

## Exploring primary teachers' self-efficacy beliefs for teaching dance education

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The self-efficacy beliefs of 140 generalist teachers for teaching dance in the New Zealand curriculum were surveyed using an adapted version of the Teachers' Sense of Self-efficacy scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001). Four hypotheses were created to test relationships between the participants' self-efficacy beliefs for teaching dance and a variety of factors. Although this study found that generalist teachers had levels of self-efficacy beliefs for teaching dance that suggested they would be comfortable teaching it, this did not seem to result in dance being taught on a regular basis. Their beliefs were somewhat related to their subject knowledge confidence, but not to their teaching experience, class level and size, or school decile.

### Introduction

Dance education enables students to understand and use movement as a vehicle for self-expression, creativity and identity, and to experience its contribution to their daily lives, learning, and holistic development (Bresler, 2004; Brouillette, 2010; Hanna, 2008). The effectiveness with which this happens, however, is dependent on how dance is implemented in classrooms (Hong, 2002). Teaching dance in arts education is compulsory in New Zealand state schools (Ministry of Education, 2000; 2007), but the time given to it can be constrained by the demands of educational priorities such as literacy and numeracy (Beals, Cameron, Hipkins & Watson, 2003; Schagen, 2011), and by teachers' beliefs about their confidence and competence (i.e., self-efficacy beliefs) for teaching it (Ashley, 2010; Beals et al., 2003; Buck, 2003; Snook, 2012). Although school programs will always impact on the degree to which dance is taught in classrooms, teacher self-efficacy can be addressed. This article reports on the quantitative data gathered as part of a mixed-methods study into the self-efficacy beliefs of generalist teachers for teaching dance and their relationship to specific personal and environmental factors (Renner, 2015). In New Zealand generalist teachers are primary teachers who are responsible for teaching all curriculum or learning areas.

### Teachers' self-efficacy

Self-efficacy beliefs are formed and modified by the interaction of personal, environmental, and behavioural factors (Bandura, 1997). They refer to the strength of beliefs about capabilities to achieve at particular levels in particular tasks in particular situations (Bandura, 1997; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). These beliefs are important because they affect how teachers approach their teaching responsibilities, how they go about their work in the classroom, and the influence they have on students (Rubie-Davies, Flint & McDonald, 2012; Ryan, Kuusinen & Bedoya-Skoog, 2015; Tschannen-Moran & McMaster, 2009). As self-efficacy beliefs are focused on teachers' perceptions of their capabilities to enact desirable behaviours, regardless of actual skills or

competence, they can also affect teachers' motivation to act and persevere, the goals they set, their expectations of students, and their resilience in the face of challenges (Bandura, 1997; Coladarci, 1992; Gibson & Dembo, 1984; Meijer & Foster, 1988; Wolters & Daugherty, 2007). These beliefs have been shown to impact on teaching in a variety of different curriculum areas (e.g. Lee, Cawthon & Dawson, 2013; Pan, Chou, Hsu, Li & Hu, 2013; Sandholtz & Ringstaff, 2014).

Teachers continually make judgments of their self-efficacy by assessing their strengths and/or weaknesses through the processing and integration of information gained from their mastery teaching experiences, vicarious experiences, social persuasion, and their physiological and emotional states (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2007). This means that teachers can consider themselves to be more or less competent across the different dimensions, tasks, or responsibilities of their job (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001), including dance education. As such, self-efficacy beliefs are more precise than expressions of confidence, which often refer simply to the strength of beliefs in more generalised ways (Bandura, 1997).

Few of the studies of teachers' self-efficacy beliefs for general or curriculum teaching have focused on generalist teachers' dance teaching self-efficacy beliefs. One such study was that of Garvis and Pendergast (2010) who compared the self-efficacy beliefs of Australian novice teachers (three years or less of teaching experience) for teaching individual arts disciplines, English, and maths. They found that the teachers' dance self-efficacy scores were higher only than those for music. Although not tested statistically, they considered that this result could have been related to these teachers' perceptions that dance received the lowest support in schools. The dance self-efficacy beliefs of early childhood teachers were similarly explored (Garvis & Pendergast, 2011), with dance scores lower than those for visual arts or music.

