

## Music Education: A Threatened Species in the Humanities

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*Abstract: Music is one form of the Arts that has always been an integral component of education and enjoyment in the Humanities. A current trend in education in Australia has been an increased emphasis on the development of literacy and numeracy, which has often come at the expense of other curriculum areas including the Creative Arts. In New South Wales (Australia) Music is taught in primary (elementary) schools by generalist classroom teachers. However, anecdotal information has indicated that Music is one strand of the Creative Arts which is not being taught consistently or well. Experienced teachers often display a reluctance to teach music which stems from a lack of belief in their ability to teach this subject. Additionally, many students who enter teacher education programs have limited musical background and also indicate low levels of confidence in their ability to teach music in primary schools. This perception often continues into their permanent teaching careers and therefore, this most important element of the Humanities, in many cases, is not being well developed with young children. In order to gain knowledge and insight into this problem, a longitudinal study was undertaken which focused on the factors affecting the development of initial Music Teaching Self-Efficacy in primary (elementary) pre-service teacher education students. The study also investigated changes to that teaching self-efficacy over time and focused on elements such as background and experience, perceptions of musical abilities and feelings/anxieties about teaching. This paper will discuss the final results of the study and the implications for the focus of content and pedagogy in pre-service teacher training in the Creative Arts. Further, it will explore future directions for this important area of teaching and learning in the Humanities.*

Keywords: Music Teaching Self-Efficacy

**M**USIC IS ONE form of the Creative Arts that has always been an integral component of education and enjoyment in the Humanities area of learning. However, despite its importance as an area of learning it has become somewhat marginalised in curriculum planning in Australian schools. A current educational trend in Australia has been to increase emphasis on the development of literacy and numeracy which has often come at the expense of other curriculum areas including the Creative Arts. This trend has been evident in many countries and has resulted in a decline in the status of Arts education and its relegation to the periphery of curriculum importance (Eisner, 1989). The overall Creative Arts curriculum including Music has suffered from this lack of support and subsequent lower levels of student participation. Therefore, many students who enter teacher education programs have limited musical background and experience. Their formal education in music has often been confined to the compulsory education undertaken at school, which in New South Wales does not extend beyond the junior secondary years. Consequently, despite the many opportunities that exist for broad societal exposure to varied forms of music, particularly popular music, many preservice student teachers perceive that they have limited natural abilities and content knowledge in this area and indicate low levels of confidence in their ability to

teach music in primary schools. This perception often continues into their permanent teaching careers and indeed, many very competent teachers still express a lack of confidence in their ability to teach Music. Specific background knowledge and training is a pre-requisite for preparedness to teach music in elementary schools (Cameron, Wiggins, Wiggins & Bartel, 2002). Therefore, this most important element of the Humanities, in many cases, is often not being well developed with young children.

In New South Wales primary (elementary) schools, generalist teachers are required to teach music as part of their overall curriculum. However, many preservice student teachers display a low level of teaching efficacy, i.e. their belief in their ability to teach music, even after concentrated periods of study. Teacher efficacy is a powerful construct, which can influence student learning and teacher behaviour in the classroom. Whilst much educational research has been undertaken related to teaching anxiety and lack of teaching self-efficacy in curriculum areas such as Mathematics and Science, little has been developed in relation to the Creative Arts. In a number of studies related to other curriculum areas key (Bobis & Cusworth, 1994; De Laat & Watters, 1995; Enoch & Riggs, 1990), factors, such as lack of content knowledge and lack of prior experience, have emerged as barriers to developing high levels of teaching self-efficacy. Therefore, these

factors identified in studies of curriculum contexts that have a much more comprehensive school educational base, may be even more relevant in relation to music education. In order to gain knowledge and insight into this problem, a longitudinal study was undertaken which focused on the factors affecting the development of initial Music Teaching Self-Efficacy in primary (elementary) pre-service teacher education students. The study also investigated changes to that teaching self-efficacy over time and focused on elements such as background and experience, perceptions of musical abilities and feelings/anxieties about teaching.

