



Facilitating critical thinking in initial teacher education (ITE) early years student teachers

Project Report

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Executive Summary

The teaching profession needs teachers who are more than ‘technicians’ but thinkers, especially critical thinkers, able to make ‘wise decisions’ in relation to curriculum and pedagogical practices. Tertiary providers have been using a variety of teaching strategies to build reflective critical thinkers in their early childhood student teachers – with limited success (Ussher & Chalmers, 2011). Yet, the ability to think critically is reflected in the Graduating Teacher Criteria required by early childhood teachers on completion of their initial teacher education (ITE) training.

This project involved collaboration between two early childhood initial teacher education providers: New Zealand College of Early Childhood Education (NZCECE) and Te Rito Maioha Early Childhood New Zealand (ECNZ). The project adopted an action research approach to developing critical thinking in final year early childhood student teachers through ‘learning circles’ and ‘sharing circles’. This methodology has been used successfully in studies with a similar focus in Sweden (Dahlberg, Moss & Pence, 2007) and Canada (Atkinson & Elliot, 2013; Pacini-Ketchabaw, 2010; Pacini-Ketchabaw & Nxumalo, 2013; Pacini-Ketchabaw & Pence, 2011).

The primary research aim was to develop critical thinking skills in final year ECE student teachers to enable them to apply the learning derived from discussions that occurred during the learning and sharing circles held as part of the examination into their teaching practices. Participants were involved in learning circles held at each institution and also in cross-institutional sharing circles. The cross-institutional-approach created opportunities for the participants to network within the wider ECE sector in Christchurch and learn to provide critical thinking feedback on their own and others practices.

As the focus for each institution varied, a further objective of the study was to build capacity in, and bring innovation to, the field of early childhood education in a chosen topic area of ITE. The aim was to recommend strategies for implementing critical thinking development with early childhood teachers beyond the project.

Five main themes that are considered to promote critical thinking have emerged from the research findings. These are:

1. **Open-mindedness:** the importance of being open-minded to other people’s perspectives is seen as pivotal to critical thinking.

2. **Time:** participants identified the need for sufficient time to engage with readings and material in order to better reflect on and consider their perspective.
3. **Relationships:** are key to working relationships with colleagues and being able to negotiate these relationships in terms of challenging assumptions and stereotypes.
4. **Changes:** in practice and behaviour are centred on the in-depth thinking and reflection that took place for participants in their teaching which, in turn, translated into their practice and behaviour when interacting with children and colleagues.
5. **Confidence:** was a consistent theme in connection to the development of thinking and practice. Increased confidence supported the participants' sense of achievement and value of their contributions.

Other factors that supported critical thinking and challenged technical responses to teaching and learning experiences included: building participant confidence in the process; introducing readings on topics to support critical thinking (e.g., on philosophy, post-modern theories); linking and applying emerging thinking to teaching practice.

Introduction

The teaching profession needs teachers who are more than ‘technicians’ but thinkers, especially critical thinkers, able to make ‘wise decisions’ in relation to curriculum and pedagogical practices. Tertiary providers have been using a variety of teaching strategies to build reflective critical thinkers in their student teachers with limited success (Ussher & Chalmers, 2011). Yet, the ability to think critically is reflected in the Graduating Teacher Criteria (New Zealand Teachers Council, 2008) required by early childhood teachers on completion of their initial teacher education (ITE) training.

This project involved collaboration between two early childhood initial teacher education providers: New Zealand College of Early Childhood Education (NZECE) and Te Rito Maioha Early Childhood New Zealand (ECNZ). The project investigated an innovative approach to developing critical thinking in final year early childhood student teachers through ‘learning and sharing circles’, using an action research approach. This methodology has been used successfully in studies with a similar focus in Sweden (Dahlberg, Moss, & Pence, 2007) and Canada (Atkinson & Elliot, 2013; Pacini-Ketchabaw, 2010; Pacini-Ketchabaw, & Nxumalo, 2013; Pacini-Ketchabaw & Pence, 2011).

Findings indicate that development of critical thinking is achievable provided certain conditions are present such as the commitment of facilitators to support reflection with theoretical readings and literature. When facilitators increase their understanding and skills of critical thinking alongside their participants as they analyse and reflect on the critical thinking that is occurring (or not occurring), they become key agents in the change process. It is argued that factors such as open-mindedness; time; relationships; changes in practice and confidence are pivotal in assisting the development of critical thinking.