Previous studies in New Zealand have focused on the more general measure of confidence. In line with the Australian findings, teachers reported low to medium feelings of confidence for teaching dance (e.g., Beals et al, 2003). Teachers' confidence for giving consistent or in-depth attention to dance was found to be impacted by perceptions of their preparedness for teaching dance, a lack of resources, the broadening of the school curriculum, and timetables that gave little time for planning (Ashley, 2010; Beals et al., 2003; Buck, 2003; Cadzow, 2008; Snook, 2012)

If dance education is to enhance students' lives, classroom teachers who can develop and extend students' learning and achievement in and about dance are needed. A focus on teachers' self-efficacy beliefs for teaching dance that required teachers to identify those aspects in which they felt more or less confident and competent in teaching adds a depth and breadth to understanding that simple measures of confidence do not. How factors such as the frequency of teaching dance, school decile, student age, and class level, or years of teaching experience might be related to these beliefs has been little explored and so were included in this study. Concerning school decile, New Zealand schools are categorised on a 1-10 scale according to their surrounding socio-economic communities

(Ministry of Education, 2016). For this study, schools have been categorised as being of low (1-3), medium (4-7), or high (8-10) decile.

It was anticipated that the combined findings would go some way to providing some direction for building teachers' dance self-efficacy beliefs so that they could become confident and capable teachers of dance.

## Measuring self-efficacy

As a result of theoretical confusion about valid and robust measurement of self-efficacy beliefs (Henson, 2002; Tschannen-Moran et al., 1998), Tschannen-Moran and Woolfolk Hoy (2001) created the *Teacher Sense of Self-Efficacy Scale* (TSES). Consisting of Likert-style statements that describe general teaching tasks, the TSES has been used to determine the strength and nature of teachers' self-efficacy beliefs through the calculation of global and/or factor mean scores. In its short and long form, the TSES has shown stable psychometric properties with various pre-service and practising teacher participants in educational settings at different levels and in different countries, including New Zealand, and with minor wording changes (e.g., Berg, 2011; Chacón, 2005; Fives & Buehl, 2010; Klassen et al., 2009; Rubie-Davies et al., 2012; Tschannen-Moran & Woolfolk Hoy, 2001, 2007). For example, Garvis and Pendergast (2010; 2011) adapted the TSES scale to explore teachers' self-efficacy beliefs in arts education by specifying the particular arts discipline in which the teachers were to make their judgements; for example, the word "dance" was added to the TSES. The modifications for specific arts education contexts did not negatively affect the factor structure or the reliability of the instrument as high alpha reliabilities for the total scale and/or its subscales were reported.

The TSES has been used to explore teachers' self-efficacy beliefs in isolation, as well in relationship to a variety of personal or contextual factors (e.g., Klassen & Chiu, 2010; Rubie-Davies et al., 2012; Tschannen-Moran & McMaster, 2009; Wolters & Daugherty, 2007). Studies looking at the relationships between self-efficacy beliefs and other factors suggest that teachers' self-efficacy beliefs may vary in response to changes in their personal and professional lives, and environmental contexts. For example, Fives and Buehl (2010) found practising teachers with more than 10 years of experience had higher self-efficacy scores than pre-service teachers. In contrast, Tschannen-Moran and Johnson (2011) found no relationship between years of experience and self-efficacy. Examining the correlations between demographic, school setting, context variables, and the self-efficacy beliefs of novice and career teachers, Tschannen-Moran and Woolfolk Hoy (2007) found that the only significant relationship was between career teachers' self-efficacy and class level, with higher self-efficacy beliefs for those who taught young students.

## The current study

Several years on from the introduction of dance as a compulsory part of a national curriculum, it was timely to gain further understanding of dance teaching in New Zealand. This study aims to extend our knowledge of this area through exploring the self-efficacy

beliefs of generalist teachers, looking also at how these beliefs were related to personal and contextual factors through testing four hypotheses:

- Hypothesis One: Generalist teachers' self-efficacy beliefs for teaching dance are related to their subject knowledge confidence.
- Hypothesis Two: Generalist teachers' self-efficacy beliefs for teaching dance are related to the frequency with which they teach dance.
- Hypothesis Three: Generalist teachers' self-efficacy beliefs for teaching dance are related to their school context (i.e., school decile, class level, and number of students).
- Hypothesis Four: Generalist teachers with more than 10 years of teaching experience have higher self-efficacy beliefs for teaching dance as compared to generalist teachers with 10 or less years of teaching.

