

Exploring Dance Teaching Anxiety in Japanese Schoolteachers

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Abstract. The purpose of the present study is to understand Japanese schoolteacher anxiety when teaching dance and how such anxiety differs according to the teachers' individual characteristics. We focused on "teaching anxiety," which we defined as teachers' concerns regarding physical education curricula. We conducted a questionnaire survey of teachers from randomly selected public junior high schools ($N = 143$). Our text-mining analysis showed that teaching anxiety is classified into five groups: anxiety over teaching methods, his/her own dance skills, lack of knowledge, student interest, and general teaching. Multiple correspondence analysis showed that teaching anxiety differed according to age, sex, dance experience, and dance teaching experience.

Keywords: Teaching anxiety · Dance education · Text mining · Multiple correspondence analysis

1 Introduction

In 2008, Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) revised the Course of Study for Junior High Schools. This revision in physical education focused mainly on "dance" and "*Budo*," which became mandatory, rather than elective, courses [1]. Nakamura (2009) predicted that many teachers would be anxious due to their lack of experience in these subjects [2]. In addition, Hamashima and Muto [3] reported that a revision in 1994 increased teacher anxiety in homemaking education because they had no background in gender-unbiased methods of teaching.

The aforementioned literature shows that compulsory revision of the Course of Study causes tremendous problems for teachers in terms of instruction, curricula, detailed teaching methods, and more. Our focus in the present study is to understand the components of "dance teaching anxiety" in teachers for their classroom practices.

Yamaguchi, Shoda, Suzuki, and Sakata (2015) [4] defined "dance teaching anxiety" as teachers' concerns about physical education curricula and conducted a questionnaire survey for teachers participating in training seminars given by the Nippon

Street Dance Studio Association (NSSA). Based on this survey, the authors defined five categories of teaching anxiety: anxiety over lack of knowledge (a), lack of teaching experience (b), curricula (c), students (d), and teaching methods (e). In the present study, we explored the replicability of this structure in another population: teachers in public junior high schools. As in our previous study [4], we explored how the categories of teaching anxiety correspond to teacher characteristics, such as sex, age, previous dance experience, and previous dance teaching experience.

2 Method

2.1 Respondents

The respondents were physical education teachers in randomly selected public junior high schools in Japan. Responses were collected from 143 teachers in 74 schools (the collection rate was 24.67 %), 131 out of which were valid. Only questionnaires in which all questions were answered were included. The remaining 131 responses consisted of 95 men and 36 women, with a mean age of 37.66 years old ($SD = 11.05$).

2.2 Procedure

We provided five sets of questionnaires to each school to be answered by multiple teachers within the school. We enclosed the details of the study and asked all teachers to sign a consent form. The questionnaire asked:

1. Do you have any anxiety teaching “dance?”
2. If your answer is “yes” to Question 1, describe the details of your anxiety.
3. Please provide your sex, age, previous dance experience, and previous dance teaching experience.

We asked one of the teachers from each school to return the answered questionnaires by mail.

2.3 Analyses

The answers (free descriptions) to Question 2 (provided when the answer to Question 1 is “yes”) were analyzed using KH Coder [5], a text-mining software. We extracted the co-occurrence network with KH Coder to visualize automatically the relationship among the divided words, as well as categorize them based on the connectivity of the words. Subsequently, the correspondence between the categories and the teachers’ characteristics was visualized on a two-dimensional map by multiple correspondence analysis.

3 Results and Discussion

3.1 The Relationship Between the Presence of Teaching Anxiety and Teacher Characteristics

We created a contingency table for the relationship between the presence of anxiety and each of the respondents' characteristics (sex, age, previous dance experience, and previous dance teaching experience for Tables 1, 2, 3, and 4, respectively). For example, 54 % of men and 64 % of women answered that they have experienced some teaching anxiety (Table 1). Similarly, 68 % of young teachers (in their 20s, Table 2), 57 % of teachers who had previous dance experience (Table 3), and 66 % of teachers who had no dance teaching experience (Table 4) were likely to answer that they have teaching anxiety. For each table, we conducted a χ^2 analysis showing that the presence of anxiety was associated significantly with age ($p = .05$). The post-hoc residual tests revealed that older teachers (over 40) tended to be less anxious than younger teachers (in their 20s and 30s) about dance education.