Project Objectives

This project had many objectives. The primary objective was to develop critical thinking skills in final year ECE student teachers. It was intended that ECE student teachers would apply the discussions and critical thinking that occurred during the learning and sharing circles held as part of the study into their teaching practices.

As the study involved two ITE institutions it created opportunities for early childhood student teachers to network within the wider ECE sector in Christchurch and learn to provide critical thinking feedback on their own and others' practices. The focus for each institution varied, therefore, a further objective of the study was to build capacity in and bring innovation to the field of early childhood education in a chosen topic area of ITE. The aim was to recommend strategies for implementing critical thinking development with early childhood teachers beyond the project.

The research team proposed trialling new ways of supporting critical thinking while in ITE training. It was envisaged that the ITE's involved would learn new ways to promote critical thinking amongst all students.

Method

Ethics

Ethical approval for this project was gained from the ethics committees of both participating institutions. The approach involved learning circles and sharing circles to increase interaction between student teachers and skilled facilitators to create contexts for critical discussions that challenge student teacher assumptions and support emerging critical thinking. All participants, including the research project facilitators, signed a confidentiality agreement and were assigned a pseudonym. To mitigate the power relationship potentially perceived by participants a facilitator at one of the institutions did not teach the final year class during the semester in which the research was undertaken.

Recruitment of participants

Participants were recruited via the third year class for the on campus Diploma of Teaching (ECE) at NZCECE and the Bachelor of Teaching (ECE) at the Christchurch base of ECNZ. The researchers presented an overview of the project, distributed information sheets and consent forms and confirmed the deadline for interested participants to submit signed consent forms. Seven participants were recruited from NZCECE (one later withdrew for academic workload reasons) and nine ECNZ students agreed to participate. Participants received a koha of \$100 on completion of the project towards costs incurred.

Cultural safety and wellbeing

The kaumātua from each institution were consulted to honour Te Tiriti o Waitangi and to ensure the principles of Kaupapa Māori research methodology were upheld (Smith, 1999). They were also consulted to ensure appropriate use of te reo Māori and tikanga, particularly in terms of the choice of Māori-focused readings used in the learning circles at NZCECE. Light kai was provided at all learning circles and sharing circles. A karakia was used to open and close each learning circle and sharing circle.

Inquiry approach

The 'sharing circles' and 'learning circles' model was deliberately chosen so that feedback could be collected on the model to inform future teaching models and initiatives within early childhood initial teacher education. This would in turn result in the development of an effective tool or model for supporting critical thinking in initial teacher education students.

This method is based on a participatory action research approach. 'Learning circles' and 'sharing circles' involve interaction between early childhood student teachers and skilled facilitators to create contexts for critical discussions that challenge assumptions and support emerging critical thinking. All participants reflected on and shared their understanding and perspectives of critical thinking. All 'circles' have been videoed and audio-taped and an analysis of all circles has been undertaken.

Each institution had a specific focus for the project to guide discussion and readings. The topic for NZCECE participants was biculturalism and colonisation. The topic for ECNZ participants was teacher identity and the subjectivity of being a student teacher in a field-based setting.

Learning circles aimed to provide an opportunity for participants to discuss new ideas in relation to the readings provided on the specific topic for each institution (Pacini - Ketchabaw, 2010). Learning circles were held at the institution in which the participants were based:

- At NZCECE six learning circles were held on average once per month throughout the months May - October 2014 during the participants' non-contact time on Thursday afternoons.
- At ECNZ six learning circles were held during the months July - November 2014 in the participants' lunch break.

Variation in the timeframe of the learning circles occurred due to differences in the participants' class times across the two institutions.

Sharing circles involved both groups of participants from the two institutions and they alternated between the venues of both institutions. Sharing circles were an opportunity for all participants across both institutions to discuss critical thinking and to explore the extent to which critical thinking had been developed and had impacted on practice.

Three sharing circles were held for participants from both institutions in August 2014 (twice) and October 2014 (once). A final sharing circle to assess any impact of the project in the participants teaching was held June 2015, six months into their first year of teaching. During the first and final sharing circles participants were interviewed to discuss the research objectives and obtain their understanding of critical thinking.

Data analysis

Data was collected on the frequency and length of time facilitators contributed to sharing circle discussion. Facilitators monitored the quantity and duration of their own and others contributions. This monitoring showed that facilitators were dominating the conversation and dialogue, potentially reducing participants' involvement in critical thinking. Facilitators were supported by the project supervisor to adopt strategies to reduce the participants' reliance on the facilitators during the sharing circles.

