# Discourses in conflict: The relationship between Gen Y pre-service teachers, digital technologies and lifelong learning

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This paper analyses Gen Y pre-service primary school teachers' conceptualisations of lifelong learning. It is situated within a context of improving the provision and delivery of pre-service teacher education. This paper argues that Gen Y's understanding of lifelong learning has been influenced by their engagements with digital technologies and that while they may have appropriated the Discourse of change in this context, it does not necessarily indicate an overall capacity for change agency. This is a concern for programs of teacher education whose mission, arguably, is to prepare future activist teaching professionals. This paper argues that higher education and teacher education programs of study need to consider the relationship between Gen Y, lifelong learning and change agency when aligning pedagogy and curriculum with the new generation of students.

## Introduction

The purpose of this paper is to report on a cohort of pre-service teachers' motivation towards lifelong learning. The young adults in this study are members of Gen Y and reside in the South-East region of Queensland, Australia. This paper is drawn from a study where 70 aspiring primary school teachers engaged in semi-structured interviews, scenario planning workshops, focus group interviews, and/or a telephone survey to determine their cultural models and Discourses about the future (Donnison, 2004, 2004a, 2005, 2007, 2007a). This paper draws on Gee's (1992) account of *Discourse with a capital D* to refer to language plus actions, artefacts, ways of behaving and modes of thinking.

The paper argues that Gen Y's understanding of lifelong learning has been influenced by their engagements with information and communication technologies (ICTs), and that while they may have appropriated the Discourse of change in an ICT context, it does not necessarily indicate an overall propensity for change agency. This paper is underpinned by international, national and state concerns for improving the provision and delivery of pre-service teacher education (Parliament of the Commonwealth of Australia, 2007; Victorian Parliament, Education and Training Committee, 2005). It is also informed by recognition of the importance of undergraduate education for lifelong learning (Candy, Crebert & O'Leary, 1994).

To contextualise this issue, the paper firstly provides a background that focuses on characteristics of Gen Y and concepts of lifelong learning, especially as they relate to teachers' professional development. This is followed by a description of the

aforementioned study, prior to examining and discussing the findings that centre on the respondents' understanding about lifelong learning. Finally, the paper addresses some implications for teacher education and higher education in general.

## Background

Generational literature and generational claims have been criticised for their apparent populist approach, their propensity to describe a generation in universalising or essentialist terms and their tendency to make claims not founded on scholarship or rigorous research (Brabazon, 2008; Donnison, 2007). While it is true that much of the literature exemplifies these criticisms, claims about generational attributes and attitudes can be justified by drawing upon the theoretical constructs of Mannheim (1952). He proposed that similarities and differences between people born during similar time periods could be understood by reference to concepts of generational location, generation as actuality, and generation units (Donnison, 2007; Edmunds & Turner, 2002; Mannheim, 1952). These three constructs are elucidated in terms of the range of experiences and artefacts inherent in any given historical period.

Generational location refers to the specific historical period and potential range of experiences, Discourses, opportunities, and life chances inherent in this time period. Given the magnitude of available and potential experiences and Discourses it is obvious that not all people born within a similar historical period will engage with or partake in the same experiences. However, some will. Mannheim (1952) proposes that individuals who are born into the same chronological time and location, and who experience and respond to the same events and phenomena inherent within that historical location, can be defined as an actual generation or, to use his term, generation as actuality. Whereas generational location situates a generation along a span of time and historical context, generation as actuality or 'mobilized generations' (Antikainen & Kauppila, 2002, p. 215) refers to how a generation responds to their historical context and how these responses are instrumental in forming their generational persona (Donnison, 2007, 2007a). Finally, generation units constitute subgroups within the generation as actuality. These units are exposed to the same social and cultural phenomena and events; however they articulate their consciousnesses and experiences into different and unique ways (Donnison, 2007; Edmunds & Turner, 2002, p. 10; Mannheim, 1952, p. 302).

Using Mannheim's (1952) concepts, the young adults in this study are historically located in the latter decades of the 20th century. While there is some dispute over the actual birth date parameters, it is generally agreed that the oldest members of this generation were born in the early 1980s and the youngest in the late 1990s (Aviles, Phillips, Rosenblatt & Vargas, 2005; Taylor, 2003). This means that elder Gen Ys are approaching their 30s and, in the main, are contributing members of society.