## **Method**

Within the field of dance education research there has been a recognition of the benefits associated with using a diverse range of methods (Fraleigh & Hanstein, 1998; Stinson, 2015). In line with this, the larger study utilised a mixed-methods approach (see Renner, 2015). Qualitative data from this study was discussed in Renner and Bell (2016), whereas this article reports on key aspects of the quantitative data.

## **Participants**

The participants in this study were 140 generalist teachers who taught students in school years 1-8 (5-13 year olds). The teachers came from 23 co-educational state schools in two urban areas of southern New Zealand and had been teaching for at least one full year. The majority of participants were female (85%) and aged between 30 and 59 (86%). By age and gender, the participants were a close representation of the general teaching population (*Education Counts*, 2014).

## **Materials**

Following processes of development, pilot-testing, and refinement, a questionnaire was used to gather quantitative data about generalist teachers' self-efficacy beliefs for teaching dance, their confidence in their dance knowledge and skills, their dance teaching practices, and demographic information. A cover page gave information about the purpose and outcomes of the study, participant eligibility criteria, questionnaire content, consent, and confidentiality (see Renner, 2015).

To measure the teachers' self-efficacy beliefs for teaching dance, participants were asked to rate themselves on a continuum of 1 (Nothing) to 9 (A great deal) for each of 24 items on the *Teacher Self-Efficacy Scale* (TSES; long form) (Tschannen-Moran & Woolfolk Hoy, 2001). With permission from the developers, and in line with previous work (i.e., Garvis & Pendergast, 2010, 2011) the TSES was adapted for this study by adding the words "in dance" to all of the items (TSES-d). In addition, the words "failing in dance" in one scale

item were replaced with “struggling in dance” as New Zealand primary dance is not assessed on a pass/fail basis. The introduction statement at the top of the scale was adapted from that used in the original scale, and drew the participants’ attention to making their self-assessment judgments based on their current dance teaching capabilities, opportunities, and resources.

A separate scale was created for this study to measure the teachers’ confidence in teaching the subject knowledge, skills, and processes identified in *The New Zealand Curriculum* (Ministry of Education, 2007). Thirteen items were produced for the *Dance Skills and Knowledge Scale* (DSKS) using wording from the four dance achievement objectives for each of the curriculum levels 1-4. Similar wording in the achievement objectives resulted in the 16 objectives being reduced to 13 scale items. Each item began with “I am confident in my ability to...” and participants were asked to make a response on a 6-point continuum from *Strongly disagree* to *Strongly agree*.

The questionnaire also collected data on participants’ dance teaching frequency, school context aspects, and years of teaching. Participants who had taught dance in the previous year were asked to indicate when and how often they had taught dance activities or lessons of at least 10 minutes duration. They were to respond by indicating in which of the four terms they had taught dance, and for how long they had taught it (once a week, 2-3 times a week, once every 2 weeks, once a month). They were also asked to indicate if they had taught dance in a series of linked lessons in any of the terms. Participants reported the decile of their school and the class level, and were asked to choose which of the provided options represented the number of students in the class that they taught the previous year and their years of teaching experience.

## **Procedure**

After ethics approval and Māori consultation was completed as per the University requirements, the principals, and Boards of Trustees of the state primary schools in the southern area of New Zealand were contacted for permission to approach their teaching staff to be involved in the project. When permission was received, questionnaires were mailed or delivered in-person to schools for distribution to teachers. Completed questionnaires were then either mailed in or picked up by the researcher from each school.

## **Data analysis**

Participants’ responses were analysed using *SPSS Version 20* (IBM Corporation, 2011). Descriptive and inferential statistics were produced as needed to test the hypotheses.

## Results

### Factor analysis and reliability of the TSES-d

Prior to hypotheses testing, an exploratory factor analysis of the TSES-d data was carried out, followed by a reliability check of the scale. As it was expected that the TSES-d items would be correlated (Tschannen-Moran & Woolfolk Hoy, 2001), a principal components analysis with a direct oblimin rotation and a criterion of eigenvalues greater than one (Kaiser & Rice, 1974) was used. Two subscale factors emerged with a positive correlation of  $r = .60, p < 0.05$ . The two-factor structure was also supported by the scree plot (Cattell, 1966).

