Music Teachers Oz Online: A New Approach to School-University Collaboration in Teacher Education

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Abstract

This paper provides a description and critical analysis of student perceptions of a nationally funded university teaching development project that aimed to bridge gaps between research, teaching and academic development in music teacher

education. Based on research recommendations the project utilised collaboration between schools and universities to develop and implement an innovative online curriculum model. Responses to student evaluation questionnaires and focus group discussions were analysed in order to establish the extent to which this project was contextualised and integrated within the university course. Findings show that students valued the experience of being engaged with authentic online case studies. Through this engagement, students were able to see the interrelationships between school experience and their university studies. The modelled collaboration between schools, universities and the community was perceived as effective by the majority of students and believed to be helpful in future field placements. Recommendations for further research and implications for music teacher education in Australia and beyond are discussed.

Introduction

The National Review of School Music Education in Australia recommended the improvement of music teacher education for both specialist music teachers and generalist primary teachers (Pascoe et al, 2005). Other research suggests that music teacher education courses are overly theory-based rather than student-focused and school-centred, and that early-career music teachers are dissatisfied with their pre-service education (Ballantyne, 2007a). In a direct response to this research, and to the National Review's recommendations, a learning and teaching project was designed to bridge gaps between schools and universities, theory and "reality", in order to improve music courses in teacher education. This project, entitled *"Bridging gaps in music teacher education: developing exemplary practice models using peer collaboration"* aimed to address these identified gaps by focussing on the contextualisation and integration of music teacher education courses (Ballantyne, 2007a) through academic and school–university collaboration. Over time, the project came to be known as *Music Teachers Oz* (http://www.musicteachersoz.org).

Music Teachers Oz was located across four universities in Australia over two years (2007 and 2008). The majority of students involved in the project were enrolled in programs which would eventually qualify them as generalist primary teachers. Most courses were located either in the first or second year of a four year degree (typically a Bachelor of Education), and whilst courses at some of the institutions focussed on music education, others focussed on arts education more generally.

Project Aims and Design

The project aimed to improve pre-service music teacher learning through developing, implementing and evaluating *integrated* and *contextualised* teacher education initiatives. In brief, the project involved university collaboration with practising teachers to produce video case studies located in multiple music teaching contexts, placing these case studies in a web-based learning format that enabled students to engage in discussion and interaction around the problems and issues raised by the teachers. Further, students were asked to develop solutions which were informed not only by the discussions with peers, and in some instances the teachers themselves, but were also linked to course readings, and other experiences within their teacher education. The explicit aims of the project – to implement music teacher education that was *integrated* and *contextualised* have previously been flagged as important components of effective teacher education (see Ballantyne 2007a, 2007b; Pascoe at al, 2005; Temmerman, 2006; Roulston at al, 2005), and the ways that these two aims were conceptualised and implemented in the design of this project are outlined below:

1. <u>*Integrated teacher education*</u> involves students in curriculum that helps students to make links between theory and practice, between general education and music education, as well as relating the knowledge presented in all their music discipline and education units to their future professional practice.

Pre-service teacher education courses need to prepare teachers for the realities of the classroom. Ballantyne's (2007a) findings show that early-career teachers perceived a need for teacher education courses to be integrated and provide opportunities for the continual development of knowledge throughout the early stage of their careers. Attention needs to be given to the realities of the classroom in order to prevent praxis shock (Ballantyne, 2007b), which is also associated with the high incidence of "burnout" among music teachers. Suggestions for improving teacher education include "problem-based learning opportunities and interaction with a variety of music teachers in many different contexts" (Ballantyne, 2007b, p. 187). This approach supports students not only in generating knowledge but also in developing self-directed learning skills, thereby ensuring that education becomes a lively discovery of reality (Henderson, 1992).

In this project, problem-based learning was utilised to enable students to become independent learners who are able to apply knowledge and establish links between theory and practice across courses and contexts. Problem-based learning situations engage students in authentic activities based upon professional problems directly linking practice and theory (Boud and Feletti, 1991). This approach reflects the knowledge and skills valued in the classroom and prompts students to function and participate as members of a community of practice (Barab & Duffy, 2000). Students ideally become effective collaborators, as well as construct an

extensive and flexible knowledge base and develop effective problem-solving skills (Barrows & Keson, 1995).