All learning circles and sharing circles were videotaped and audiotaped. Video tapes were transcribed verbatim and the audio tapes were used to clarify any dialogue which was unclear in the videotapes; to interpret the body language; and group dynamic. Both facilitators analysed their respective institutions' data themes evident in relation to research objectives. Thematic codes were used to identify themes and analysis of key themes has been undertaken on transcribed data. Facilitators shared and compared their coding to assure a level of reliability between coders (Mukherji & Albon, 2010).

The facilitators undertook reflections and content analysis as the project progressed. The intention was that the facilitators were learners in this project as well as the students. Analysis of key themes was undertaken on the transcribed data.

Findings

Five themes have been identified from the data as important to the development of critical thinking:

- 1) Open-mindedness
- 2) Confidence
- 3) Relationships
- 4) Time
- 5) Change - practice and behaviour

Developing critical thinking by being open-minded to new perspectives

As articulated here by 'Andrea' and 'Kim'¹ over the duration of the sharing circle there was a strong focus on other people's perspectives. The importance of considering these perspectives was seen as pivotal in relation to critical thinking.

"I think it's looking at others' perspectives and seeing their points. They make good arguments so just taking that on board. That knowing what's right or wrong. And if someone has a good argument...they are open minded"
(*'Andrea' - sharing circle 1*).

"Probably more open mindedness for me. Yeah, I mean doing this degree you always hear about different theories and hearing from other classmates, there is a huge amount of confidence and that is just an extension of that for me, I think especially when you guys probably from a different college where you have been taught different kind of things from us and it's is really cool to hear those so yeah"
(*'Kim' - sharing circle 4*).

Confidence in own knowledge and articulation of practice

One of the themes that appeared consistently was related to confidence. This was in connection with the development of articulating practice and thought processes to colleagues, children and families that supported the participants' sense of achievement and value of their contributions.

"You've got to be able to articulate and if somebody goes why did you just do that, you've got to be able to critically think about the situation you were just in and then articulate it in a way that you want to. So I think it has a lot to do with articulation as well" (*'Sam' - sharing circle 3*).

"Definitely the project has given me the confidence and articulating [sic] more what you believe and things like that and in studying the language and things like that. It's definitely enhanced my confidence and has enhanced my philosophy and has underpinned who I want to be as a teacher" (*Cindy - sharing circle 4*).

¹ Note pseudonyms are used for anonymity.

The importance of relationships in promoting and developing critical thinking

Relationships with colleagues and other teachers influenced the participants' development of critical thinking skills in relation to practice and confidence.

"I think it comes down to relationships and how you know that person and when you've been in the centre for 'x' amount of weeks and they are showing their really good side to you as a mentor" ('Beth' - sharing circle 2).

The importance of time in developing and applying critical thinking

The participants needed time to critically engage with the other participants and the readings provided. Time allowed the participants to critically reflect and then approach the person or situation again to cement their understanding. Time was also important in relation to not having to respond to comments, discussions or readings straight away.

"I'm quite a fast paced person, quite busy. And I realised I was doing things because people were telling me to or instantly have a discussion about it, but it wasn't critical, it was my opinion so stopping and thinking even overnight or for a few days and then re-approaching it has worked for me. That's been more professional and I've had better outcomes in my practice and also I feel like it's not eating away at me. I'm not holding any grudges. I'm dealing with it but I'm taking my time to deal with it and there are processes in place for it" ('Cindy' - sharing circle 2)

"I know for me, especially on my last practicum I had quite a challenging practicum and if I'd had that last year or in my first year I probably would have given up. But, just being able to take all of her feedback even if that wasn't in a positive way. I was quite upset at the time about what she had said. Later I could go back about what she had done and rather than going back and saying 'what do you want me to do?' I was able to think about it and what I could do rather than asking what she wanted me to do and I actually quite valued that because I recognised I took the opportunity to do that" ('Nicole' - sharing circle 2).

Change in practice or behaviour in applying critical thinking

The changes in practice were centred on the in-depth thinking and reflection that took place for the participants in their daily work with children and subsequently influenced their practice and behaviours.

"I always reflect on my practice but through doing this and through our assignment it really got me to focus more on reflecting and really critiquing what I was reflecting and understanding more the basis behind the critiquing. Yes so doing this in my assignment has really helped" ('Sam' - sharing circle 3).

