transition to School: Position Statement* is a digital document that is available through the Internet. The aim of this study was to explore the application of network analysis in charting the landscape of organisations involved in issues around transition to school and with potential links to the statement. This exploration involved the application of network analysis to investigate patterns of interlinking relationships between organisations that might be stakeholders around transition and, from this, analysis of the online relationships between the stakeholders

The study was exploratory, setting out to map the landscape and examine the value that digital research methods might contribute as an additional strand to an existing body of research. Three research questions were posed:

- Can an online network of stakeholders around transition to school be identified?
- How might patterns of interlinking between stakeholders contribute to a broader understanding of discourse and policy formulation around transition to school?
- How might digital research methods contribute to research on transition to school?

Method

Web-crawler software is required to undertake network analysis. Web-crawler software programs methodically scan Internet pages to identify embedded links to other pages elsewhere on the Internet. The crawler can identify the hyperlinks from one website to another. The links directed externally from one site outwards towards another can be described as ‘out-links’. When provided with a set of websites to begin from, the crawler can compare out-links from these selected sites. Where the out-links have a common destination, the crawler incorporates that destination site into the next iteration of the crawl. When no further common out-links are identified, a point of saturation is reached and the crawl is complete.

The crawler begins from a set of website starting points, described as seed uniform resource locators (or seed URLs). URLs are the unique Internet addresses assigned to Web documents. The seeds, or starting points for the crawl, are selected subjectively and fed to the crawler. This stage of seed-URL selection is an opportunity for the researchers to introduce contextual awareness into how the study progresses. Seed URLs can be selected by drawing on expert understanding of the context, enabling researchers to incorporate known stakeholders or other important landmarks on the landscape of discourse or policy. Digital tools may be used here.

A search engine such as Google (<http://www.google.com>) can be used to explore the landscape. Google is a widely used search engine, which has been noted as having ‘a significantly higher rate of performance in retrieving web resources’ compared with other major search engines (Deka and Lahkar, 2010: 757). The Google search algorithm is as sensitive a commercial secret as the recipe for Coca-Cola. However, it is understood to incorporate measures of online influence through in-links – that is, the quantity of links to a site from other sites (Segev, 2010). For Google, in-links constitute a measure of relevance and quality. In other words, if many websites link to another site, then that site is taken to be reputable (in some sense). For researchers, this means that Google searches can be used to explore the landscape of stakeholders on particular issues, given the understanding that Google’s algorithmic measures of online significance will push key (in Google terms) sites into the initial set of search results.

For this study, a combination of expert contextual knowledge (available from within the research team) and exploration of the online landscape was used to identify seed URLs. Given that network analysis was being applied within the broader context of an existing research focus on transition to school, seed-URL identification began with a discussion amongst the research team around potential stakeholders from the health, parenting and education sectors. A key landmark on the terrain of research and policy was noted: the *Transition to School: Position Statement*.

Google searches around the following phrases were run: ‘transition to school’, ‘starting school’ and ‘school readiness’. An additional Google search was run on the *Transition to School: Position Statement* URL, as a way of finding those sites that linked to it. The researchers identified as potential seed URLs the stakeholder organisations that were common within the first 10 search results of each of these retrieval sets. The seed URLs were fed to the Issue Crawler (<https://www.issuecrawler.net/>) – a suite of Web-crawling and visualisation tools designed for social Internet research and used extensively by an international community of Internet researchers.

Results

A series of eight Web crawls were run using the Issue Crawler in order to explore organisational networks around transition to school. The results of each crawl were analysed using visualisation to represent the data graphically in terms of their patterns of interrelationship. Visualisation of the crawl data produces a mapping of the relationships between sites identified by the crawler as having common linkages. Sites with minimal common linkages to the rest of the network mapped by the crawler will appear on the periphery. Sites with multiple common linkages will be pulled into more central positions within the network. The proximity between sites (closeness, for instance) indicates the strength of linkages. Linkages (in-links and out-links) in the network are indicated with arrows. Interpretation of the crawl data was facilitated by discussion between the authors and an extended research group incorporating expertise in early childhood education and transition to school.