In the *Music Teachers Oz* (MTO) project, university education students were engaged with problem-based scenarios filmed in professional situations with teachers. They interacted online with students in their own and other institutions, as well as with the teachers in the case studies. Through this holistic and practice-centred approach, students were enabled to establish links between theory and practice (a) in music education courses and (b) across general educational theory and practice courses. This online collaboration was explicitly intended to move the courses involved in the project towards an *integrated* approach to teacher education.

2. *Contextualised teacher education* provides pre-service teachers with the means to apply knowledge and skills learnt in all subject to their future context as music teachers by presenting both music and education theory in terms of their application to music teaching.

Although pre-service teacher education is designed to prepare beginning teachers for the early years of their career, in the past they have expressed dissatisfaction with their pre-service teacher education, felt ill-prepared for the world of teaching, and expressed disillusionment about the compartmentalisation of education and music subjects within their course (Ballantyne, 2007a). Campbell and Thompson (2003) suggest that a reason pre-service teachers initially hold simplistic notions of what music teaching will be like is because they have had little opportunity to engage with schools as "teachers". The inclusion of valuable, relevant and real-life contexts for teaching music education in pre-service courses (Ballantyne, 2007a; Temmerman, 2006) could therefore improve early-career teachers' perceptions of their courses, and better prepare them for the realities of the classroom.

Multiple contexts, and constructivist approaches may mean "messiness" in music teacher education. Problems raised by teacher educators, teachers (and hopefully by students as well) may have many solutions, no obvious ones, or just raise more questions. Teacher education courses need to actively struggle with ways to cater for the multiple contexts that pre-service teachers are likely to encounter when they leave the "safety" of their universities. In the design of this project, there is no pre-emption of students' responses. Uncertainty of response is inherent in the design of the course content, but the emphasis on contextualisation is made explicit to students – they are aware *of the purpose* of learning in this way, which arguably increases both their motivation for the course, and their ability to apply general education "theory" to the music classroom in the future.

Design of Website

Figure 1. Found at www.musicteachersoz.org

The M*usic Teachers Oz* website was set up to provide opportunities for those interested in music teacher education to discuss issues, share ideas, news and resources and also to allow pre-service students to engage actively with case studies. Students were encouraged to work collaboratively within institutions, as well as with other universities, in-service teachers and lecturers from across Australia. The design of the website incorporated the use of 'rooms' to allow users to navigate around the site. It contained areas that were freely accessible to the public and a restricted area for student discussions. The "rooms" where interactive collaboration between students occurred were:

The Public Room: In this room, everyone interested in music teacher education could read current music education news and discuss music education issues in the online discussion forum. This room attracted significant interest from those outside of the university sector, and so was a key place for students to go to, in search of answers from the "real world". It also became the place where beginning teachers raised issues and questions – sometimes answered by teachers, and sometimes answered by other students. In this space, resources could also be shared, and participants could talk about their ideal teaching situations in the "Dreaming Room".

The Case Study Room: Here, participating students could engage with 15 different case studies as part of their course involvement with *Music Teachers Oz*. Students were asked to research and explore issues of significance to solve the "problems" presented in each case study. As the case studies did not have an inherent solution, the proposed problems were characterised by unclear goals, various possible solutions and real-life complexity which further encouraged students to reflect and develop multiple and non-traditional solutions (Fetherston, 2007). The case studies were presented in two categories – those with a music specialist focus and those with a general arts focus, to enable students to access the most relevant "problems" to their future teaching contexts. Each case study had an attached discussion forum, where students might engage with one another and the teachers from that case study, exploring the nature of the problem, and providing suggested solutions. Non-students could not access this section of the website, which was protected to prevent the viewing of children by non-enrolled student teachers.