Table 1. Sex and teaching anxiety ($\chi^2(1, N = 131) = 0.730, p = 0.393$ Cramer's $V = 0.092$)

	Anxiety-absent	Anxiety-present	Total
Man	44 (46.32 %)	51 (53.68 %)	95
Woman	13 (36.11 %)	23 (63.89 %)	36
Total	57	74	131

Table 2. Age and teaching anxiety ($\chi^2(2, N = 131) = 5.886, p = 0.053$ Cramer's $V = 0.150$)

	Anxiety-absent	Anxiety-present	Total
20s	12 (31.58 %)	26 (68.42 %)	38
30s	9 (34.62 %)	17 (65.38 %)	26
Over 40	36 (53.73 %)	31 (46.27 %)	67
Total	57	74	131

Table 3. Previous dance experience and teaching anxiety ($\chi^2(1, N = 131) = 0.003, p = 0.958$ Cramer's $V = 0.005$)

	Anxiety-absent	Anxiety-present	Total
Dancing-experience-absent	51 (43.59 %)	66 (56.41 %)	117
Dancing-experience-present	6 (42.86 %)	8 (57.14 %)	14
Total	57	74	131

Table 4. Previous dance-teaching experience and teaching anxiety ($\chi^2(1, N = 131) = 0.809, p = 0.369$ Cramer's $V = 0.097$)

	Anxiety absent	Anxiety present	Total
Dance teaching-experience-absent	10 (34.48 %)	19 (65.52 %)	29
Dance teaching-experience-present	47 (46.08 %)	55 (53.92 %)	102
Total	57	74	131

3.2 Co-occurrence Network: Teachers' Anxiety to Dance Teaching Anxiety

Figure 1 shows the co-occurrence network extracted from the teachers' free descriptions about their anxiety over teaching dance. The details of anxiety were classified into five groups based on hierarchical cluster analysis. We focused on groups including more than two words in the following analyses. We named the group in blue, which includes *boys*, *can*, *whether*, and *method*, the anxiety over teaching method (f). We named the group in yellow, which includes *my*, *example*, and *good*, the anxiety over

his/her own dance skills (g). The group in green, which includes *knowledge*, *better way*, and *no idea*, was named the anxiety over lack of knowledge (h). The group in red, which includes *interest*, *class*, and *modern rhythm dance*, was named the anxiety over student interest (i). Finally, we named the group in purple, which includes *teaching*, *dance*, and *experience*, general teaching anxiety (j). We hereafter refer to these groups as “anxiety components.”

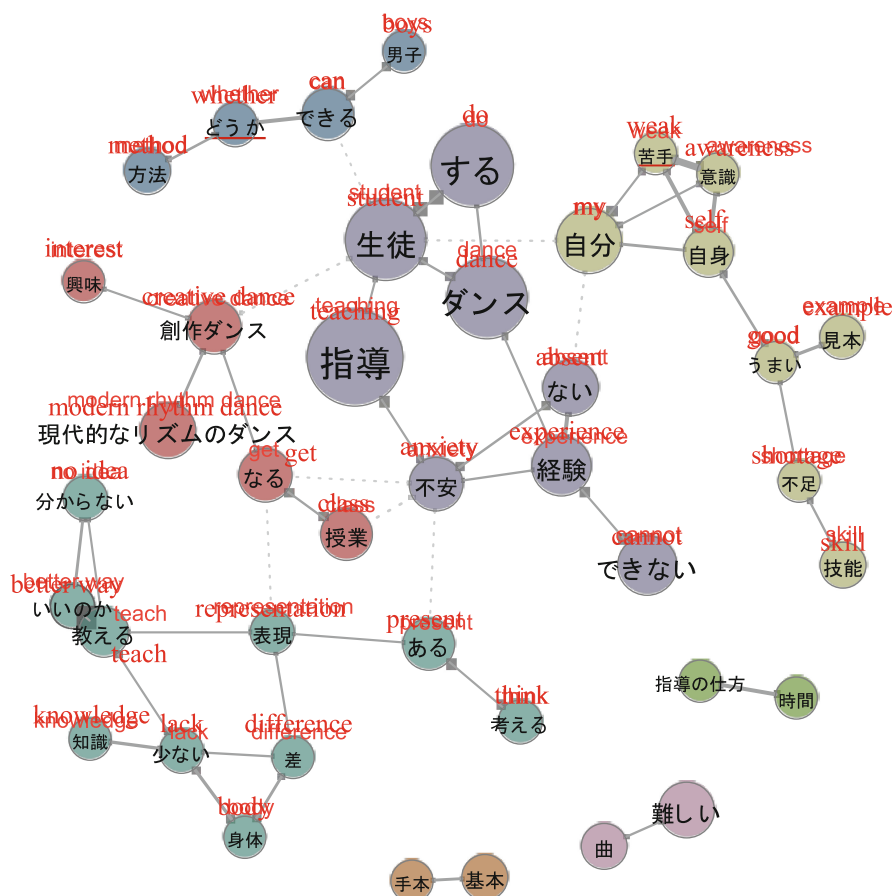


Fig. 1. The co-occurrence network for the reasons of anxiety (in English and Japanese) (Color figure online)

3.3 Correspondence Between the Anxiety Components and Teacher Characteristics

We conducted multiple correspondence analysis (Fig. 2) to understand the relationship between each of the teacher characteristics (summarized in Sect. 3.1) and each of the anxiety components (found in Sect. 3.2). In the horizontal direction, groups (f), (g),