As this generation have aged, they have been influenced by a social and cultural context characterised by, among other things, technological innovation, relative geopolitical stability, a healthy and growing economy and a society focused on and preoccupied with the welfare and wellbeing of children and young people. Accordingly, this generation, purportedly, exhibits technological efficiency, confidence, optimism, enthusiasm, sociability, conservatism, idealism, an orientation towards success, tolerance, and social, environmental and community awareness (Coeyman, 1998; Donnison, 2005; 2007; Duff, 1999; Paul, 2001; Shepherdson, 2000).

Interestingly, few authors describe the generation as flexible, adaptable and able to manage change outside of their engagement with technologies.

The focus of this study is on a specific generational unit, namely Gen Y, pre-service teachers in South-East Queensland, Australia. According to Mannheim's (1952) generational theory, this sub group of Gen Y have potentially realised their experiences and understandings, based on their historic location and context, into unique and specific ways of knowing and acting. To understand what lifelong learning means to this cohort and how their understanding might be realised in their future teaching careers it is helpful to investigate some of the Discourses surrounding lifelong learning.

**Lifelong learning**

The push for lifelong learning has been around since the early 20th century when the Adult Education Committee of the British Ministry of Reconstruction advocated that learning should be universal and lifelong. Since that time, universal lifelong learning has taken on mantric proportions whereby it is viewed as a political, institutional, economic and social imperative (Renshaw, 2002).

The original 1900s concept of lifelong learning has evolved through numerous iterations and been tied variously to instrumental, economic and social means (Grace, 2006). At its narrowest, lifelong learning was conceptualised as education and training specifically to enhance workplace employment and career opportunities (Donnison, 2005; Organisation for Economic Cooperation and Development, 2000). Arguably, while this instrumentalist approach still underpins current concepts of lifelong learning, its conceptualisation has broadened to encompass intrinsic reward, personal empowerment, civic duty, and social and corporate responsibility (Chapman, Toomey, Gaff, McGilp, Walsh, Warren & Williams, 2003; Couchenour & Domino, 2001).

The broader conceptualisation is commonly articulated in terms of social and cultural change and it is not surprising that it would, therefore, become associated with information literacy, electronic technologies and especially ICTs (Candy et al, 1994; Gunasekara & Collins, 2008; Trilling, 2006). Technologies, *per se*, are fundamental to and embody all societies and it is commonly agreed that societies cannot be represented or social change understood without considering how technologies influence new forms of production, communication and living (Castells, 2000, p. 5). Western culture and society has experienced rapid and major transformation largely, but not solely, because of 'the works of a new technological paradigm organized around information technologies' (Castells, 2000, p. 28). Therefore, responding to and managing social and cultural change necessitates staying abreast of technological change and especially new information technologies (Lankshear, Snyder & Green, 2000). To do this requires particular skills, abilities, and mindsets that are characteristic of a lifelong learner. These include being a problem solver, being able to learn new skills and strategies, being able to work across and see the interconnectedness of contexts, fields and portfolios and being able to apply new knowledge to novel situations (Candy et al, 1994; Doring, 2002; Hobbs & Aspland, 2003; Renshaw, 2002; Stokes, 2002). Such a person will be knowledgeable, capable, autonomous, organised, have an inquiring mind, love learning for the sake of it, be curious, questioning and critical, have a breadth of vision, and will engage in positive and productive self reflection. (Candy et al, 1994; Gunasekara & Collins, 2008).

The literature on teachers and teacher education is replete with the Discourse of lifelong learning. Doring (2002) argues that the very nature of their professional roles means that teachers are in a continual process of lifelong learning as they develop their pedagogical skills and knowledge. There is an expectation that they have an active commitment to lifelong learning by engaging in continual formal or professional development, informal and self directed learning (Couchenour & Dimino, 2001; Doring, 2002). Not surprisingly, the literature on teachers and teacher education also emphasises the relationship between ICTs and teachers as change agents (Donnison, 2004, 2005, 2007a; Lankshear et al, 2000; Selwyn, Gorard, & Furlong, 2006; Stokes, 2002). This relationship is predicated on teachers incorporating and accommodating novel and rapidly changing technologies into best practice, through constant learning, experimentation, adaptation and risk taking. Given teachers' inclination towards conservation and traditionalism (Hargreaves, 1994), it is debatable whether this ideal is achievable in the real world of classroom practice. This paper examines these concerns in the following ways. It initially describes the study from which the data is drawn, and then presents the key findings of the study as they relate to the respondents and concepts of lifelong learning.