Case Studies

Each of the 15 teachers interviewed were asked to identify a "problem" that they were currently encountering in their school in relation to music and arts education. Some teachers were specialist music teachers, but the majority were general classroom primary teachers who were enthused by music or arts education, and wanted to improve their practice. Some of the "problems" identified by the teachers included (for example) how to integrate music and arts learning in an unstructured pre-school context, how to cater for music education within a gifted and talented program and how to explore meaningful and authentic ways for music students to engage with the community. Problems were also located in a variety of settings including a rural school, a multicultural school, a 100% Indigenous school, an 'alternative' child-centred pedagogy school and a one teacher school. All teachers were filmed answering the following questions:

- *Why did you want to be a teacher?*
- *How would you describe your school and students?*
- *What was your prior experience with teaching arts/ music?*
- *What are your views on music education and how confident do you feel teaching music and the arts?*
- *Where is the learning context?*
- *Please can you show us around the area where children will be learning?*
- *Why do you want children to learn music in this context?*
- *Have you ever tried to facilitate music/arts learning in this context/way before? If yes, what is your experience?*
- *What issues will pre-service teachers need to be aware of when relating to your context?*
- *Can you please state the overall problem in one sentence?*

In addition to answering these questions, some teachers were able to provide "snapshots" of themselves teaching, or student commentary on the "problem". Throughout the first two semesters of the project (in 2007) six of the teachers engaged in online discussions with students offered suggestions regarding the overall problem in the various learning contexts. Another four teachers viewed discussions on the website quite frequently but didn't post anything. In a bid to demonstrate what the case studies were like, we have described and included the link to one below.[1]

Case Study Example

In the first case study, Susie, a middle schooling teacher had taken her students to the skate park for a geography unit on graffiti. When pre-service teachers were viewing the videos of Susie on the website, they learnt about her school and students, her experiences with music education and her confidence in teaching music education. Pre-service teachers were also shown around the skate park and heard about why Susie wanted her students to learn in this context. Susie then asked the pre-service teachers to help her in her quest to include music learning as a component of her skate park excursion. Please view the case study videos here:

http://www.musicteachersoz.org/moodle/mod/resource/index.php?id=2[2]

This case study, while not intended to be an exemplar, demonstrates the way in which teachers were prepared to contribute to the program by inviting pre-service teachers into their classrooms and sharing their problems. By showing the physical environment and describing the location and prior experiences of the teachers, the pre-service teachers were able to engage more effectively with the teaching environment and issues associated with the teachers' context.

Methodology

This article examines students' perceptions of the effectiveness of the *Music Teachers Oz* project in achieving the project aims (integration and contextualisation in teacher education). The research questions addressed are:

> *To what extent do participating students view their learning as "integrated?"*
> *To what extent do participating students view their learning as "contextualized"?*

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[1] This case study was selected because it is available in full on the website www.musicteachersoz.org/moodle (some cases are 'hidden' to the public, as they contain images of children). It is not representative of all the case studies that students accessed, but we encourage members of the public to access the website to see videos of other case studies.

[2] In order to view this video, you need Adobe Flash Player to be installed on your computer. For help visit the Adobe website.

Data was collected at the end of Semester 2, 2007 (in the first semester of full implementation) and was generated by Bachelor of Education students (across two institutions) who would qualify as generalist primary teachers. The students were in the 1st or 2nd years of their degrees. Evaluation questionnaires were utilised, and a student focus group was conducted, making best use of both broad quantitative data and in-depth qualitative feedback. For the quantitative questionnaire items, descriptive statistics were derived using SPSS. Content analysis (identifying major themes, key words and phrases) was used when analysing the qualitative data from the focus group and open-ended questions from the evaluation questionnaire.

Evaluation Questionnaires

The questionnaire was structured to investigate four areas including *student's learning*, *learning strategies used on the website*, *design of the website* and *overall perception of Music Teachers Oz*. It consisted of items ranging from "strongly agree" to "strongly disagree" on a 6-level-Likert-scale. The option of neither *agree* nor *disagree* was not given which had implications for the treatment of the data. Each item was analysed separately summarising the percentage of positive and negative responses reducing the data to a nominal level by combining all agree and disagree responses in two categories.