Three themes emerge from the analysis of the networks identified by the Web crawler for the study:

- Weak cross-sectoral networks
- The network dominance of government education websites
- The network dominance of government health agency websites

The crawls identified weak cross-sectoral online networks around the issue of early childhood education. For example, relatively few links were identified between early childhood sites that addressed transition to school. Most often, sites referred to transition or provided information about transition, but did not include hyperlinks to other sites related to transition. Examples include individual school or early childhood settings where information has been posted about transition programs or practices to support transition. These sites often had limited or no links to other transition sites. Where such links existed, they often linked to government sites, such as departments of education or health. Despite this, there seemed to be weak connections between government health and education sites. This pattern was reflected consistently across additional crawls.

Two of the crawls produced networks dominated by the links between government (.gov.au) websites (Figures 1 and 2). The network produced from the first crawl (Figure 1) illustrates the predominance of Australian government websites, represented by the yellow nodes on the network. Subsequent crawls with adjusted seed URLs produced networks dominated by government health agencies (Figure 2).

The first crawl (Figure 1) indicates that much of the online presence around transition is not specifically targeted towards transition to school. Rather, later life transitions – such as the transition to work, university and employment – are evident in the presence of URLs encompassing apprenticeships, Centrelink and a range of training sites. Removal of these does identify a series of URLs related to transition to school. Government departments and agencies also predominate in this crawl (Figure 2).

In the fourth crawl, the balance of network participation shifts towards health and community services agencies. The network analysis data from these (and subsequent crawls run for this study) suggest an absence of hyperlinked relationships between stakeholders from the early childhood education community. Despite the weighting of the starting points for the crawls towards websites of stakeholders in early childhood education and transition policy, the resulting crawls did not establish the presence of an interlinked or extended network of these stakeholders. A result of this absence is that a coherent network of stakeholders in this area is not present in the public space created by the Web. This has potential repercussions for how the discourses around transition to school are framed in public and policy debates.

Discussion

In each crawl, a mix of seed URLs was used from education, government, health, parenting and academic sites. Despite this cross-sectoral mix of seed URLs, government sites dominated the resultant networks. What does this government dominance of online networks around transition to school tell us about the nature of debate and policy formulation in the area?

On one level, it suggests a dominance of the discourse around transition by government agencies. Organisations can use new media (such as websites or social media) to create a narrative around particular issues (Bennett and Segerberg, 2011; Gerodimos, 2011). New media and the networked audiences to which it provides access create possibilities for shaping the public perception around issues. Framing the issue narrative in ways that are favourable to new media-savvy organisations allows them to shape public debate and influence the direction of policy (Bekkers et al., 2011; Van Laer and Van Aelst, 2010).