### **The Construct of Self-Efficacy**

Social Cognitive Theory as proposed by Bandura (1986) involves a self-system in which individuals have the capability to influence their thoughts, feelings and behaviour. In this way, they interact with their environment and the messages and influences received from it to regulate their thoughts, feelings and perceptions of competence to approach tasks and intentionally pursue the courses of action required to bring about successful outcomes. The interaction between perception of capability and execution of actions is the essence of self-efficacy as defined by Bandura (1977, 1986) and is situated within his social cognitive theory of human behaviour. He proposed that there was a connection between the individual's assessment, not only of their capability to perform a task, but also their anticipation of the steps or actions required to perform that task successfully to achieve desired results. People with strong self-efficacy are more likely to undertake a challenging task, to persist longer and to perform more successfully than those with low self-efficacy (Wood & Bandura, 1989). Those who are confident in their capability also often display a strong level of engagement and genuine interest in the task at hand (Pajares, 2000) and are predisposed to try harder and persist longer with those factors beyond their immediate control.

### **The Factors Affecting Self-Efficacy**

In his theoretical framework of self-efficacy, Bandura (1986, 1994) proposed four key factors that have an influence on the development of self-efficacy and its refinement. Those factors are enactive mastery experiences, vicarious experiences, social persuasion and physiological and emotional arousal. Enactive mastery experiences influence the individual's perceptions of competence related to interpretations of personal performance and the outcomes of attempted tasks or activities. The perceived level of success raises efficacy beliefs and the expectations of positive

future performances (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998).

Vicarious Experiences in the form of social modelling are another major influence on the development of self-efficacy proposed by Bandura (1986). The strength of this impact is dependent upon the individual's perceptions of their similarity to the models. Actions taken by another person of significance, such as a teacher, can instil a 'life changing' sense of self-belief Pajares (2000).

The appraisals or assessment of others are another source of efficacy building. This feedback, which Bandura (1986) called 'social persuasion', can influence an individual's beliefs in their ability to succeed on specific tasks. Social persuasion works in conjunction with vicarious experiences to build self-efficacy expressed in the form of 'confidence in ability' (Pajares, 2000). This confidence is developed because of the combination of the feedback received from others, along with the effects of observation of the actions of others. This is particularly influential if those others are significant to the receiver of the feedback, for example a teacher, a parent or the members of a peer group (Pajares, 2000).

Self-efficacy can also be influenced by the value or level of interest placed on the task or activity itself and the emotional and physical reactions that are aroused by that specific task or activity. Anxiety related to a task can sometimes cause a poorer performance outcome than the individual's actual ability or capability should produce. People often judge their capabilities and personal efficacy in relation to their emotional responses and moods. These reactions such as stress, anxiety and mood therefore provide information about the levels of self-efficacy related to tasks and can be predictors of accomplishment (Pajares, 2000). They not only reflect self-efficacy beliefs, but can also influence them. Additionally, Bandura (1986, 1997) proposed that the general level of self-efficacy that the individual brings to a task is an important element. The level of self-regulation they apply, the complexity of the task and the context in which the task is formed influence a person's belief in their capability to perform the task successfully.

Therefore, context is an important element in relation to the levels of self-efficacy an individual may bring to and maintain throughout tasks to be undertaken. Further, as contexts vary so too the perceived self-efficacy may vary in accordance with the factors that pertain to the particular context. One of the key elements identified as important in studies of teacher efficacy is its contextual nature. In a number of curriculum contexts within teaching such as Science, Mathematics and Music, research has shown that teachers often display low levels of perceived teaching efficacy, which is in contrast to their effi-

acy beliefs related to the generic skills and competencies of classroom teaching. For example, teachers who are highly efficacious in relation to general teaching skills may display low levels of perceived efficacy related to science teaching (De Laat & Watters, 1995). Low levels of teaching efficacy related to specific curriculum contexts may also reflect low perceptions of individual ability in those curriculum areas. For example, the perceptions of individual abilities in Mathematics and Science have been found to have an impact on teaching self-efficacy in both pre-service and in-service teachers (Bobis & Cusworth, 1994).