The sample (n=122) was drawn from two universities that were actively involved in the evaluation of the project. The questionnaire elicited a response rate of 27%, which is consistent with the lower response rate expected from people who have high access to and familiarity with the internet (Dillman, 2000) and the data gathered was of high quality, enabling insight into the extent to which the students perceived the project as contextualised and integrated. Also analysed were the underlying indicators in light of the correlative relationships utilising factor analysis (Guadagnoli & Velicer, 1988). A factor analysis with varimax rotation resulted in only one factor which provided an undifferentiated picture with limited significance for further discussions.[3] More than 24% of the items were loaded high on the first factor which explained over 42% of the total variance. Based on the correlation of the scales and the findings of the factor analysis, reliability was established across the individual scales, as well as across the questionnaire as a whole. It was tested using Cronbach's alpha for internal consistency, and was satisfactory across all scales falling between .60 and .80 (Burns, 2000).

The project aims were divided into sub-learning and teaching aims which were underpinned by indicators suggested in the literature. These indicators were operationalised through

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[3] The criterion for factor extraction was the scree-plot.

various items in the evaluation questionnaire[4]. In examining the ***integration*** aspects of the project, the questionnaire drew on four areas where this could be experienced (see Table 1). In examining the ***contextualisation*** aspects of the project, the questionnaire drew on two areas where this could be experienced (see Table 2).

Table 1: Indicators and questionnaire item numbers relating to the aim "Integrated teacher education"

Areas of integration	Indicators and item numbers
1 Integration across courses/universities	Connectedness through online collaboration (Questions 2_g & Q2_d) Connectedness across courses (Questions 4_f, Q1_b & Question Q2_e) Increased inter-institutional collaboration (Question 2_h)
2 Integration with the community	Increased links with community groups (Question 1_e) Increased links between students & teachers, academics & teachers (Question 3_d & Q4_d).

Table 2: Indicators and questionnaire item numbers relating to the aim "Contextualised teacher education"

Areas of contextualisation	Indicators and item numbers
5 Contextualised learning for pre-service teachers	Problem-based learning enhances the perceived relevance of learning contexts(Question 2_b, & Q2_c) Learning draws upon students' prior knowledge to build understanding of music in education (Questions 1_a, Q1_d, & Q4_c) Opportunities are provided for students to reflect on their own beliefs and theories of learning (Question 1_c) The curriculum design reflects differences in teaching contexts (Questions 2_f & Q3_a)
6 Contextualised relationships between pre-service teachers, in-service teachers and academics	Interactive and productive relationships exist between pre-service teachers, in-service teachers and academics (Questions 1_f, Q2_a, Q4_e & Q4_g)

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[4] The questionnaire is viewable on request.

Focus Group

In order to investigate student perceptions in depth, eight students at one of the participating universities participated in a focus group to reflect on their experience with *Music Teachers Oz* at the end of the semester of their involvement. Students volunteered to be included in the focus group, comprising a convenience sample not based on questionnaire responses. A reward of afternoon tea was provided to focus group members. The focus group utilised a semi-structured question technique. The interview guide addressed students' perceptions of the case studies, their own learning and the website as a whole. Example questions included:

> 1. *Reflect on the case studies*: Is there one case that stands out in your memory? (explore reasons underlying selection)
>
> 2. *Explore students' perceptions of learning in relation to the case studies and suggestions for future adaptations of the project*: Reflect on your learning in relation to the case studies: What did you learn from (a) the case studies, (b) the teachers' presentations in the case studies, (c) interaction with other students?
>
> 3. *Reflect on learning about teaching music*: In what ways have your views on music education changed over the course of this semester? Please tell me how the *Music Teachers Oz* experience influenced your views on music education? Describe the ways in which your engagement with the website has influenced your confidence in teaching music in the future?
>
> 4. *Reflect on the project website*: What changes could be made to the project and/or the website to improve it? What are the features of the site that you think are most useful for teachers in schools? How could we make the site more useful for teachers in schools? What advice would you give to other students using the *Music Teachers Oz* website? What advice would you give to teachers? Explore views of the website and suggestions for future adaptations of the project.