## The study

This paper focuses on one aspect of a study which investigated the cultural models and subsequent Discourses that 16 senior high school students and 54 pre-service teachers used to explain their future careers and lives (Donnison, 2004, 2005, 2007, 2007a). The study employed a mixed method approach that included semi-structured interviews, scenario planning workshops, and focus group interviews. This triangulation approach to data gathering ensured credibility of the findings and interpretations (Lincoln & Guba, 1985, p. 305).

Fourteen males (5 high school and 9 tertiary) and 56 females (11 high school and 45 tertiary), aged between 15 and 24, participated in the study. The mean age was 18.5 years. All participants resided in South-East Queensland, Australia, and were either enrolled in teacher education or intended to enrol after high school graduation. Participants were chosen through convenience sampling. As the researcher was employed as a teacher educator, she initially approached first year teacher education students to be involved in the study. Fifty-four students volunteered. To ensure a range of Gen Y ages, the researcher then approached secondary school students to participate. These students were chosen for their desire to undertake a teaching degree. Sixteen students volunteered.

### The research method

The data gathering was structured in four parts and was conducted in the years 2000 and 2002. In 2000 semi-structured interviews were used to ascertain two males' and six females' understandings and experiences of social and cultural change. The students were asked to discuss their perceptions of what was changing and staying the same in their lives, their region, their country and their world.

The resulting interview data and the researcher's reflections on the interviews highlighted the need for some form of structured cognitive tool to enable the young people to conceptualise change. Merely asking the participants about their change perceptions proved to be less than satisfactory and did not produce substantial qualitative data. For example:

| | |
|---|---|
| Researcher: | What things are staying the same in your life right now? |
| Simon: | I dunno. |
| Researcher: | How about Australia? What is changing in Australia? |
| Simon: | Um, I don't know. The constitution? I don't really know Australia wide. |

In 2000, as a means of addressing this need, focus groups were conducted based on Schwartz's (1991) seven-step scenario planning process. Schwartz's scenario planning process is a cognitive tool designed to assist focus groups to formulate future directions and planning based on current sociocultural trends and uncertainties. The process involves focus group participants outlining a focal issue, identifying pertinent facts relevant to that issue, and identifying important sociocultural driving forces and current trends that may impact on the issue. Drawing on this information, scenario planning participants then create four possible change scenarios which are then discussed in terms of their probability and desirability.

Four males and 11 females participated in six two-hour scenario planning workshops. The recorded data from the scenario planning workshops were analysed using Glaser and Strauss's (1967) grounded theory, where five categories and associated themes and sub themes were identified. These categories: Crime; Education; Families; Multiculturalism and Immigration; and Technologies encapsulated the participants' cultural models (Gee, 1992, 1999) about these particular areas of society and culture.

The data were further analysed within each category to provide properties or themes. Table 1 outlines the category of *Education* with its associated themes and sub-themes.

Table 1: Scenario planning data

| Category | Theme | Sub-theme |
|---|---|---|
| Education | Change | The education system<br>Schools<br>Classrooms<br>Teachers<br>Students<br>Curriculum |
| | Technologies | Educational technologies<br>Digital technologies<br>   • Tutor<br>   • Subject<br>   • Tool |
| | Pedagogy | Teachers<br>Learners<br>Curriculum |

These themes with their associated sub themes formed the stimulus material for 13 focus groups (seven males and 40 females) in part three of the study. Each focus group was presented with a synthesis of the categories and themes and asked to comment on each. For example, in the category *Technologies* the students were presented with a synthesis of the positive and negative statements made by the scenario planners about technologies and ICTs. They were asked to comment on any or all and to provide justification for their comments. These sessions were audio recorded and that data analysed to provide further clarification of the five categories.

