A Teaching Styles Typology of Practicing Teachers

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Abstract

This study describes a typology of the teaching styles of practicing teachers. Teaching style refers to a teacher's distinct qualities that are persistent from situation to situation regardless of the content. The Teaching Style Assessment Scale, which measures teaching style, was completed by 1,261 nursing faculty in Japan. Prior cluster analysis revealed four naturally-occurring groups based on their teaching style, with teachers practicing learner-centered and teacher-centered styles nearly equally. The dual purposes of this study were (1) to measure the differences between these groups to determine if they were unique and (2) to describe any teaching style differences among these groups. Analysis of variance and Scheffé descriptive statistics supported the conclusion that a typology exists for classifying teaching styles as they are practiced in the field by teachers. Discriminant analysis identified the distinctions among the groups. The four distinct groups clearly described in this Teaching Styles Typology of Practicing Teachers are *Distinctly Teacher-Centered, Moderately Teacher-Centered, Consistently Learner-Centered,* and *Decidedly Learner-Centered*. This typology of teaching styles can be a valuable tool for teachers to improve their professional practice. It has implications for increased professionalism by facilitating increased self-awareness and assisting in developing an educational philosophy.

Keywords: teaching style, teaching style assessment scale, learner-centered, teacher-centered, typology, teaching style typology of practicing teachers, Japan

1. Introduction

Teachers have a choice of how they approach the teaching-learning transaction. This approach is referred to as *teaching style*. The term teaching styles has been used in various ways in differing research. Some define teaching style in relationship to the characteristics of the teacher. These characteristics may include the ways that the teacher approaches problem-solving or making decisions related to teaching (Mazaheri & Ayatollahi, 2019) or their personal qualities and attitudes demonstrated in the methods and activities in teaching specific topics (Heydarnejad, Fatemi, & Ghonsooly, 2017). In this view, the teaching style combines personal factors such as motivation and beliefs and the techniques and strategies comfortably used in teaching (Cooper, 2001; Grasha, 1996; Karimnia & Mohammdi, 2019).

Numerous variables in studies have also influenced how the term teaching style has been used. For example, a study investigating the match or mismatch of student learning style to teacher's teaching style used both the Kolb Educator Role Profile and the Kolb Learning Style Inventory because of their similar conceptual bases (Toyama & Yamazaki, 2020). Other studies concerned with motivation have used the Self-Determination Theory (Ryan & Deci, 2002, 2017) to examine a teacher's motivation to teach (Chan, Maneewan, & Koul, 2021; Hellebaut, Haerens, Vanderlinde, & De Cocker, 2023; Vermote et al., 2020). Other studies have explored the interplay of teaching style with other variables such as emotions (Heydarnejad et al., 2017; Moè & Katz, 2021), medical instruction (Lau, 2021), brain dominance (Mazaheri & Ayatollahi, 2019), and accounting ethics (Okougbo & Okike, 2021). Thus, critical variables in these studies affected how teaching style was defined.

Many studies have used instruments specifically designed to measure teaching style. The Grasha-Riechmann Teaching Style Inventory has been widely used in general educational settings and validated for use in higher

education (Arbabisarjou, Akbarilakeh, Soroush, & Payandeh, 2020). The Principles of Adult Learning Scale (Conti, 1982, 2004) has been used extensively in the field of Adult Education (Brookfield, 1986, pp. 34–36; Byrd, 2010, pp. 90–98; Heimlich & Norland, 1994, p. 65; Merriam & Bierema, 2013, pp. 59–60), and it derivative, The Teaching Style Assessment Scale (Yoshida, Conti, Yamauchi, & Iwasaki, 2014), has been the principal teaching style instrument in Japan. Other measurement instruments have been developed or used for specific situations (e.g., Mouratidou, Grassinger, Lytrosygouni, & Ourda, 2022; Wilkesmann & Lauer, 2015).

Although the term teaching style has been applied in various ways, overall, the teaching styles of teachers represent their behavior while teaching in the classroom (Sim & Mohd Matore, 2022, p. 3). Despite these many nuances, the overall concept of teaching style can be defined as "the distinct qualities displayed by a teacher that are persistent from situation to situation regardless of the content" (Conti, 2004, pp. 76–77). Teaching style is related to educational philosophy (Conti, 1989, 2004; Heimlich & Norland, 1994; Shah, 2020), and "in today's school, there are essentially two types of teaching philosophies … teacher-centered and student-centered teachers. Their philosophies are different" (Gibbs, 2021, para. 2). These two philosophies differ fundamentally in the educator's view of the role of the teacher in the teaching-learning process (Conti, 2004, p. 77; O'Brien, 2001, pp. 172–174). Research supports that these two styles are distinct constructs rather than "two sides of the same coin" (Camille et al., 2015, p. 155).