In previous studies with experienced teachers, factor analysis of the TSES has yielded a structure of three separate and correlated factors: efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management (e.g. Fives & Buehl, 2010; Klassen et al., 2009; Rubie-Davies et al., 2012; Tschannen-Moran & Woolfolk Hoy, 2001). In this study, however, the first factor for the TSES-d consisted of the items that related to efficacy in both student engagement and instructional strategies (labelled *EngageInstruct*). The second factor was made up of the items that related to efficacy in classroom management (labelled *Manage*). Two items of the TSES-d that loaded onto both factors were placed with one or the other based on reasons of conceptual relevance. The factor loadings for each of the TSES-d items are shown in Appendix A.

### Self-efficacy and factor scores

The range of means for responses on the 9-point scale to the individual TSES-d items was 4.6 to 7.2, with a standard deviation range of 1.2 to 1.8 (see Appendix B). A score was created for each efficacy factor by computing an unweighted average of the participant's responses to the group of items that loaded onto that factor (Tschannen-Moran & Woolfolk Hoy, 2001). The means for the classroom management efficacy factor (6.6 to 7.2) were generally higher than for the combined efficacy factor of student engagement and instructional strategies (4.6 to 6.7). In addition, an overall self-efficacy score for each participant was created by averaging his or her responses to the items in the TSES-d. These scores ranged from 3.9 to 8.9.

To explore if the adaptations of the TSES for teaching dance had an impact, the TSES-d efficacy scores, standard deviations, and reliability coefficient alphas were compared to those of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). Although some differences were apparent between the two samples (see Table 1), it was determined that the adaptations had not had an impact sufficient to invalidate the use of the scale.

Table 1: Comparison of means, standard deviations, and reliabilities for TSES-d and TSES factors and total self-efficacy score

Measure	Factor	Mean	SD	$\alpha$
TSES-d	EngageInstruct	5.7	1.0	.94
	Manage	7.0	1.1	.93
	Total self-efficacy score	6.4	1.0	.96
TSES	Engagement	7.3	1.1	.87
	Instruction	7.3	1.1	.91
	Management	6.7	1.1	.90
	Total self-efficacy score	7.1	0.9	.94

### Hypothesis One: Generalist teachers' self-efficacy beliefs for teaching dance are related to their subject knowledge confidence

The participants' confidence in dance subject knowledge and skills was determined from their total score on the DSKS which was obtained from summing their responses on the 6-point continuum for the 13 items, resulting in possible scores ranging from 13 to 78. Scores of 26 or less were designated as being low confidence (3% of participants); scores of 27 to 52 were designated as being medium confidence (64% of participants); scores of 53 and above were designated as high confidence (34% of participants; the total of 101% is due to rounding).

As for the TSES-d, an exploratory factor analysis of the DSKS was carried out in which a principal components analysis with a direct oblimin rotation and a criterion of eigenvalues greater than one (Kaiser & Rice, 1974) was used. An underlying structure of two factors was obtained, which was supported by the scree plot (Cattell, 1966). Item loadings for each of these factors, however, indicated a pattern of three subscales that aligned closely with the dance strands which denote the four key areas of dance learning (Ministry of Education, 2007), resulting in the decision to use a three factor solution. These three factors were labelled *PracticalKnowledge*, *DevelopCommunicateInterpret*, and *ContextUnderstand* (see Appendix C for the factor loadings of each item). The three subscales showed uniformly high reliabilities ( $\alpha = 0.91; 0.92; 0.90$ ), and positive correlations with each other, justifying the decision to interpret the data as having three factors. As Table 2 shows, the means, standard deviations, and range of scores on the 6-point continuum of the three subscale factors were similar (see Appendix D for the mean and SD of the individual items).

Table 2: Means, standard deviations and range of DSKS factors

	Mean	SD	Range
PracticalKnowledge	3.9	1.0	3.6-4.2
DevelopCommunicateInterpret	3.8	0.9	3.6-4.1
ContextUnderstand	3.8	0.9	3.7-3.9

Once the factors were established, a Pearson product moment correlation was carried out between the factor means of the TSES-d and the DSKS to test the hypothesis that these

would be related. Except in the instance of classroom management and dance contextual understanding, there were significant positive correlations between the participants' self-efficacy beliefs and subject confidence, providing general support for this hypothesis (see Table 3).