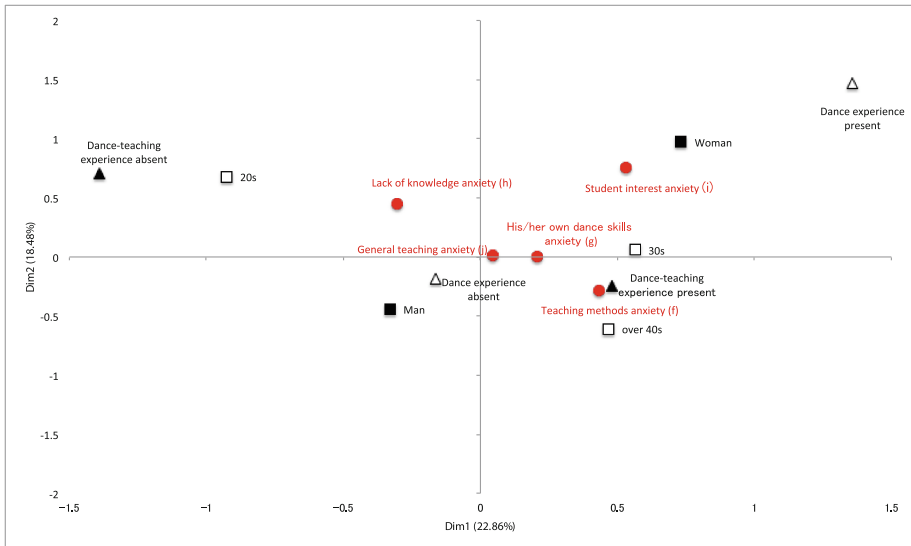


Fig. 2. Two-dimensional map generated by multiple correspondence analysis

and (i) were plotted positively, whereas group (h) were plotted negatively. In the vertical direction, groups (h) and (i) were plotted positively and group (f) were plotted negatively. Group (j) was plotted near zero so that the general anxiety divergently corresponded with all of the teacher characteristics.

Based on these interpretations, we can describe how each of the teacher's characteristics was positioned. For teaching method (f) anxiety, teachers with dance teaching experience plotted closest. In addition, older teachers (30s and over 40) plotted near the teaching methods anxiety (f). No characteristic was positioned near his/her own dance skills anxiety (g). Moreover, younger teachers in their 20s and teachers without dance teaching experience plotted in the same direction as the lack of knowledge anxiety (h). Female teachers and teachers with dance experience plotted in the same direction as student interest anxiety (i).

3.4 Discussion

We clarified that teaching anxiety is comprised of five categories, specifically, anxieties regarding teaching methods (f), his/her own dance skills (g), lack of knowledge (h), student interest (i), and general teaching (j). In line with the categories found in our previous study [4], we extracted the anxiety over lack of knowledge (h) and teaching methods (f), demonstrating that teaching methods and teacher knowledge are common stressors with compulsory revision of the Course of Study. The result is also in line with the previous studies by Nakamura [2], and Hamashima and Muto [3], who advised caution in revising the Course of Study for physical and homemaking education. In addition, anxiety over student interest (i) was reported, which is similar to the student

anxiety (d) in Yamaguchi et al. (2015) [4]. The anxiety for students (d) included anxiety for students' dance skills, but not for student interest (i). Interestingly, we found his/her own dance skills anxiety (g) instead of that of lack of teaching experience (b) in the previous study [4]. The teachers in our previous study [4] answered our survey at a training seminar designed to teach a more efficient method of *teaching* dance. The teachers at the seminar therefore might have been describing the anxiety in relation to *teaching* rather than their own dance skills.

Moreover, we discovered a correspondence between the teachers' characteristics and the anxiety components. First, older (30s and over 40) and experienced teachers are likely to be anxious about teaching methods (f). Perhaps, they have already experienced some specific anxiety while actually teaching students from which the anxiety might be manifested. Next, female and dance experienced teachers were anxious about student interest (i). One reason is the relationship between the teacher's sex and previous dance experience. In our study, female teachers had more dance experience than male teachers, resulting in the female teachers focusing on teaching the *students* rather than on their own skills and/or knowledge of dance. In other words, female teachers with dance experience might feel anxiety on a higher level. Finally, young (20s) and inexperienced teachers reported anxiety regarding lack of knowledge (h). In this context, knowledge includes knowledge both of dance and teaching, so this kind of anxiety is specific to young and inexperienced teachers.

4 Conclusion

In the present study, we investigated the anxiety structure of Japanese schoolteachers over teaching dance using a co-occurrence network and subsequent multiple correspondence analysis. The results were as follows:

- The teachers' age was associated with the presence of the anxiety. Older teachers (over 40) tended not to have teaching anxiety.
- Teaching anxiety consists of five categories: anxiety over teaching methods, his/her own dance skills, lack of knowledge, student interest, and general teaching anxiety.
- The teaching anxiety varied with the teachers' characteristics. For example, dance experienced teachers feel anxiety at a high level and all teachers have general teaching anxiety and anxiety regarding his/her own dance skills.

In our future study, we would like to construct a standardized questionnaire to measure teacher anxieties aimed at solving the teaching anxiety discovered in the present study.

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