“...now I’m teaching I feel like every minute I’m thinking “Did I do that wrong, how should I do it differently next time?” When before when I was, as a student teacher I thought about when I went home, when I had to do reflections but now I know how important it is to correct the thing and what can I do differently and thinking how do the children actually feel when I do this” (‘Edith’ - sharing circle 4).

Findings suggest that development of critical thinking is achievable provided certain conditions are present such as the commitment of facilitators to support reflection with theoretical readings and literature. When facilitators increase their understanding and skills in critical thinking alongside their participants, they become key agents in the change process as they analyse and reflect on the critical thinking that is occurring (or not occurring).

Unexpected findings or learnings

As a result of analysing their contributions to the sharing circles the facilitators identified they had specific practices, which in some cases discouraged critical thinking. This included talking rather than listening, asking questions, not probing thinking, or, encouraging others to talk. This is consistent with the literature which states that “...the promotion of reflective thinking involves a painstaking ongoing process for the instructor as well” (McDonald & Kahn, 2014, p.21).

Ethical approval took longer than anticipated and this delayed the project and meant there were a number of learning circles taking place over a short period of time.

Recruiting participants proved harder than anticipated and a number of changes had to be made to recruit participants at ECNZ.

The last sharing circle took place six months after graduation as planned, and one of the implications of this was that less than half of the participants, (six) were able to attend. Another issue related to the last sharing circle was that three participants were still in the final semester of their studies whereas the majority of the total participants in the study worked as qualified teachers.

The short timeframe of learning circles across institutions is an area for future consideration, and there was low attendance at some learning circles.

Learning circle dates were altered to accommodate teaching practice as it was identified (when participation was low) that having learning circles during teaching practice impacted on involvement in learning circles.

Further analysis of the findings

The researchers have analysed the data to understand the key factors influencing the development of critical thinking in ECE students.

Philosophy and postmodern theories

An objective of the study was to introduce philosophy and postmodern theories to support critical thinking and challenge technical responses to teaching and learning experiences. Participants at NZCECE were exposed to postmodern theories via readings on colonialism. Participants at Te Rito Maioha were involved in readings on the disciplinary discourse of professional identity and philosophy of education.

As stated by 'Cindy':

"...my idea of teachers has changed considerably. So my personal and teaching identity hasn't changed but I have been exposed to many different perspectives and experiences on being a student teacher which has considerably altered what I initially thought so I've learned something".

Application of skills to teaching practices

A further objective of the study was to work with early childhood student teachers to apply discussions that emerged during learning circles and readings into their teaching practices. As is evident in the key themes, participants made strong links to teaching practice as a result of involvement in the project.

Impact of critical thinking feedback on practices

A key objective of the study was to assess the positive impact of critical thinking feedback on participants' own and others' practices. This was intended to reflect the model of partnership that early childhood teachers are encouraged to practise as outlined in *Te Whāriki* (Ministry of Education, 1996), *Ka Hikitia* (Ministry of Education, 2013) and *Tātaiako* (Ministry of Education & New Zealand Teachers Council, 2011).

Building capacity and innovation

The use of a chosen topic area of each ITE contributed to one of the research objectives to build capacity in, and bring innovation to, the field of early childhood education. The topics of student identity; biculturalism and colonialism acted as a vehicle for the participants at their respective institutions as they focused on these topics in relation to the development of critical thinking.

Conclusion and next steps

The project investigated how an action research approach through 'learning circles' and 'sharing circles' successfully used overseas can be implemented to developing critical thinking in final year student early childhood teachers in New Zealand. Findings are promising and show that good facilitation, tailored resources and encouraging participants to apply emerging critical thinking to practice are important.

When presenting the findings of this research to interested audiences, the researchers have anecdotally gathered feedback on this model in order to inform future teaching modes and initiatives within early childhood ITE. Feedback from the audience regarding the usefulness and benefits of this model for other ITE providers has been shared with the researchers. The recurring theme from the feedback has been that the methodology of sharing circles and learning circles could be used for multiple other purposes in early childhood education centre settings for example for the purpose of self-review.

In the final sharing circle participants were asked what strategies for implementing critical thinking development with early childhood student teachers beyond the project would be effective. Discussion centred on the use of critical thinking in relation to self-review and in facilitating staff meetings.

The final objective of this study was to develop an effective tool/model for supporting critical thinking in initial teacher education students. The tool is under development and will be available on the Ako Aotearoa website in 2016.

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