Table 3: Correlation of TSES-d Factors and DSKS subscales

DSKS subscales	TSES-d factors	
	EngageInstruct	Manage
PracticalKnowledge	.505**	.222*
DevelopCommunicateInterpret	.507**	.227*
ContextUnderstand	.383**	.150

\*  $p < .01$  \*\*  $p < .001$

### Hypothesis Two: Generalist teachers' self-efficacy beliefs for teaching dance are related to the frequency with which they teach dance

In the questionnaire, the participants were asked to indicate if they had taught dance in the previous year. The affirming participants (84%) were then asked to indicate their teaching frequency. In addition, the participants were asked to indicate when they taught dance in a series of linked lessons. Table 4 shows that the most frequent dance teaching occurred once a week in school Term 2, with the least frequent teaching happening once every 2 weeks in the final term of the year. The majority of participants (70%) taught dance in a series of linked lessons at some time during the year.

Table 4: Frequency of dance teaching in school terms

	Percentage of teachers teaching dance				
	Once a week	2-3 times a week	Once every 2 weeks	Once a month	In a series of linked lessons
Term 1	18.1	7.8	3.4	11.2	16.4
Term 2	21.6	16.4	6.9	6.9	13.8
Term 3	12.9	17.2	4.3	6.9	22.4
Term 4	10.3	13.8	2.6	8.6	19.0

In order to determine whether teachers' self-efficacy beliefs for teaching dance were related to the frequency with which they taught dance, two summary variables of dance teaching frequency were created. The *TotalDanceTeaching* variable was created to stand for the number of times that participants taught dance throughout the school year (calculated by using the information provided to estimate the total number of times participants taught dance during the school year). The *TotalTeachingLinked* variable stood for the total times that participants taught dance in a series of linked lessons throughout the year (calculated by summing the number of linked lessons across the four terms). To determine if the participants' self-efficacy beliefs were related to how often they taught dance, a Pearson product moment correlation was carried out between the TSES-d total efficacy score mean and each of these variables. Using  $p < .05$ , no statistically significant



relationships between the participants' self-efficacy beliefs and their dance teaching frequency were found. This hypothesis, therefore, failed to be supported.

**Hypothesis Three: Generalist teachers' self-efficacy beliefs for teaching dance are related to their school context (i.e., school decile, class level, and number of students)**

The participants taught in a variety of school contexts. Teachers taught in schools of a wide range of deciles, with the majority of them teaching in high decile (8-10) schools. Generally, the participants taught early to mid-primary classes (Years 1-6), and just over two-thirds of the participants taught classes that ranged from 21-30 students per class. To determine if the participants' self-efficacy beliefs were related to these school context aspects, the TSES-d total efficacy score mean was correlated with the data concerning each of school decile, class level, and number of students. Using  $p < .05$ , no statistically significant relationships were found. This hypothesis, therefore, failed to be supported.

**Hypothesis Four: Generalist teachers with more than 10 years of teaching experience have higher self-efficacy beliefs for teaching dance as compared to generalist teachers with 10 or less years of teaching**

Teachers were asked to indicate teaching experience in blocks of 5 years, from 1-5 to more than 30 years. Prior to testing this hypothesis, the participants were divided into two groups according to their length of teaching experience. As dance had been in the national curriculum for 10 years at the time of the study, the participants were grouped according to whether they had been teaching up to or beyond this time. The first group was made up of those participants who had 10 years or less of teaching experience (35% of participants). That is, most of the participants had been teaching since before the inclusion of compulsory dance education. A *t*-test was carried out with teaching years (10 or less, more than 10) as the independent variable and the TSES-d factors as the dependent variable. There was no statistically significant result at  $p < .05$ , meaning that the hypothesis failed to be supported.

## **Discussion**

Although previous dance education research has commonly reported or referred to generalist teachers' low self-confidence for teaching dance, this research suggests that these teachers were not lacking in confidence in their ability to teach dance. Through measuring teachers' self-efficacy beliefs for teaching dance and their confidence in their subject knowledge, this research found that these participants were generally positive about their ability to teach dance in The New Zealand Curriculum. The teachers' dance teaching beliefs in this study were lower than the general teaching self-efficacy beliefs of US teachers using the TSES (Tschannen-Moran & Woolfolk Hoy, 2001), but higher than those found with Australian novice teachers using an arts/dance-adapted TSES (Garvis & Pendergast, 2011). The self-efficacy beliefs of these teachers were also lower than those found previously with New Zealand teachers of reading for Year 4-8 students (Rubie-Davies et al., 2012) who showed higher mean scores for the efficacy factors than those

found in this study, suggesting New Zealand teachers may have higher self-efficacy beliefs for reading than dance.