In 2002 (two years after the original study), a telephone survey was conducted that involved 31 of the original 47 focus group participants. The purpose of the survey was

to confirm the original synthesis and analysis of interview, scenario planning and focus group data and consisted of forty-five statements based on the synthesis which required an agree, disagree, or unsure response (see Tables 2, 4 and 5 for examples). The survey data indicated that, in the intervening two years, there had been little movement or change in the respondents' cultural models. In the following section the findings of the study are outlined as they relate to the respondents' understandings about their role and self efficacy in a changing society. These findings are drawn from the analysis of the focus group data and substantiated by the survey data.

## Findings

Social change and lifelong learning are undoubtedly related. Lifelong learning is a desired response to social change and is crucial for future environmental and social problem solving, and fundamental to a socially just and equitable future society (Donnison, 2004; Renshaw, 2002). To understand this particular generation's motivation towards lifelong learning, the investigation begins with their attitude towards change, which includes the concept of responsibility. Pseudonyms are used throughout the data presentation to protect the identity of the respondents.

### Gen Y, change agency and responsibility

The data suggest that the respondents in this study portray themselves as *future* change agents. When asked about their ability to positively affect and change the future, the scenario planning and focus group respondents were overwhelmingly confident that they were instrumental in determining the future of society. The scenario planning participants consistently painted themselves as future innovators, leaders, crusaders, heroes and social activists and as one focus group participant, Herman, acknowledged, his generation would be 'good people' in the future. Justification for these change agency claims was historically based. Given that all previous generations had apparently determined the future, it was logical that they would do the same:

> Herman: We are the future. So because all of the other past generations have obviously affected their future, why shouldn't we? ... And then the next generation will affect their future.
>
> Charlene: So we're affecting their future, the next generation.
>
> Hannah: Every generation is [an influence on the future]. Everyone. All the generations sort of push the boundaries of culture, and there's always a big culture shift. . . It's getting bigger though.. . If you compare us to the Boomers, then we're much different than they were to their grandparents. Whereas, they thought they were making a big change.

The cohort is also confident in their role as *current* change agents. The data suggest that they see themselves as important contributors to society: 77% of the telephone survey respondents confirmed this analysis, by responding positively to the statement 'I am a change agent in society' and 84% agreeing with the statement, 'I am an important contributor to society and I personally make a difference (see Table 2). Interestingly, when queried on how they make a difference, their responses were limited to factors of current employment, 'Because I am working part time', rather than future teaching roles.

Change agency assumes responsibility. While this cohort espouses a future vision of themselves as social activists and change agents, when the data is analysed for concepts of future responsibility a conflicting picture emerges. When 31 of the original 47 focus groups respondents were asked to respond to the statement, 'I am responsible for the future and will take responsibility in the future', over half of the respondents either disagreed with the statement (35%) or refused to take a position (22%) (see Table 2). These findings cast doubt on their prior claims that they see themselves as future crusaders.

The cohort appears more confident in their role as change agents in the present society. However, as with the previous data, when concepts of responsibility are introduced the respondents become less assured. When asked to respond to the statements 'I should fix existing social problems' only 35% agreed and only 29% agreed with 'I am responsible for current social problems' (see Table 2).

Table 2: Respondents' understanding of themselves as change agents

| Statement | Agree % | Disagree % | Unsure % |
|---|---|---|---|
| I am a change agent in society. | 77 | 6 | 16 |
| I am an important contributor to society and I personally make a difference. | 84 | 6 | 10 |
| I am responsible for the future and will take responsibility in the future. | 42 | 35 | 22 |
| I should fix existing social problems. | 35 | 55 | 10 |
| I am responsible for current social problems. | 29 | 65 | 6 |

Evidently, accepting social responsibility is problematic, both in the present and in the future. This attitude is also apparent in the qualitative data where the respondents blame other people and/or technologies for perceived current and future social and environmental ills. Parents and baby boomers are particularly targeted in terms of the environment. Futures scenarios featured baby boomers destroying or ignoring the natural environment through over-mining, pollution and land degradation. Kasha (a focus group member) also blames parents for her own generation's lack of interest in protecting the environment:

> Kasha:     We aren't [environmentally concerned] because we've gotten it through our parents and if our parents weren't […]. Depends on if your parents care or not'.