Similar results were found in studies related to the Creative Arts, which showed that many teachers view the arts as curriculum areas that are “intuitive” and require innate skills and abilities. Therefore, if teachers perceive themselves as not having that intuitive ability they often exhibit low levels of teaching efficacy (Welch, 1995). In music education, similar results have been found which show that teachers with low levels of perceived abilities related to Music have been shown to be less confident to teach Music (Bartel & Cameron, 2002; Cameron et al., 2002). They are also more inclined to believe that inherent musical ability cannot be changed or controlled.

Background learning and experiences are also important elements of efficacy building. However, perceptions of musical ability were found to be a stronger influence than formal learning in music in studies by Cameron et al. (2002) and Bartel and Cameron (2002). A lack of belief in capability even when formal learning had been undertaken was consistent with research in other curriculum areas such as Mathematics, Science and Visual Arts (Bobis & Cusworth, 1994; De Laat & Watters, 1995; Welch, 1995). Therefore, the factors that influence efficacy building are not limited to formal background learning and experiences but appear to be more complex in character.

The measurement of teachers' perceptions of efficacy has been extensively researched and developed not only in general theoretical terms, but also in relation to the influence of context. In recent years, a strong case has been established, for measurement on a more multi-dimensional basis (Bandura, 2001). Whilst a great deal of research has been undertaken in relation to teacher self-efficacy in graduate teachers, there has been a lack of longitudinal studies which have examined student teachers in relation to the initial formation of teaching efficacy and change which may occur across their period of training (Tschannen-Moran & Woolfolk Hoy, 2001).

## Aim

In the light of the issues raised above, a longitudinal investigation of pre-service teachers was implemented which aimed to look at a number of dimensions. This study focused on the factors affecting the initial development of Music Teaching Self-Efficacy in generalist pre-service teacher education students and on changes that may occur over a two-year period of methodology training. Two key research questions were the focus of the study:

- What factors influence Music Teaching Self-Efficacy?
- Do the relationships between the factors change as a result of the experiences in a two-year period of training in a teacher education program?

## Methodology

The subjects involved in this study were undertaking the two year methodology component in a pre-service teacher education program in a New South Wales university focused on teaching in primary (elementary) schools. Associated with the methodology coursework units was a school-based practicum program.

## Research Design

A longitudinal research design was used, with both qualitative and quantitative data collected across two years from two cohorts. The first cohort commenced their methodology sequence in the year 2000 and the second in the year 2001. Data were collected from each cohort through the administration of survey questionnaires at the beginning and the end of their two-year sequence of compulsory methodology units. The survey questionnaires contained both closed items and open-ended questions. In order to provide some triangulation of the questionnaire data, a small number of in-depth interviews were conducted with questions covering each of the sections of the survey questionnaire and these have been reported upon in a separate paper.

## Instrument

The *Music Teaching in the Primary Classroom Questionnaire* at Time 1 comprised five sections. Items for the questionnaire were either based on several established instruments relevant to Music and teaching or developed specifically for this study as detailed below:

- The first section used items specifically developed for this study to gather demographic information related to age, gender, the degree pro-

gram and the methodology unit of study in which the participants were enrolled.