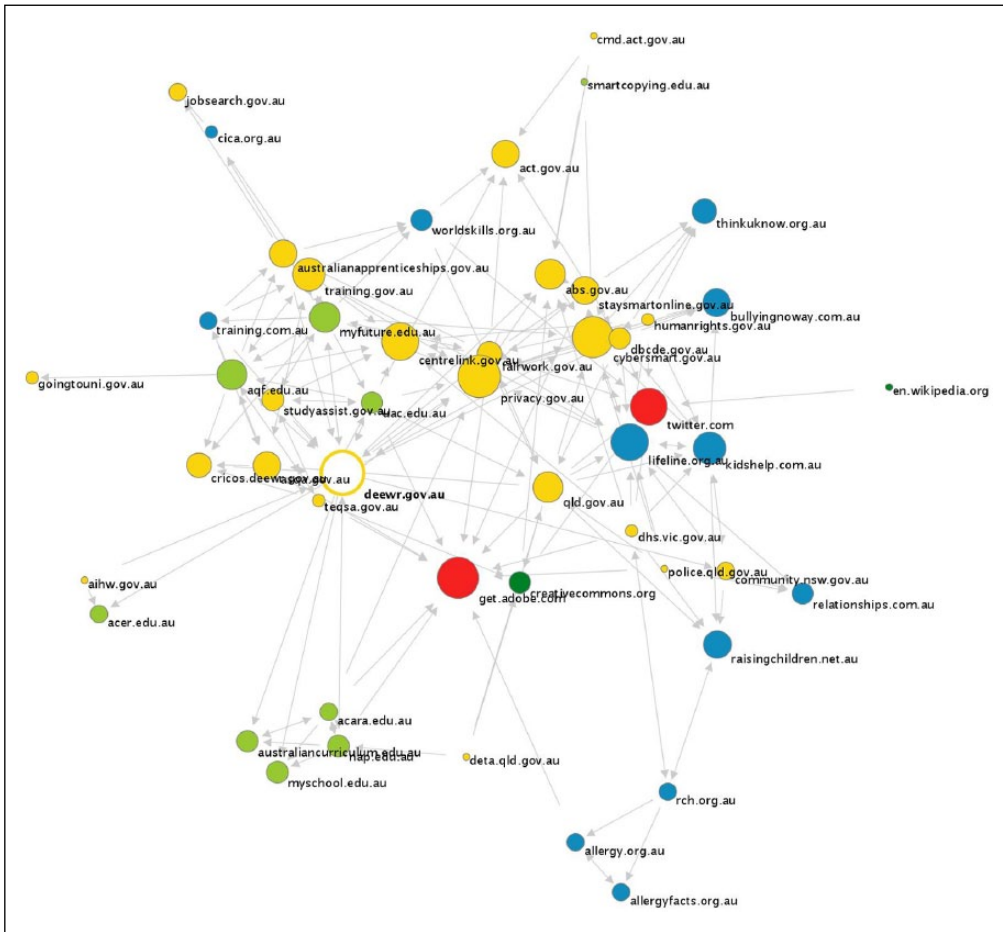


Figure 1. The network produced from the first crawl.

Considering the dominance of government sites provokes questions about which groups regard transition as part of their core business. Government sites – such as departments of education – provide a range of information about regulatory aspects of starting school, such as school starting age, school zones, the curriculum and school holidays. They are regarded as authoritative sources of information about transition to school. It is clearly part of their core business to engage in public conversations about starting school, particularly the regulatory contexts in which this occurs. Most departments of education sites also provide some general advice about transition for parents. Individual schools and/or early childhood settings often link to this information.

The prominence of health organisations in the fourth crawl (Figure 2) is a reminder of the inter-connections between early childhood and health fields. While there have been consistent arguments to promote an integrated approach to care and education in the early years (Bennett, 2011; Kamerman, 2006), health sources remain a common point of reference for many families seeking information about young children. A number of health organisations play key roles in providing information about transition to school, and in supporting those who are marginalised or experience complex situations to access a range of services. However, they are not alone in this role, and it is