The focus group was recorded and the transcript analysed in order to identify major themes, key words and phrases.

Findings and Discussion

In order to examine students' perceptions of the effectiveness of the *Music Teachers Oz* project, findings against each of the project aims (integration and contextualisation in teacher education) will be addressed and discussed separately, followed by a discussion on the implications of these findings for future work in the area of music teacher education.

> ***Integrated teacher education*** involves students in curriculum that helps students
> to make links between theory and practice, between general education and music
> education, as well as relating the knowledge presented in all their music
> discipline and education units to their future professional practice (Aim 1)

On the whole, analysis of the evaluation questionnaire indicated that *Music Teachers Oz* was
mostly viewed as having successfully provided opportunities for students to engage in
integrated teacher education (see Table 3). For example, 90% of respondents felt that
"working on real-life problems helped them to feel connected with other students" and 87%
felt that "the online discussions broke down communication barriers between students"
leading the way to successful collaboration between students from different universities. The
collaborative online discussions which focussed on addressing real-life problems "helped
students to improve the quality of their solutions" (90% agreed) and were deemed as
important in helping them develop effective problem-solving skills. As one student
commented on the evaluation questionnaire:

> *I found Music Teachers Oz an interesting way of learning how to integrate music
> into the other learning areas. I have also found music difficult but am excited
> about involving it with the other KLAs [key learning areas].*

Table 3: Evaluation questionnaire findings against the aim "Integrated teacher education"

Indicators	Item	% Disagree	% Agree	Mean score[5]
1.1	Q2_d) Working with others on real-life problems helped me feel connected to other students.	9.8	90.2	4.3
	Q2_g) The online discussion broke down communication barriers between students.	13.2	86.8	4.2
	Q1_b) Music Teachers Oz helped me see how general education theory applied to practical problems in music education.	5.0	95.0	4.5
1.2	Q2_e) Working with others towards solving real-life problems helped improve the quality of my solutions.	9.9	90.1	4.4
	Q4_f) The case studies will help me on future field experiences.	9.9	90.1	4.4

1.3	Q2_h) The multi- university approach in MTO modelled effective collaboration.	10.6	89.3	4.4
2.1	Q1_e) Music Teachers Oz showed me how community groups can have an active role in school education.	6.7	92.3	4.6
2.2	Q3_d) I enjoyed the contact I had with practicing teachers in schools.	5.0	95.0	4.4
	Q4_d) I felt that the assessment associated with Music Teachers Oz helped my learning.	13.2	86.8	4.3

[2] Scores ranged from 1-6, with 1 = strongly disagree, and 6= strongly agree

Enabling students to recognise relationships between the educational theories addressed in their coursework and their future profession as teachers was one of the main goals of the project. Of the 122 students, 95% students agreed that "MTO helped to see how general education theory applied to practical problems in music education". This was an important finding as one of the major aims of the project was to minimise the "fragmented" nature of teacher education and allow students to apply accumulated knowledge to practical issues across their degree. Participation for the vast majority of students also demonstrated "how community groups can have an active role in school education". Another aspect of the emerging awareness of integration with communities was the perceived relationship between school-based practica and their learning experience: 90% of the students agreed that the "case studies will help them on future field experiences". As stated in the focus group:

> *I reckon it will kick more in [sic] when we're actually in class doing prac ...so far we haven't implement[ed] anything bar a little activity. When we get into prac ... next year where we have to cover all the areas, this will kick in and this is when the site will kick in as well.*

According to Nierman, Ziechner and Hobbel (2002), teachers should be taught how to collaborate effectively with stakeholders such as school boards, teachers and universities. By using a multi-university approach and involving teachers in the case studies, this curriculum initiative "modelled effective collaboration" (89% agreed). As some students commented:

> *The multi-uni collaboration is fantastic!! [Students from other institutions] receive different teaching and therefore they will have slightly different ways of solving problems. There is more diversity and richness in the idea bank.*

> *Just seeing that other teachers have similar problems and concerns is really helpful. I think it's also very beneficial to try and work out other teachers' issues*