- The second section contained questions specifically designed for the study related to the Sources of Efficacy Information. These included background and experience in each of general, creative arts and music teaching along with background learning, and experience in Music.
- The third section comprised items related to perceptions of teaching self-efficacy framed as beliefs in teaching competencies. These items were based on the structure of self-efficacy scales suggested by Bandura (1997) and covered competencies relevant to general classroom teaching, creative arts teaching and music teaching.
- The fourth section comprised items related to perceptions of individual musical abilities modified from the *Arts Self-Perception Inventory* (Vispoel, 1993).
- The fifth and final section comprised items related to feelings about teaching and the scale was a modification of the Spielberger (1983) *STAI* {*State Trait Anxiety Inventory*}.

The Time 2 Questionnaire was identical to Time 1 except for the sources of efficacy information (Background Experience and Expertise) section as it was necessary to obtain information on any relevant experiences that had been gained over the two-year period of the study.

**Participants**

Two cohorts of student teachers took part in this longitudinal research project across their two-year sequence of study. Those subjects present at both the pre-test and post-test administration of the questionnaire formed the sample group of 179 students. The two cohorts displayed very similar demographic characteristics with the majority being female (over 90%) and falling in the 20-24 years age range (over 68%). The sample group were also very similar when compared on their background and experience in general teaching, creative arts teaching and music

teaching along with their previous learning in Music and their musical background experience. A large percentage of participants indicated they had been involved with informal teaching whilst only a small proportion of the sample indicated they had formal teaching experience. A low percentage of both cohorts had some creative arts teaching experience but only a very small percentage had any teaching experience in the strand of Music. A surprisingly high percentage of both cohorts (over 65%) had experienced substantial learning in Music in their background and a high percentage of both cohorts had some form of experience in a performance or presentation related to Music or other forms of the Creative Arts.

The results indicated strong similarities between the two cohorts on demographic and background experience variables and therefore, it was decided that, on the whole, the two groups were sufficiently similar to be treated as one cohort.

**Analysis and Results**

**Measures over Time**

The closed item survey data were analysed to examine changes in students’ perceptions over time using a series of Paired T-tests. The finalised scales developed through Factor Analysis were used in the analysis of the combined cohort.

**Teaching Self-Efficacy Scale**

The patterns of means showed significant increases over time (Table 1). The student teachers indicated that they were more positive about their belief in their ability in general teaching than creative arts teaching, but both results were above the mid point of “moderately certain I can do” and increased into the upper range of the scale. The Music Teaching Self-Efficacy of the subjects, however, revealed less certainty with initial results below the mid point of the range and increases over time moving to just above the “moderately certain I can do range”.

**Table 1: Mean Teaching Self-Efficacy Scores by Time**

Variable	Time 1		Time 2		T	df	p
	Mean	SD	Mean	SD			
General Teaching Self-Efficacy	6.43	1.67	8.81	.96	18.09	176	.000
Creative Arts Teaching Self-Efficacy	5.84	1.87	7.93	1.35	15.65	174	.000
Music Teaching Self-Efficacy	4.74	2.34	6.55	2.13	11.95	174	.000

**Musical Ability Perceptions Scale**

The mean results (Table 2) indicated a significant increase for Perceptions Of Musical Abilities but

this was a small increase. The student teachers were somewhat uncertain about their belief in their musical

abilities with most responses falling in the mid range of “more false than true”.

**Table 2: Musical Ability Perceptions over Time**

Variable	Time 1		Time 2		T	df	p
	Mean	SD	Mean	SD			
Perceptions of Musical Abilities	4.47	1.57	4.73	1.56	3.45	176	.001

**Feelings about Teaching Scale**

Mean results (Table 3) showed a significant increase in both positive and negative feelings about teaching. Student teachers indicated that they were slightly more positive than negative in their feelings about

teaching at the beginning of their teacher education program. Over time both feelings increased significantly, but the positive feelings about teaching were stronger than the negative feelings, reaching the upper range of the scale at Time 2.