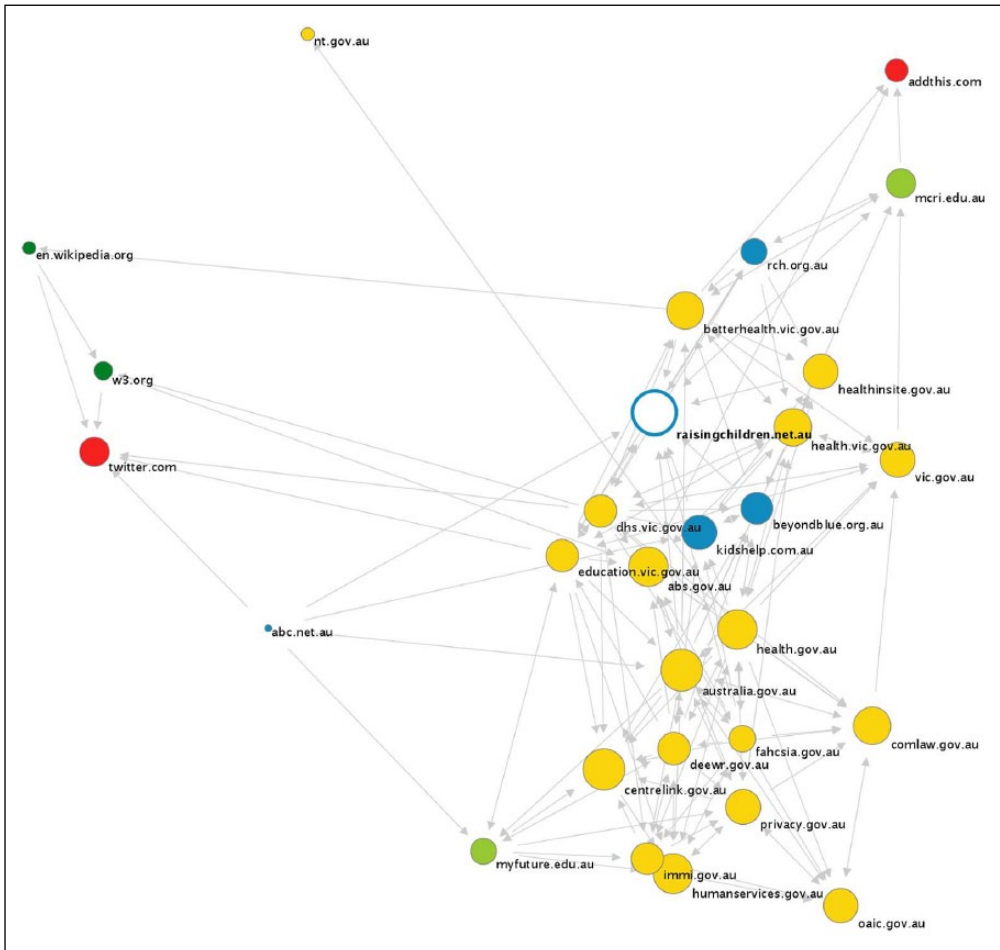


Figure 2. The network produced from the fourth crawl.

noticeable that other organisations which provide similar support – such as charities and other non-governmental organisations – are not identified in the crawl. Other voices are missing in this public conversation about transition to school. For example, neither early childhood organisations nor academic voices appear in a prominent position on these maps. As indicated above, this may be due to the resource implications of early childhood organisations and services. It may also be because there is a focus on the receiving institution – the transition *to* school, rather than the transition *from* home or an early childhood setting. Thinking about the destination tends to position the school sector and education departments as authoritative voices in public debates, and may reinforce some views that the role of early childhood education is to prepare children and their families for school. Information about transition that originates from early childhood services and/or organisations tends to be somewhat hidden on these maps, often reflecting local or context-specific information that is available to families accessing specific services. It seems rare that early childhood services and/or organisations link to each other's sites when referring to transition to school. The same situation applies to schools – they generally do not reference transition in other schools. However, many school sites do have out-links to departments of education.

The absence of academic sites in the crawls – including the Charles Sturt University site that houses the *Transition to School: Position Statement* – suggests limited links. While there is a great deal of Australian research on transition to school reported in academic journals (Dockett and Perry, 2013; Petriwskyj et al., 2005), this does not seem to be reflected in links between organisations and individual academics or institutions.

Large-scale studies of hyperlink patterns across websites do indicate a tendency towards homophily: the association of like with like (Figuerola and Alonso Berrocal, 2013; Park and Thelwell, 2003; Rogers and Marres, 2000). This level of close-knit association between government agency websites is an expression of online homophily. Resources may also be a factor here. The government may dominate the online landscape as a result of having the resources to develop a significant online presence. Online space is reflective of broader social dynamics in this sense. Organisations with significant economic resources are better placed to develop a highly visible digital presence (Gonzalez-Bailon, 2009). Thus, existing social relationships around resource distribution underlie the online positioning of organisations and their ability to influence public debate.

If resource limitations are a factor across the early childhood sector, this will limit the possibilities for shaping the agenda around transition to school. The research of Gonzalez-Bailon (2009) suggests that economic resources are a factor in online positioning and influence. Resources are required to build an online presence, as well as to develop the digital literacy necessary to operate effectively across new media (for instance, to develop a social media strategy or build collective identity through hyperlinking practices). The limited availability of resources across the early childhood sector may explain some of the absences in the crawl data.

These data suggest that digitally mediated practice may be less prevalent across stakeholders in the early childhood sector than in other education sectors. For instance, a starting point in the seed group such as ‘Early Childhood Australia > position statements’ produces limited extension of the network.² However, sites such as raisingchildren.net.au and kidsmatter.edu.au appeared frequently within the study’s Web crawls. These sites are themselves created and maintained by a mix of organisations from across the early childhood sector. The members of the Raising Children Network are the Australian Government Department of Social Services, Murdoch Children’s Research Institute, Parenting Research Centre and Royal Children’s Hospital, Melbourne. The partners in the Kids Matter website are the Australian Government Department of Health and Aging, Beyond Blue, the Australian Psychological Society, the Principals Australia Institute, Early Childhood Australia and the Australian Rotary Health Research Fund. These sites are themselves representative of cross-sectoral partnership, suggesting that digital strategy in a sector with limited resources has focused on partnership in order to enhance the visibility of early childhood education in online public space. While these collaborations seem to have been effective, the contributing members include comparatively few voices representing early childhood education.