These two different roles of the teacher are classified as the instructor having either a teacher-centered or a learner-centered teaching style (Wilkesmann & Lauer, 2015). The teacher-centered approach is highly focused on the transmission of knowledge and getting knowledge to the student (Brown, 2003). In this process, the teacher controls and directs the learning activities. In contrast, with the student-centered approach, the planning, teaching, and assessment revolve around the needs and abilities of the students (Brown, 2008), with the teacher serving as a facilitator to stimulate the growth and development of each student by utilizing their individual interests and needs as a guide for meaningful instruction.

In a national study in Japan to assess the status of teaching style in nursing education, we discovered that nursing educators formed four naturally-occurring groups based on their teaching style (Yoshida, Conti, Yamauchi, & Kawanishi, 2023). For a sample of 1,261, the group sizes were 514, 391, 208, and 148. The groups of 514 and 148 were similar, as were those of 391 and 208. The four groups differ in how they address individual differences and how they create an environment of individual differences among the students. They differed in the degree to which they support Personalizing Instruction. Personalizing Instruction recognizes and utilizes the uniqueness of each student's strengths. Personalizing Instruction is an active condition in which learners are dynamically involved in identifying their own problems that need to be solved and their motives for participating in the learning activity. The groups of 391 and 208 either often or almost always support Personalizing Instruction. However, the groups of 514 and 148 seldom practice Personalizing Instruction. Thus, the four groups form two larger groups related to the amount of their support for addressing individual differences. (Yoshida, Conti, Yamauchi, & Kawanishi, 2023)

This current study continues our line of inquiry concerning teaching style using the national sample from nursing educators in Japan. While we found that Personalizing Instruction is the fundamental decisive factor separating these four groups, other characteristics of the groups remain unknown (Yoshida, Conti, Yamauchi, & Kawanishi, 2023). Therefore, the dual purposes of this study were (1) to measure the differences between the groups to determine if they were unique and (2) to describe any teaching style differences among the groups.

2. Method

2.1 Instrument

This study explored the teaching styles of nursing educators in Japan. The Teaching Style Assessment Scale was used to measure teaching style (Yoshida, Conti, Yamauchi, & Iwasaki, 2014). The Teaching Style Assessment Scale (TSAS) is a 30-item scale measuring the frequency with which one practices teaching/learning principles described in the adult education literature. TSAS has a 6-point Likert-type scale: 0 = *Never*, 1 = *Almost Never*, 2 = *Seldom*, 3 = *Often*, 4 = *Almost Always*, and 5 = *Always*. Accordingly, scores may range from 0 to 150. The mean for TSAS is 81, with a standard deviation of 15. Scores above the mean of 81 indicate a tendency toward the learner-centered mode, while scores below 81 imply support for the teacher-centered approach.

2.2 Sample

The sample for this study as part of our line of inquiry was previously reported (Yoshida, Conti, Yamauchi, & Kawanishi, 2023). In summary of that report, 1,261 participants completed TSAS. An anonymous, self-administered questionnaire survey was sent to nursing faculty in Japan. The list of schools was created using

the list posted on the Ministry of Health, Labor, and Welfare website. For distribution, 2,595 questionnaires were sent to 265 institutions that cooperated in the study, and 1,261 (48.6%) were returned; 783 were nursing schools, and 478 were nursing universities. This data collection was conducted by the postal method from September to November 2017 after ethics review approval from the principal investigator's institution. The mean for the sample was 86.04, with a standard deviation of 14.57. The scores were normally distributed.

2.3 Research Questions

This study measured the relationship between teaching style and the teacher's group membership. Teaching style preference was identified with TSAS and measured by each participant's total score and the five individual factor scores that make up the total score. In this casual-comparative study, the research questions directing the research were:

1) Are the groups of 662 and 599 nursing educators significantly different from each other on TSAS and its five factors?

2) Are the four groups of 514, 391, 208, and 148 nursing educators significantly different from each other on TSAS and its five factors?

3) What are the teaching style characteristics for each of the four groups on TSAS and its five factors?

Analysis of variance with its descriptive statistics and discriminant analysis were used to answer these research questions. Analysis of variance is an inferential statistical procedure for comparing groups in terms of the mean scores. The total score and five factor scores on TSAS were used in the statistical analyses, and a significance level of .05 was selected. The Scheffé test, which is viewed as the most conservative and desirable comparison method after data analysis (Sheskin, 2007, pp. 895–896), was used for post hoc comparisons to identify precisely where the significant differences lie after a significant F ratio was obtained for analyses with more than two groups. Discriminant analysis was used to differentiate among the four groups. Participants were grouped according to their group membership of 514, 391, 208, and 148 in the cluster analysis of the national sample of 1,261 (Yoshida, Conti, Yamauchi, & Kawanishi, 2023).

3. Large Group Differences

The first research question addressed the differences between the two large groups of nursing educators. The four groups of teachers collapsed into two larger groups. The groups of 514 and 148 formed a group of 662, and the groups of 391 and 208 comprised a group of 599. The group of 662 was a teacher-centered group that seldom addressed individual differences and rejected the concept of Personalizing Instruction. The group of 599 was a learner-centered group that regularly addressed individual differences and supported the concept of Personalizing Instruction.