**Table 3: Feelings about Teaching over Time**

Variable	Time 1		Time 2		T	df	p
	Mean	SD	Mean	SD			
Positive Feelings About Teaching	2.86	.45	3.45	.41	15.82	172	.000
Negative Feelings About Teaching	2.76	.41	3.19	.35	11.98	172	.000

**Summary**

The perceptions of student teachers in this study showed significant increases over time on all of the scales. They were confident about their General Teaching and Creative Arts Self-Efficacy at the beginning of their program of teacher education and this increased strongly over time. The subjects, however, revealed a lower confidence in their Music Teaching Self-Efficacy and this did increase significantly but not substantially over time. Perceptions of Musical Abilities were also relatively low with results revealing only a small significant increase from the mid point of the range to just above it. Their positive Feelings About Teaching also showed a strong increase over time.

changed over the course of their pre-service teacher education program. Therefore, a series of regression analyses was undertaken to ascertain what factors influenced these results. Data gathered on the background and experience variables were included within these analyses.

For simplicity and ease of explanation several separate analyses were undertaken, firstly focussing on Music Teaching Self-Efficacy at Time 1 and then on the change from Time 1 to Time 2. The two sets of analyses can be combined to present an overall analysis of the conceptual model (Figure 1). The final model includes all significant predictors and pathways across the longitudinal period of the investigation but omits paths between the independent variables

**Regression Analyses**

The analyses above demonstrated that student teachers’ perceptions of their teaching self-efficacy

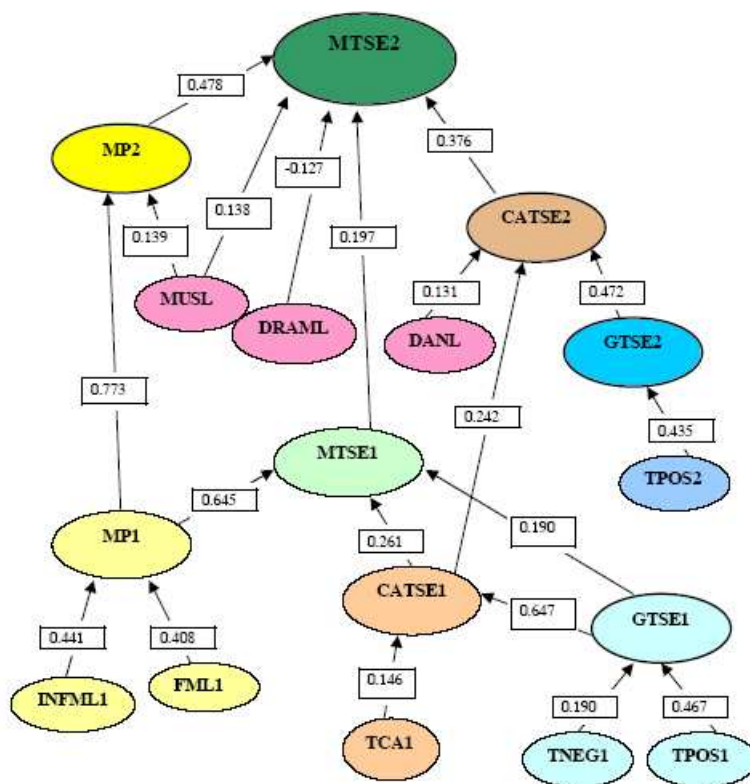


Figure 1: Time 1 and Time 2 Predictors and Pathways for Change to Music Teaching Self-Efficacy

While Music Teaching Self-Efficacy was related to General Teaching Self-Efficacy and Creative Arts Teaching Self-Efficacy, the greatest influence was the current perceptions of musical abilities. The standardised coefficients show that change in student teachers’ Music Teaching Self-Efficacy (MTSE2) was influenced mainly by their current perceptions of their musical abilities (MP2) and their current Creative Arts Teaching Self-Efficacy (CATSE2) along with the amount of experience in teaching Music (MUSL) and their Music Teaching Self-Efficacy at Time 1 (MTSE1). The number of drama lessons taught (DRAML) had a negative influence on the student teachers’ perceptions of their Music Teaching Self-Efficacy, but this may be a consequence of how teaching timetables were structured, with the increase in drama lessons being accompanied by a decrease in Music lessons.