Gen Y's sense of social responsibility is also apparent in their understandings of the role that technologies play, and will continue to play, in social change. Gen Y's relationship to technologies and especially ICTs has been well documented (Donnison, 2004, 2005, 2007, 2007a; Kennedy, Judd, Churchward, Gray & Krause, 2008) and is most often explicated in terms of a 'love affair'. However, the following findings suggest that the relationship is more complex.

**Technologies and social change**

The interview, scenario planning and focus group data were analysed for concepts to do with technologies. Each reference to a technology or technological concept was tallied under appropriate headings: ICTs; scientific technologies; household technologies; transportation technologies and science fiction technologies. This last

category included science fiction movies and concepts associated with those movies as the respondents would draw upon science fiction movies to discuss future technologies or to explain a technological concept.

When addressing issues to do with technologies, the respondents more often referred to and assumed that technologies were ICTs. In this instance ICTs are understood to mean electronic devices or applications that create, communicate, store or manage information such as computers, networks, computer software, telephones and television. One hundred and ninety nine references were made to technologies. Of these 127 or 63.8% were associated with ICTs such as computers, Internet/web, television, chat rooms, computer screens, computer programs, *Microsoft*, email and so on. Table 3 shows the percentages of the various categories with some examples of each.

Table 3: Respondents' references to technologies

| Category | % |
|---|---|
| Information and communication technologies<br>• computers<br>• computer screens<br>• Microsoft<br>• databases<br>• television<br>• mobile phone | 63.8 |
| Science and technology<br>• robotics<br>• cloning<br>• IVF<br>• genetics<br>• cold fusion | 15 |
| Science fiction and technologies<br>• Matrix<br>• Fifth element<br>• time travel | 10 |
| Transportation technologies<br>• car<br>• airplane<br>• bus | 6.5 |
| Household technologies<br>• microwave<br>• stove<br>• refrigerator | 4.5 |

Given that almost 64 percent of the respondents' references to technologies were ICT related, it can be argued that they predominantly understood the term technologies as ICTs. Wright, Yates and Scarcella (2003) would agree. They argue that:

> The word 'technology' is probably one of the most misunderstood and misused terms in the English language today. Many people believe that the term is synonymous with computers, the Internet and other high-tech gadgets. This is most certainly not true!

Indeed, the respondents often used ICTs as referents when explaining their responses to technologies in society. For example Zelda refers to Internet and phone banking to explain her distrust of technologies:

Zelda:          Internet banking. Like there's no banks left, hardly at all… There is not one bank. And um, Internet banking, I usually use phone banking mostly now. I don't really trust the Internet one.

The six scenario planning groups ranked technologies and especially ICTs as the most influential driving force for change in Australian society. Their scenarios, predominantly, portrayed technologies negatively, being responsible for future economic, environmental, cultural and social disasters. The focus group members generally concurred. As one focus group respondent claimed, 'I reckon it [technology] will make all the problems'.

This cohort's apprehension about technologies is clearly indicated by the survey data where technologies are considered responsible for deterioration in key aspects of a future society.  Ninety percent of the survey respondents concur with the focus and scenario planning groups that technologies are responsible for deterioration in public health, 87 percent believe technologies will impact on personal freedoms and 77 percent blame future technologies for disparities in wealth distribution (see Table 4).

Table 4: Respondents' understanding of the role technologies will play in the future

| Statement | Agree % | Disagree % | Unsure % |
|---|---|---|---|
| Technologies, in the future, will cause ongoing health problems due to lack of exercise. | 90 | 6 | 4 |
| Technologies, in the future, will be used to monitor and control people. | 87 | 0 | 13 |
| Technologies, in the future, will cause greed and inequities. | 77 | 19 | 4 |

Interestingly, while they have a negative view of the relationship between technology and some aspects of change, they also maintain a positive view about their own relationship with technologies. Ninety-seven percent of the telephone survey respondents were comfortable using technologies, 94 percent agreed that technologies were a significant part of their lives and 87 percent were confident that their future lives would continue to incorporate increasing technologies. In terms of their professional teaching careers, 90 percent thought that technologies would be integral to future classrooms, and 88 percent believed that they, as teaching professionals, would continue to be technologically literate (see Table 5).