In addition to these collaborations, the study noted some alternative strategies that were used to generate an online presence. Within Facebook, a user can create a link with another user of the site by ‘liking’ that user’s Facebook page. This creates a link between the two users within Facebook. The link may or may not be reciprocated. In this study, ‘likes’ are viewed as similar to hyperlinks: as a social practice that creates a form of networked relationship. Early Childhood Australia’s presence on the social networking platform Facebook had, as of 17 December 2013, 13,790 ‘likes’.³ This suggests that a significant community of stakeholders within the organisation are using Facebook as a means of engaging with their professional body.

Another emergent online behaviour is that of sharing digital content (e.g. documents, digital audio files or video files). Google searching undertaken as part of this study revealed that the digital version of the *Transition to School: Position Statement* had been shared on the New Zealand Childcare Association Facebook page (Figure 3).⁴ The comments flowing from the embedded



Figure 3. This segment of the New Zealand Childcare Association Facebook page highlights the practice of digital content-sharing.

document provide some indication of the impact amongst those practitioners engaging with the association via Facebook. With growing attention to measures of research impact, and discussions about what constitutes impact (Australian Research Council, 2013), such evidence may contribute to the metrics used within assessments such as the Excellence in Research for Australia exercise.

Implications for transition to school

Two of the research questions posed in this study related to the identification of an online network of stakeholders around transition to school and the patterns of interlinking between them. The Web crawls did identify an online network of stakeholders – one that was dominated by government departments and agencies. Some, but not all, of the URLs identified in the crawls had reciprocal links. For example, reciprocal links were evident between raisingchildren.net.au and rch.org.au (Figure 1), and between kidshelp.com.au and health.vic.gov.au (Figure 2). However, most of the links were unidirectional – for example, health.vic.gov.au linked to beyondblue.org.au, and deewr.gov.au linked with education.vic.gov.au.

Consistent across the crawls was the predominance of government organisations. These organisations are likely to have the expertise and resources to construct and utilise a major online presence. Several also provide authoritative information about schools, and it is not surprising that such sites feature strongly in the crawl data. However, the strong positioning of government sites also illustrates the lack of connections with early childhood or academic sites. If we accept the algorithms underpinning web-searching and hyperlinks, these results indicate that government departments – health and education – are prime contributors to public discourses of transition to school. Early childhood organisations and academics do not feature strongly in the crawls. One implication of this is that, when the voices influencing policy and practice are mediated by other organisations, access to different research perspectives, interpretations and approaches may be limited.

One of the questions raised in this analysis relates to the ways in which information is used in policy formation. For example, how do the government organisations identified in the crawls access and utilise information? Is the research base – in this case around transition to school – accessed and utilised by those involved in policy development? While we would like to think this is the case, and indeed can call on anecdotal evidence to support this, the crawls suggest that there is little public recognition of the role of the *Transition to School: Position Statement* or other research evidence as an influence on policy. Reflecting on this, we are drawn to a recent report, in which it is noted that: ‘Little is known about how agencies access information from “external” sources of expertise, which external sources are favoured over others, and how external information is used’ (National Board of Health and Welfare, 2013: 7). If we are to understand the role of research and evidence in the development of policy, it is clear that a greater understanding of the ways in which research evidence may inform policy, and stronger collaboration with policymakers, is needed. A first step in this process is to identify relevant groups involved in policy deliberations around transition to school and to consider how they access information, as well as what information is accessed and in what form.

The third research question addressed the potential for digital methods to contribute to research on transition to school. The results indicate that methods such as network analysis can inform the ways in which transition-to-school research is framed. For example, the generally weak positioning of early childhood education research organisations within online networks suggests that they have limited impact on the development of policy positions, which tend to frame the ways in which research is funded and supported. Redressing this could involve the generation of a stronger, more coherent online presence that contributed actively to public and policy debates.

As producers of research, we are interested in how that research is interpreted and used – that is, the impact of the research. A key element of identifying impact involves investigating the ways in which research is shared. Mapping the organisations that address issues related to transition, and the weblinks between these, provides a view of the landscape that is different from a traditional literature review or policy analysis. This new view identifies potential stakeholders, as well as strengths and gaps in research communication.