Creative Arts Teaching Self-Efficacy (CATSE2) was strongly influenced by current General Teaching Self-Efficacy. Change in Creative Arts Teaching Self-Efficacy was also influenced by initial perceptions of ability to teach in the creative arts (CATSE1). Change in General Teaching Self-Efficacy (GTSE2) was not influenced by initial General Teaching Self-Efficacy (GTSE1), but by the current Positive Feelings About Teaching (TPOS2).

### Summary

The two-year methodology program of teacher training appears to have been effective in developing positive change over time in the subjects’ Music Teaching Self-Efficacy. The strength of the students’ Music Teaching Self-Efficacy was moderate, or just above the mid-range of the scale at the beginning of their training period (Mean=4.74) and this increased significantly at the end of this program (Mean=6.55). As well, measures on all the other major variables (Creative Arts Teaching Self-Efficacy and General Teaching Self-Efficacy, Musical Ability Perceptions and Feelings About Teaching) showed improvements over time with results moving to more positive outcomes. The question then arises as to which variables were most influential in these changes.

Four of the measured factors predicted Music Teaching Self-Efficacy at Time 2 including Musical Ability Perceptions, Creative Arts Teaching Self-Efficacy, music teaching experience and initial Music Teaching Self-Efficacy. The strongest of these predictors was the subjects’ perceptions of their musical abilities and this was consistent at both the pre and post-test measurements. It was more influential than Creative Arts Teaching Self-Efficacy, which was the second strongest predictor at both Time 1 and Time

2. Although General Teaching Self-Efficacy initially had a weaker but direct pathway of influence on Music Teaching Self-Efficacy, this was not maintained over time. It did, however, have an indirect influence at Time 2 through Creative Arts Teaching Self-Efficacy. The music teaching experience the subjects gained as part of the teacher education Practicum program had an additive effect. It was directly influential on Music Teaching Self-Efficacy at Time 2 and had an additional indirect pathway of influence as a predictor of Musical Ability Perceptions at Time 2. The final predictor was the students' initial Music Teaching Self-Efficacy which also had a direct influence over time.

## Discussion

Overall, the subjects in this study revealed that they were highly efficacious with regard to their General and Creative Arts Teaching Self-Efficacy, but this was not matched by their teaching self-efficacy related to Music. This was lower initially and over time. There was some transference of self-efficacy across the areas of creative arts teaching, general teaching and music teaching, however this was not uniform.

The major finding of the study was that the most powerful influence on student teachers' belief in their ability to teach music was their perceptions of their musical abilities. This finding supported previous research which indicated that teachers' perceptions of efficacy can be strongly influenced by their beliefs in their natural or innate abilities in particular contexts or domains of teaching. This has been shown to be relevant in previous research including studies into Mathematics and Science (Bobis and Cusworth, 1994; De Latt & Watters, 1995; Watters & Ginns, 1995) and the Visual Arts (Welch, 1995) along with research into Music including Bartel and Cameron (2002), Cameron et al. (2002) and Temmerman (1997).

The perceptions of their musical abilities that the subjects brought to the study directly and strongly influenced their Music Teaching Self-Efficacy. Their initial Musical Ability Perceptions were predicted, in turn, by the formal and informal learning in music they had undertaken in their background experience, which had a significant and substantial impact. The importance of musical experience was consistent over time with the music teaching experience undertaken by these preservice student teachers in the Practicum being an additional predictor of Musical Ability Perceptions at Time 2. These findings were consistent with those of Bartel and Cameron (2002) and Cameron et al. (2002) who found that perceptions of musical ability were a strong influence on

Music Teaching Self-Efficacy in generalist classroom teachers required to teach Music.