Table 5: Relationship between technologies, respondents and future career

| Statement | Agree % | Disagree % | Unsure % |
|---|---|---|---|
| I am quite comfortable using technologies. | 97 | 3 | 0 |
| Technologies are very much a part of my life. | 94 | 3 | 3 |
| In the future my life will revolve around technologies even more than it does today. | 87 | 10 | 3 |
| The classroom teacher of the future will be technologically literate and in charge of technologies in the classroom. | 88 | 6 | 6 |
| Technologies, in the future, will change the face of the classroom. | 90 | 7 | 3 |

In the following section these findings are discussed in terms of the respondents' relationship to lifelong learning, technologies and their future roles as teaching professionals.

## Discussion

Technologies and technological proficiencies are central to pre-service teacher education and ongoing teacher professional development. Technological change has, is, and will continue to inform best practice in the teaching profession and educational stakeholders, be they teacher educators, teachers, parents or students, will be increasingly required to manage the complexities and uncertainties of a constantly changing, diversifying  and technology, information and knowledge-rich society (Parliament of the Commonwealth of Australia, 2007; Victorian Parliament, Education and Training Committee, 2005).

Being technologically literate, however, is not the only prerequisite for teaching professionals. Gee, Hull and Lankshear (1996, p. xvii) argue that teachers, in particular, need to be 'new kinds of people engaged in new social practices'. Current Australian education reforms appear to sanction these recommendations in that they presuppose teachers' ability and desire to engage in new social practices, and to be new kinds of people and then to translate this into relevant teaching and learning experiences (Donnison, 2007a). For example, Education Queensland's (2000) *New Basics* indicate that technological literacy, new social practices *and* concepts of lifelong learning are fundamental prerequisites for future teaching professionals and integral to teaching and learning:

- having competency with print and electronic media
- having critical thinking and self analytical skills
- having an ability to cope with complex community changes and uncertainty
- being educable for retraining across the lifespan through a range of media

Change agency is critical to lifelong learning. Lifelong learning is a response to change and the desire for change must precede lifelong learning. The young people in this study consider themselves to be lifelong learners and by extension, change agents. The telephone survey included a question on the respondents' understanding of themselves as lifelong learners. Ninety-nine percent of the telephone respondents agreed with the statement 'I will be a lifelong learner'. However, when questioned on what they would be learning it became evident that they had a limited understanding of what that would entail. Their responses were limited to 'technology', 'I don't know', or the more generic 'everything'.

Given Castells' (2000, p. 28) argument that we are living in a technological era organised around information technologies, it is not surprising that the respondents would associate lifelong learning with technologies, especially since they are supposed 'natives' in this rapidly changing context, and their formative years have been characterised by evolving and increasingly complex ICTs. The young people in this study consider technologies and especially ICTs integral to their lives, and the extent to which these cultural artefacts have been incorporated into their Discourses is apparent throughout the data. Technologies are central to, not only, their understanding of themselves, and current roles in society but also to their understanding of themselves as future citizens and teaching professionals. Their visions of future classrooms and themselves as teaching professionals abound with images of technologies as tools, tutors and integral to curriculum (Donnison, 2004, 2005).

It was noted previously that researchers and writers have interpreted the generation's engagement with technologies as a generalised propensity for flexibility, adaptability,

and change. There has been a tendency to assume that their proficiency with ICTs also indicates an orientation towards lifelong learning and subsequently change agency, in other aspects of their lives. The telephone survey included a statement about their ability to stay current with evolving technologies. Seventy-seven percent of the respondents agreed with the statement 'I will be able to keep up with technological changes as they occur'. This suggests that they are not intimidated by the pace of technological change and that they have a view of themselves as capable and continual learners within this context.

However, lifelong learning is more than just remaining current with technologies. It also embodies a futures imperative and, as Renshaw (2002) and Sachs (2003) argue, an assumption that one is committed to positive and equitable social change and is socially critical and socially responsible. Given this, the respondents' attitude towards their roles as future citizens poses a problem. As the data attests, the respondents consider themselves to be change agents, yet do not accept responsibility for and in the present and the future. Rather they apportion blame to others and technologies for environmental and social problems. It could be argued that the respondents' hesitancy to accept responsibility is understandable given their mean age of 18.5 years. Obviously, they have not been responsible for current social and environmental conditions and therefore, arguably, do not feel a need to remedy what they have not been responsible for. Their domestic situation is also one where the majority of the respondents live at home and are dependent on parents for support. They have limited responsibilities beyond their personal selves. Given these factors, their refusal to accept responsibility for the present is excusable.