The difference in levels of self-efficacy beliefs between these studies may be explained at least in part by differences in the participant samples. The US sample contained secondary teachers who would typically be subject specialists and so may have skewed the mean more positively; the Australian study involved beginning teachers who quite possibly had yet to acquire sufficient dance teaching practice for them to hold high self-efficacy beliefs. The sample in this study was made up of experienced teachers and as dance has been a mandatory part of their role since 2004, these teachers may have acquired sufficient dance teaching practice upon which they could base their self-efficacy judgements. Differences in the subject being taught, associated experience of this, and teacher education regarding it, may also have played a part in the higher means seen in Rubie-Davies et al. (2012).

In this study the use of the TSES-d to measure self-efficacy identified two subscales, with a higher mean for the efficacy in classroom management factor compared to that for the combined factor of efficacy in student engagement and instructional strategies. This was in contrast to several other studies that have used the TSES in which three subscales have emerged. In their factor retention decisions with the original form of the TSES, Tschannen-Moran and Woolfolk Hoy (2001) found similar mean scores for each of the three subscale factors. It is beyond the scope of this study to provide a definitive explanation as to why the factor and differences in mean scores have occurred. It is possible, though, that the differences are related to the nature of teaching and learning in New Zealand classrooms, in which student-centred, interactive, hands-on, and inclusive teaching approaches are favoured (Ashley, 2010; Bell, 2010; Buck, 2003; Burgon, Hipkins & Hodgen, 2012; Fraser et al., 2007; Ministry of Education, 2007; Snook, 2012). Previous TSES studies in New Zealand have had mixed results with regards to factor structures. Rubie-Davies et al. (2012) found that New Zealand teachers of reading for Year 4-8 students showed higher mean scores for the efficacy factors than those found in this study, but they did not report an examination of the factor structures. Berg and Smith (2014) found a one-factor solution in their study of New Zealand primary teacher education students, and Smith, Corkery, Buckley and Calvert (2013) found the expected three-factor solution in their study of New Zealand secondary teacher education students. It could be, then, that New Zealand teachers' self-efficacy beliefs, particularly in the primary sector, may have a different factorial structure than that generally found when using the TSES. Further exploration of the self-efficacy beliefs of New Zealand pre-service and practising teachers at all levels and in different curriculum areas is needed to understand them.

As noted previously, teachers' dance teaching self-efficacy beliefs related to classroom management were generally higher than for those related to efficacy in student engagement and instructional strategies. Again, it is beyond the scope of this research to explain why this is the case, but as good classroom management is a cross-subject necessity, this may be something in which all teachers would be experienced. The context and nature of dance, however, means that matters of physical safety, change of teaching space and student excitement (Bresler, 2004; Buck, 2003; Clark, 2007) can add challenges

to classroom management that may not be so prominent in other curriculum areas. As with the factor structure of the TSES for New Zealand teachers, more exploration is required to explore the differences in the self-efficacy factors and their scale items.

In contrast to previous findings, this study found that almost two-thirds of participants registered as having a medium level of subject-knowledge confidence, with only 3% reporting as having low subject knowledge confidence. This may be due to the differing nature of the measures of confidence used across studies. The DSKS instrument was created especially for this study, using the dance achievement objectives of The New Zealand Curriculum (Ministry of Education, 2007). Each objective encompasses a wide range of knowledge, skills, and pedagogies, which may have persuaded participants to rate themselves towards the middle of the continuum. The broad range scope of each question may have therefore masked individual weakness or strengths with relation to specific foci. What it does show, though, is that teachers were generally confident in their ability to teach to the dance achievement objectives.

What is apparent from the measures of self-efficacy and subject knowledge confidence is that they were both at a level that they would not be expected to impact negatively on the frequency and regularity to which dance was taught. Despite this, dance did not appear to be taught on a regular basis, or to any great extent by the sample. Individual teachers taught dance at different times throughout the year, and in varying amounts, with little evidence of it being taught on a regular and consistent basis by the majority of teachers. As it has been posited that self-efficacy beliefs can help to determine behaviour (Bandura, 1997), it had been expected that those with higher self-efficacy beliefs would teach dance more often. This was not, however, found to be the case. There are a number of possible reasons for this lack of a positive relationship. It may be because the frequency at which dance was being taught were not sufficiently high enough to be related to teachers' levels of self-efficacy. This, however, raises questions regarding how teachers' self-efficacy beliefs could be as high as they were, given the seemingly small amount of time spent teaching it. It must also be noted that although self-efficacy beliefs can impact on behaviour, a variety of other factors can exert an influence that overrides self-efficacy (Bandura, 1997).