As perceptions of musical abilities were the strongest predictor of Music Teaching Self-Efficacy at both Time 1 and Time 2, the strength of those perceptions was clearly a crucial element. The survey results for the variable of Musical Ability Perceptions revealed that for the teacher education students, perceptions of musical abilities were weak at the beginning of the study, with most responses falling in the mid range of "more false than true". Even though the results increased significantly over time the mean only changed from 4.47 to 4.73 (on an 8 point scale).

The second strongest predictor of Music Teaching Self-Efficacy both initially and over time was the subjects' Creative Arts Teaching Self-Efficacy, which was in turn strongly influenced by General Teaching Self-Efficacy. It was expected, based on the work of Bandura (2001), that the influence of the underlying belief in teaching ability related to the general or generic skills and competencies of teaching would have an influence on teaching self-efficacy in the specific context area of the Creative Arts and that this, in turn, would influence Music Teaching Self-Efficacy. As expected, the results revealed a strong influential pathway in initial levels of teaching self-efficacy from general teaching to creative arts teaching and then through that to Music Teaching Self-Efficacy. However, the Time 1 results also revealed an unexpected pathway of direct influence between General Teaching Self-Efficacy and Music Teaching Self-Efficacy. Despite this, the strength of teaching self-efficacy results related to general teaching was not translated into Music Teaching Self-Efficacy.

Consistent with other studies in the particular curriculum domains of Mathematics and Science (Bobis & Cusworth, 1994; De Laet & Watters, 1995; Enoch & Riggs, 1990; Watters & Ginns, 1994), perceived teaching efficacy in Music was weaker than efficacy beliefs related to the general skills and competencies of classroom teaching. The direct influential pathway revealed in this study between General and Music Teaching Self-Efficacy at Time 1 was not maintained over time and it may be, as suggested by van den Berg, (2002), that factors more specifically related to the contextual nature of the teaching came in to play. For example, factors, such as teaching experience gained in the Practicum program between Time 1 and Time 2 may have developed greater awareness of the nature and organisation of the subject being taught.

In order to understand the influences on each of the areas outlined above more clearly, the Sources Of Efficacy Information were examined to gain insight into the factors that influenced the initial and

ongoing development of Music Teaching Self-Efficacy. Over the period of this study, mastery experiences of classroom teaching undertaken in the Creative Arts was measured more specifically to examine its effects in the four separate strands of Music, Dance, Drama and Visual Arts. The results revealed that when the broad variable of Teaching Experience in the Creative Arts was broken into these four separate components, the most significant influence came from the experience of teaching in Music. This factor had a direct pathway of influence on Music Teaching Self-Efficacy at Time 2 and also on Musical Ability Perceptions at Time 2, which in turn had the strongest influence on teaching self-efficacy in Music. The influence of music teaching experience was small but consistent between the two pathways.

### Implications

A number of implications arise from the results of this study. The proposal by Bandura (2001) that self-efficacy is not a globalised trait was supported in these results which showed that teaching self-efficacy is specifically contextually linked. There were differences between each of the domains of self-efficacy that were measured. Both initially and over time, Creative Arts and General Teaching Self-Efficacy results revealed similarly high levels of strength which were in contrast to the weaker levels of teaching self-efficacy related to Music. Whilst all the teaching self-efficacy measures improved significantly over time, the strength of the students' Music Teaching Self-Efficacy was lower than the other two variables and this difference was maintained at the end of the teacher training program. This confirmed Bandura's (1997) proposal that teachers may feel more or much less efficacious depending on the particular areas of instruction or teaching situations.