It is also feasible to suggest that their current biography is also impacting on their Futures Discourse. While they proclaim themselves to be 'the future', their lack of indication for future social action belies this sentiment. It is likely this lack of commitment to the future has been resolved as they have matured and taken on social roles as teachers, parents and employees. A further study to ascertain if this is indeed the case is warranted. However, at their current life stage, not having a sense of responsibility for the present and future, means, amongst other things, that there is no onus for lifelong learning.

The data suggests that this group of future teachers have appropriated the Discourse of lifelong learning in a technologies context. This does not necessarily translate to an understanding of themselves as lifelong learners in general. This is an important consideration for teaching and learning in teacher education and, indeed, higher education.

If we consider that the purpose of teacher education is to graduate students who are future community leaders equipped to manage and effect change in a rapidly changing global society, then we undertake the responsibility to prepare Gen Y for their future professional roles as lifelong learners and change agents. One approach to this has been to adapt teaching and learning practices and curriculum to respond to and align with their putative characteristics (Skene, Cluett & Hogan, 2007). As Gen Y's engagement with technologies is their most obvious attribute, measures have focused on incorporating digital technologies into teaching and learning and assessment as a response to relativising pedagogy and curriculum to their needs. While appropriate and laudable, the incorporation of ICTs in teaching and learning is often viewed as the whole solution rather than a part of the solution.

Given the findings of this study that a technologies Discourse does not necessarily mean an orientation towards lifelong learning and change agency, then arguably, simply incorporating *more* technology into teaching and learning does not go far enough in ensuring that graduating teacher education students are equipped to deal with the future and social change. If being a lifelong learner is a national, global and futures' imperative then there are implications for higher education and teacher education.

The Discourse of lifelong learning underpins and is evident to varying degree in higher education and teacher education. However, it is rare for programs of study, especially in teacher education, to incorporate specific teaching on being a lifelong learner; rather it is 'assumed' that the students will assimilate the attributes of lifelong learning, such as critical thinking skills, problem solving skills and critical reflection, primarily through their engagements with their studies. This approach is not adequate. Measures to address this are required and ideally should encompass all stakeholders. A stronger institutional emphasis on being a lifelong learner is a mandatory first step. This would also involve teaching staff having a thorough understanding of and commitment to lifelong learning, and the inclusion of explicit concepts of lifelong learning as mandatory to curricula and teaching and learning. Other measures may include subjects specifically targeting futures perspectives such as *Futures studies*. Futures studies equip young adults with the cognitive and practical tools to work towards preferable futures and to share in a common vision. Having such a vision ultimately results in a greater sense of responsibility for the future and recognition of the need for continual updating of skills, knowledges, and practices (Donnison, 2004, 200a). Arguably, such a mindset is preferable for future teaching professionals.

## Conclusion

This paper has flagged issues to do with pre-service teachers and their inclination towards change agency and lifelong learning. The original study from which this paper is drawn, investigated pre-service Gen Y, teachers' Discourses of the future. Data from the study was rich and how the respondents understood themselves as lifelong learners was only one aspect of that data. This paper argues that they are a complex group of people who present a unique challenge in how teacher educators understand them and prepare them for their future careers. Particularly, this paper notes that technoliteracy does not always equate with change agency, a critical aspect of lifelong learning. Gen Y individuals as pre-service teachers and potential teaching professionals is a relatively new and untapped area of research.

While there is considerable debate about how best to prepare future teaching professionals, these conversations are rarely framed from within a Gen Y context. Arguably, much of the 'popularist' literature and research on Gen Y has contributed to this lack of dialogue by generalising and trivialising the nature and character of the generation. However, scholarly research is emerging about this generation as tertiary students and pre-service teachers (Donnison, 2007, 2007a: Howe & Strauss, 2003; Krause, 2005). More is needed. This paper contributes to and extends the conversation by arguing that if institutions of higher education and faculties of education are to fulfill their mandates of preparing future teacher educators and university graduates for a changing, unpredictable and dynamic society, then discussions about how the social category of *generation* impacts on these desired outcomes are needed.

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