> *as this will give me more ideas and much more confidence dealing with a similar problem when I begin teaching.*

The method of using online discussions in the project was viewed by some students as valuable, but was seen as inhibiting by others. Some felt that online discussions were too "anonymous", whilst others felt uncomfortable posting on the discussion boards under their real names:

> *Possibly change from names to student numbers, or allow a choice as some people felt very uncomfortable knowing people who knew them were reading their responses.*

> *I still found this type of communication very impersonal. I can see how others have interacted with other people and this is to [be] commended, but for me personally, I did not find I related to others.*

These issues were not brought up in the focus group. Comments made in the these discussions indicated that students would prefer even more engagement with various case studies within their particular course (each university engaged with different degrees of depth in this regard).

> **Contextualised teacher education** *provides pre-service teachers with the means to apply knowledge and skills learnt in all subject to their future context as music teachers by presenting both music and education theory in terms of their application to music teaching (Aim 2).*

Through engagement in this project, 98% of respondents felt that "they began to see how music and the arts can be part of every child's school experience" (see Table 4). The case studies presented to students encouraged them to relate the knowledge presented in all their music discipline and education units to their future professional practice as teachers of music with 92% of the students feeling that engagement assisted them in making "real links between schools and their university studies". Some 90% of the participants found that "*Music Teachers Oz* increased their understanding of how to teach music" which will most likely result in an increased level of self-confidence and therefore strongly affect the way they teach (supported by the finding that 96% of students believed that they could be a good teacher of music in the future). This is significant, as "beliefs are far more influential than knowledge in determining how individuals organise and define tasks and problems and are stronger predictors of behaviour" (Pajares, 1992, p. 311). These findings suggest that a considerably higher percentage of students who have engaged in this project are exhibiting confidence in teaching music than in many previous studies on preservice generalist teachers' confidence in music education (see Temmerman, 1997; Russell-Bowie, 2002). Arguably, this project is

therefore making inroads to address the issues of teacher confidence raised in the National Review of Music Education (2005).

Table 4: Evaluation questionnaire findings against the aim "Contextualised teacher education".

Indicators	Item	%Disagree	%Agree	Mean score[6]
5.1	Q2_c) Using real-life problems increased my motivation to learn	8.1	91.9	4.6
	Q2_b) The problem-based approach in MTO helped me to see real links between schools and my university degree.	8.1	91.9	4.5
5.2.	Q4_c) Music Teachers Oz increased my understanding of how to teach music.	9.1	91.0	4.5
	Q1_a) Music Teachers Oz increased my understanding of how to teach music.	11.5	88.4	4.3
	Q1_d) I began to see how music and the arts can be part of every child's school experience.	1.7	98.3	5.0
5.3	Q1_c) The case studies made me think about my own theories of learning.	8.2	91.7	4.6
5.4	Q2_f) Engaging with multiple case studies highlighted the importance of understanding the learning context.	6.4	93.6	4.5
	Q3_a) The materials and activities structured around Music Teachers Oz website have prepared me to teach music.	10.7	89.3	4.3
6.1	Q1_f) The relationship I formed with other students, teachers and lecturers will inform my future practice as teacher.	18.0	82.0	4.2
	Q2_a) Music Teachers Oz modelled effective music education approaches for me to follow.	11.5	88.5	4.3
	Q4_e) I felt supported by the teachers and lecturers.	14.2	85.8	4.2
	Q4_g) I will use the website again when I begin teaching.	14.1	86.0	4.4

[3] scores ranged from 1-6, with 1 = strongly disagree, and 6= strongly agree

Comments on the questionnaire supported the finding that students were more motivated to learn in the area following their engagement with "real-life" case studies:

> *I think the fact that these case studies are real people's problems motivates me more than a case study that someone has made up. There is more of a connection and you want to help more knowing that the person on the other end probably will read your suggestions and may even implement them. That is pretty cool.*

> *Music Teachers Oz gave a great opportunity for people to face and try to resolve problems which actually occur in real classrooms. This has been a fantastic thing for me as I haven't been in a classroom as a graduated teacher yet and I feel more informed about problems which may arise and better equipped to solve them.*

Findings for Aim 2 suggest that these pre-service teachers are beginning to relate the knowledge in their music education discipline to their professional practice. Indeed 82% agreed that "the relationship formed with other students, teachers and lectures [would] inform their future practice as teacher". Opportunities for these links to develop will be applicable to students when on their school practicum in both generalist and music classrooms.