Factors associated with school context have been previously found to be related to self-efficacy beliefs, but not so in this study. Unlike Rubie-Davies et al. (2012), a relationship between school decile and teachers' self-efficacy beliefs was not shown. Similarly, the expectation that teaching small classes would lead to higher self-efficacy beliefs was also not met, nor were the previous findings regarding teaching younger students being related to higher self-efficacy (Ryan et al., 2015; Tschannen-Moran & Woolfolk Hoy, 2007; Wolters & Daugherty, 2007) replicated.

Although results from studies that explored the relationship between teaching experience and self-efficacy beliefs have been mixed (Fives & Buehl, 2010; Klassen & Chiu, 2010; Tschannen-Moran & Johnson, 2011), it was expected that teachers with more than 10 years of experience would have higher self-efficacy beliefs than those who were less likely to have received national arts/dance professional development. As with the other

contextual factors, however, this was not found to be the case. Why these contextual factors, particularly those that had previously been found to be related to self-efficacy beliefs, were not found to be related requires further investigation.

## Conclusion

This study extended prevalent knowledge and understanding of generalist teachers' self-efficacy beliefs for teaching dance. They had generally high levels of self-efficacy beliefs for teaching dance. Their levels of beliefs were more positive than expected based on previously reported levels of confidence. These beliefs were somewhat related to the teachers' dance subject knowledge confidence, but not to their teaching experience, dance teaching frequency, or selected school context factors. The finding of two rather than the usual three sub-scales in the TSES-d, while retaining the reliability of the scale, diverges from what has been previously known with regards this scale and hints at the complexity associated with understanding teachers' self-efficacy beliefs.

Possible limitations to generalisation are that the teachers participating in this study volunteered to do so, gave self-reported data and were not from decile 1 schools. Teachers with low dance self-efficacy beliefs may have resisted taking part in the study thereby producing a positive response bias. The lack of teachers from decile 1 schools in which there are particular teaching challenges (Burgon et al., 2012) may also have skewed the self-efficacy results. Although self-reported data can be questioned in terms of its validity (Chan, 2009), the use of an established measure in the TSES goes some way to alleviate this issue. What is clear from the teachers in this study, however, is that they are both confident in their knowledge of dance and have self-efficacy beliefs sufficient for teaching it. Given its place in The New Zealand Curriculum, which demands that students have the opportunity to fully experience and realise the benefits of dance education, the factors that inhibit the frequency with which dance is taught warrants further exploration.

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## Appendix A: Factorial structure of the TSES-d

Factorial structure of the two-factor solution of the Teachers' Sense of Efficacy Scale (long form) (TSES; Tschannen-Moran & Woolfolk Hoy, 2001), adapted for dance, n = 140

Item	Factor		Comm- unality	
	1	2		
Factor 1: Alternative explanation or example	.849	-.064	.660	
Engage Use a variety of assessment strategies	.847	-.081	.642	
Instruct	Improve the understanding of a student	.807	.036	.686
	Implement alternative strategies	.800	.001	.640
	Adjust dance lessons for students	.797	.030	.665
	Respond to difficult questions	.793	-.030	.601
	Assist families in helping their children	.783	-.068	.554
	Provide appropriate challenges	.755	-.160	.452
	Craft good questions for your students	.738	.068	.609
	Help your students to think critically	.689	.110	.577
	Gauge student comprehension	.663	.174	.608
	Help your students to value learning	.623	.266	.657
	Foster student creativity	.601	.250	.603
	Get through to the most difficult students	.552	.053	.342
	Motivate students who show low interest	.511	.287	.519
	Get students to believe they can do well	.399	.396	.506
Factor 2: Keep problem students from ruining a lesson	-.075	.912	.755	
Manage	Calm a student who is disruptive or noisy	-.071	.894	.728
	Respond to defiant students	-.059	.877	.711
	Control disruptive behaviour	-.014	.833	.680
	Get children to follow classroom rules	.143	.723	.666
	Make expectations clear about behaviour	.137	.715	.648
	Establish a classroom management system	.144	.702	.635
	Establish routines	.342	.484	.550
Eigenvalue	12.45	2.24		
% of variance	51.88	9.34		
Factor	Engage	Instruct	Manage	