Network analysis suggests that early childhood educators and researchers occupy peripheral spaces in online discourses about transition to school. There are many possible reasons for this, including resource limitations; the nature of early childhood work, which is undertaken in stand-alone early childhood services, with a focus on personal interactions; academics publishing in journals rather than professional domains; and research content being located in diverse places on institutional websites. Network analysis also identifies the effectiveness of partnerships in supporting a Web presence, as seen in the Raising Children Network and Kids Matter sites. Working collaboratively has the potential to target limited resources in effective ways. Further, this analysis affords opportunities to identify groups with which we wish to share information, as well as groups that already access the research we publish. Developing understandings of what information is accessed online, and by whom, can help identify strategies to present and promote research outcomes in ways that make it accessible to those who may both use and influence it.

This analysis indicates that, despite the involvement of researchers, policymakers and practitioners, and the contributions of international researchers, the *Transition to School: Position Statement* has had limited take-up in online discourses. As a result, we are in a position to recognise existing links and connections, and to consider how we might strengthen those links and initiate others. Our analysis indicates the diversity of stakeholders in the field of early childhood and suggests that talking to educator groups only is insufficient if we are to make a contribution to policy

and practice, as well as research. In other words, this analysis suggests that we need to become much more savvy about the ways in which we promote our research and engage with those who might use, or contribute to, future research. It is not sufficient to assume that 'good research' will find its way out into the fields of policy and practice (Tseng, 2012). Considering the ways in which communication and social and informational relationships have changed prompts attention to the development of a much more targeted and deliberate communication strategy if we genuinely seek to influence research, policy and practice.

Despite the range of information available through these initial Web crawls, there is much that we do not yet know about the access to and use of the *Transition to School: Position Statement*. For example, this initial analysis tells us which groups dominate the webspace around transition, but does not identify individuals or groups who link to the statement, or view and download the statement. These issues will be the basis of a more detailed investigation.

Conclusion

Network analysis provides some tools to explore the policy landscape and the involvement of stakeholders in transition to school. These data suggest that this landscape is dominated by government websites. Issues around resource imbalances across the sector may explain this dominance, as resources are required to both develop an online presence and promote the digital literacy needed to utilise it. One of the consequences of the dominance of government health and education sites in the discourse around transition to school is that these groups shape the narratives and, through this, public perceptions of transition. These, in turn, are powerful factors in influencing public debate, policy and practice. Research that influences, and is responsive to, policy and practice needs to be positioned within these discourses.

The study raises a number of questions around the nexus between research, policy and practice. Further studies might explore how research can be communicated in such a way as to serve the needs of practitioners in early childhood education and those who formulate policy around transition to school. This may well involve generating information in ways that can be shared across multiple digital spaces, thereby increasing the digital presence of that information. Strategies to break down the digital dualism – the divide between the real and virtual worlds – could involve adding another layer to existing networks. This could be achieved by adding social media connections to an existing transition network, sharing electronic noticeboards, or developing stronger links between informal networks and professional associations.

In addition, as generators of research information, we need to be much more aware of the role of social media and the influence of network linkages in promoting the flow of research to practitioner and policymaking audiences. This has implications for the nature of the information generated, including the format and elements that are incorporated. At the same time, we are conscious of some of the challenges of maintaining a relevant, reliable online presence. In addition to the establishment of sites, the generation of documents and the creation of linkages, the need for a human presence – someone to maintain the sites and mediate information – remains.

This study has identified some evidence of links to the *Transition to School: Position Statement*, both in social media references and in organisational links to the statement. Increasing the profile of this document will involve developing awareness of the range of stakeholder groups, recognition of the importance of networks, consideration of the ways in which the position statement can frame research, policy and practice, and opportunities to find alternative modes of influence and communication.

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Notes

1. Bill Shorten is the leader of the Australian Labor Party, which is in opposition, having lost the balance of power in the September 2013 federal election. Joe Hockey was a member of the Liberal Party of Australia government led by former Prime Minister Tony Abbot. Following the Liberal Party's victory in the September 2013 federal election, Hockey was appointed Treasurer, a position in which he served until September 2015.
2. See http://www.earlychildhoodaustralia.org.au/position_statements.html
3. See <https://www.facebook.com/earlychildhoodaustralia>
4. See <https://www.facebook.com/NZChildcareAssociation>

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