Where to from Here? – Implications for the Development of *Music Teachers Oz* and Future Research

It seems that *Music Teachers Oz* provided the majority of students with a valuable experience, applying knowledge in different contexts in an unconventional way. They were able to collaborate with students, teachers and lecturers from different universities, and gained insights into school–university collaboration. In addition to the presented findings, comprehensive feedback from participating teachers, implementers and the project team was collected throughout the last year and will be collected continuously in addition to students' feedback.

Students mostly wanted to see increased contact with the teachers in the case studies – whilst some teachers went on the website quite regularly, others did not make contact very often. Feedback indicates that it is most important not to raise unrealistic expectations amongst students about the teachers' involvement. Areas where improvements were implemented in 2008 included better organisation of the case studies, more detailed instruction for new students, adjustment of the evaluation questionnaire and implementation of additional face-to-face discussions in coursework to compliment online-based discussions on the website.

A major aim will be to establish the *Music Teachers Oz* website as a resource for students once they have finished their degrees. Ideally useful links, discussions and teaching material could be up-loaded and participants asked to add to this collection as the project progresses.

The majority of students (86%) believe that they "will use the website once they start teaching" which supports the argument for an ongoing provision of a supportive online space for where music teachers and pre-service teachers can engage with one another.

The findings presented are only part of the data available from the *Music Teachers Oz* project. Future research will analyse the nature of the interactions taking place in regards to every case study, the depth of learning occurring evidenced by "solutions" presented by students and a further analysis of the interaction between students, teachers, lecturers within the online discussion forums. Furthermore, it would be desirable to follow-up with students who participated in the MTO project once they finish university and begin teaching. It is important to determine whether their stated preparedness to teach during the course translates into a feeling of preparedness once out teaching. These findings could be compared with previous studies investigating students who went through traditional curriculum models (e.g. Ballantyne, 2006; Harrison, 2005; Hudson & Hudson, 2007).

Implications for Music Teacher Education

This project has trialled an approach to improving music teacher education across institutions, particularly in terms of the ways students can apply their developing understandings of music education to multiple "real life" contexts. It is hoped that it may provoke further trials of alternative approaches to music and arts education in teacher education courses. Analysis of the *Music Teachers Oz* evaluation data suggested that the following issues should be considered when designing similar curriculum approaches. It is suggested that online problem-based learning:

- provide students with opportunities to access classroom contexts in ways other than through practicum. It seems that, as they are removed from the pressures of being in the classroom, they have more space to reflect on the application of theory to the context. It remains to be seen to what extent this is transferable to the practice of the pre-service teachers on practicum.
- make use of the collaborative development of knowledge between students through an interactive approach. This can also initiate some very creative responses to everyday teaching issues.
- consider the storage of knowledge and accessibility of previous discussions for future use by students and staff.
- plan for ways to initiate some students into the online environment, and appropriate ways to interact with teachers who have (very bravely) allowed the students to see them in an honest, vulnerable state.
- consider the moderation of discussions for each case study. It is likely that if the case studies were self-managed by the teachers involved, and were renewed by new case studies each semester, momentum of discussion would be maintaind,

and the "problems" would also remain "current". This might also reduce the "interaction fatigue" of participating teachers.

- utilize face-to-face discussion of the case studies in tutorial groups alongside online interaction.

This paper has described the main features of *Music Teachers Oz*, a university teaching development project and illuminated students' perceptions of this online-collaborative, case-based approach to music teacher education. Student feedback has provided insight into the issues surrounding the implementation of this style of school-university collaboration and provided the opportunity to further re-shape university arts and music education curriculum. The successes and pitfalls of this experience will, we hope, prove useful to others implementing similar initiatives in other contexts.

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