However, despite the differences in teaching self-efficacy related to areas of instruction, it would appear, as suggested by Bandura (2001) that there was a cross-linking of sub-skills between the different contexts. Creative Arts Teaching Self-Efficacy was a direct predictor of Music Teaching Self-Efficacy at both Time 1 and Time 2 and General Teaching Self-Efficacy was also a direct predictor at Time 1. Over time, this influence diminished and at the end of the teacher training program the pathway of influence for General Teaching Self-Efficacy was indirectly through Creative Arts Teaching Self-Efficacy. However, as suggested by Pintrich & Schunk (1996) and Tschannen-Moran & Woolfolk Hoy (2001), the extent to which teachers' perceptions of efficacy are specific to set contexts are unclear and this study revealed they are more complex than the quantitative results revealed.

The finding, that perceptions of individual musical abilities are a strong influential factor in the formation and development of Music Teaching Self-Efficacy, supports previous research linking perceptions of ability with teaching self-efficacy in particular domains. The proposal by Bandura (1997) that efficacy beliefs are "modified in line with experiences and pre-existing self-schemata" (Bandura, 2001, p. 82) would appear to be supported in these results. The pre-existing perceptions of musical abilities that the subjects brought to their teacher training program were predicted by their background experience in music learning and by their perceptions of their musical abilities. These perceptions appeared to be firmly established and the improvement over time was small.

It is worth noting that the influence of the second strongest predictor, Creative Arts Teaching Self-Efficacy, increased over time. The interesting finding was that this influence was hard to define as the experience of teaching in the Creative Arts for the subjects in this study covered the diverse strands of Music, Visual Arts, Drama and Dance. Indeed, the majority of Creative Arts lessons taught in the Practicum program were in Visual Arts, yet it was not a predictor of any of the teaching self-efficacy measures. Rather, only those strands which included a performance element i.e. Music, Drama and Dance, had some impact on teaching self-efficacy. It may be that key elements of planning in the performance strands were seen as similar sub-skills or the lesson focus on creative expression may have been perceived as a connecting element across the strands. Again, the connection between the performance components of the Creative Arts strands appears to support Bandura's (2001) notion that where similar sub-skills underpin different tasks there can be a crossover of influence.

The important finding is that those strands of the Creative Arts that include a performance element do have an influence on the development of teaching self-efficacy in the Creative Arts and particularly on Music Teaching Self-Efficacy. However, the extent of this influence is unclear and would be worthy of further investigation.

The importance of mastery experiences as sources of efficacy building proposed by Bandura (1986) was supported in the survey results. The mastery experiences of music teaching in the Practicum program emerged as an important factor. They had a direct influence on Music Teaching Self-Efficacy and also had an indirect pathway of influence through Music Ability Perceptions.



## Conclusion

Based on the results of this study discussed above, two clear recommendations for teacher education programs arise. Firstly, the key finding of the study was that perceptions of individual musical abilities are the most crucial component in the initial formation and ongoing development of Music Teaching Self-Efficacy. However, these perceptions were not strong initially and showed only small improvements over time. Therefore, in generalist primary (elementary) teacher education programs, there is a need to develop improved perceptions of musical abilities to subsequently influence stronger Music Teaching Self-Efficacy. The inclusion of more explicit learning in Music including theory, skills, teaching competencies and performance expertise would be a valuable

and influential component in the course work of such teacher education programs.

Secondly, mastery experiences in the form of Practicum music teaching emerged as an important and influential factor in the development of Music Teaching Self-Efficacy. It provided opportunities for efficacy building through practice of music teaching and social persuasion in the form of feedback from mentor teachers and vicarious experiences of the observation of modelling of music teaching. Therefore, the quantity of teaching practice and the quality of the teaching experience need to be carefully planned to ensure greater opportunities for comprehensive teaching practice of music lessons and effective modelling of music teaching by mentor teachers. These elements are crucial factors in the development of strong levels of belief in the ability to teach Music.

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The main focus of my work at Macquarie University, has been in the professional development of pre-service teachers. My research and teaching interests include teacher education and the Creative Arts with a particular interest in Music education. I am currently undertaking a PhD study into the factors affecting music teaching self-efficacy in pre-service teacher education students.