## Appendix B: Means and standard deviations of the TSES-d Items

Item	Mean	SD
Get children to follow classroom rules	7.2	1.3
Make expectations clear about behaviour	7.2	1.3
Control disruptive behaviour	7.0	1.5
Establish a classroom management system	7.0	1.4
Keep problem students from ruining a lesson	6.9	1.4
Calm a student who is disruptive or noisy	6.8	1.4
Get students to believe they can do well	6.7	1.3
Respond to defiant students	6.7	1.4
Establish routines	6.6	1.4
Foster student creativity	6.3	1.5
Adjust dance lessons for students	6.2	1.5
Help your students to value learning	6.1	1.2
Gauge student comprehension	5.9	1.3
Motivate students who show low interest	5.9	1.3
Improve the understanding of a student	5.7	1.3
Craft good questions for your students	5.7	1.4
Use a variety of assessment strategies	5.6	1.6
Respond to difficult questions	5.6	1.5
Alternative explanation or example	5.5	1.4
Help your students to think critically	5.5	1.3
Provide appropriate challenges	5.4	1.8
Get through to the most difficult students	5.3	1.3
Implement alternative strategies	5.1	1.4
Assist families in helping their children	4.6	1.6

## Appendix C: Factorial structure of the DSKS

Factorial structure of the three-factor solution of the Dance Skills and Knowledge Scale (DSKS),  
n = 140

Item	Factor		Comm- unality
	1	2	
Subscale 1: Practical Knowledge			
Facilitate students' use of dance elements and extend movement vocabularies	.992	-.139	.835
Facilitate students' exploration of movement with awareness of the dance elements	.968	-.141	.789
Develop students' movement skills and vocabularies in a range of dance genres/styles	.887	-.030	.755
Subscale 2: Develop Communicate Interpret			
Facilitate students' use of the dance elements to express images, ideas and feelings	.863	-.018	.727
Facilitate students' exploration of movement or dance ideas in response to stimuli	.842	.036	.747
Develop students' dance performance skills for informal and/or formal settings	.740	.157	.714
Develop students' use of the dance elements to describe dances	.619	.298	.698

	Facilitate students' use of choreographic processes to develop dance ideas	.579	.310	.651
	Facilitate students' reflection and evaluation of own and others' dance works	.549	.380	.702
Subscale 3: Context	Facilitate students' understanding of how the purpose of dances is expressed through movement	.493	.462	.735
Understand	Develop students' knowledge and understanding of the purposes of dance in a variety of cultures and/or contexts	-.041	.962	.879
	Develop students' knowledge of dances from a variety of cultures	.044	.892	.845
	Facilitate students' awareness of dance in their lives and communities	.446	.453	.652

## Appendix D: Means and standard deviations of the DSKS items

Item	M	SD
Subscale 1: Practical Knowledge	<b>3.9</b>	<b>1.0</b>
Facilitate students' exploration of movement with awareness of the dance elements	4.2	1.1
Facilitate students' use of dance elements and extend movement vocabularies	3.9	1.1
Develop students' movement skills and vocabularies in a range of dance genres/styles	3.6	1.1
Subscale 2: Develop Communicate Interpret	<b>3.8</b>	<b>0.9</b>
Facilitate students' reflection and evaluation of own and others' dance works	4.1	1.0
Facilitate students' exploration of movement or dance ideas in response to stimuli	4.0	1.0
Facilitate students' use of the dance elements to express images, ideas and feelings	3.9	1.1
Develop students' dance performance skills for informal and/or formal settings	3.9	1.0
Develop students' use of the dance elements to describe dances	3.6	1.0
Facilitate students' use of choreographic processes to develop dance ideas	3.6	1.0
Subscale 3: Context Understand	<b>3.8</b>	<b>0.9</b>
Develop students' knowledge and understanding of the purposes of dance in a variety of cultures and/or contexts	3.9	0.9
Develop students' knowledge of dances from a variety of cultures	3.9	1.0
Facilitate students' awareness of dance in their lives and communities	3.9	0.9
Facilitate students' understanding of how the purpose of dances is expressed through movement	3.7	1.1

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