A separate one-way analysis of variance between the groups of 662 and 599 was calculated for TSAS and its five factors. The results showed significant differences between the two groups for the total TSAS score and the scores for each of the five factors (see Table 1). The probability level for each analysis was less than .001 ($p < .001$).

Table 1. Analysis of variance of TSAS and factor scores by teaching style groups of 662 and 599

Scale	Source	SS	df	MS	F	p
TSAS	Between	133,013.2	1	133,013.2	1,246.4	< .001
	Within	134,354.8	1,259	106.7		
Factor 1	Between	29,703.5	1	29,703.5	1,128.8	< .001
	Within	33,130.1	1,259	26.3		
Factor 2	Between	2,736.6	1	2,736.6	335.2	< .001
	Within	10,278.9	1,259	8.1		
Factor 3	Between	3,220.6	1	3,220.6	430.6	< .001
	Within	9,416.8	1,259	7.5		
Factor 4	Between	1,228.1	1	1,228.1	112.5	< .001
	Within	13,747.6	1,259	10.9		
Factor 5	Between	2,328.8	1	2,328.8	345.7	< .001
	Within	8,481.8	1,259	6.7		

Using the total score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean score on TSAS for the group of 662 was 76.3, while the mean for the group of 599 was 96.8.

Thus, the group of 662 scored .31 standard deviations ([81-76.3]/15) below the mean of 81 for TSAS with its standard deviation of 15. In contrast, the group of 599 scored 1.05 standard deviations ([96.8 -81]/15) above the mean of 81. Consequently, the groups are meaningfully different, with the group of 662 moderately teacher-centered while the group of 599 is firmly learner-centered.

The relationship between the groups was further explored for each of the five factors of TSAS. Factor 1: Participation in the Learning Process has 9 items with a mean of 22 and a standard deviation of 7. Using the Factor 1 score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean Factor 1 score for the group of 662 was 18.9, while the mean for the group of 599 was 28.7. Thus, the group of 662 scored .44 standard deviations ([22-18.9]/7) below the mean of 22. In contrast, the group of 599 scored .96 standard deviations ([28.7-22]/7) above the mean of 22. Consequently, the groups are meaningfully different, with the group of 662 moderately teacher-centered while the group of 599 is strongly learner-centered.

The groups also differed on the second factor of TSAS. Factor 2: Relating to Experience has 5 items with a mean of 17 and a standard deviation of 3. Using the Factor 2 score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean Factor 2 score for the group of 662 was 17.1, while the mean for the group of 599 was 20.1. Thus, the group of 662 scored slightly above the mean of 17 for Factor 2. In contrast, the group of 599 scored 1.03 standard deviations ([20.1-17]/3) above the mean of 17. Consequently, the groups are meaningfully different, with the group of 662 eclectic in teaching style while the group of 599 is strongly learner-centered.

The groups differed on the third factor of TSAS, similarly to the second factor. Factor 3: Climate Building (or Create Learning Climate) has 6 items with a mean of 23 and a standard deviation of 3. Using the Factor 3 score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean Factor 3 score for the group of 662 was 22.3, while the mean for the group of 599 was 25.5. Thus, the group of 662 scored slightly below the mean of 23 for Factor 3. In contrast, the group of 599 scored .83 standard deviations ([25.5-23]/3) above the mean of 23. Consequently, the groups are meaningfully different, with the group of 662 slightly teacher-centered while the group of 599 is strongly learner-centered.

The groups also differed on the fourth factor of TSAS but less extremely than on the other factors. Factor 4: Learner-Centered Activities has 6 items with a mean of 10 and a standard deviation of 4. Using the Factor 4 score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean Factor 4 score for the group of 662 was 9.2, while the mean for the group of 599 was 11.1. Thus, the group of 662 was slightly below the mean by .2 standard deviations ([10-9.2]/4). In contrast, the group of 599 was slightly above the mean by .28 standard deviations ([11.1-10]/4). Consequently, the groups are meaningfully different, with the group of 662 slightly teacher-centered while the group of 599 is somewhat learner-centered.

Like the other factors, the groups differed on the fifth factor of TSAS. Factor 5: Personalizing Instruction has 4 items with a mean of 9 and a standard deviation of 3. Using the Factor 5 score on TSAS, the groups of 662 and 599 differed significantly in their teaching styles (see Table 1). The mean Factor 5 score for the group of 662 was 8.8, while the mean for the group of 599 was 11.5. Thus, the group of 662 was slightly below the mean by .07 standard deviations ([9-8.8]/3). In contrast, the group of 599 scored .83 standard deviations ([11.5-9]/3) above the mean of 9. Consequently, the groups are meaningfully different, with the group of 662 slightly teacher-centered while the group of 599 is firmly learner-centered.

In summary, the one-way analyses of variances answered the research question in the affirmative. The groups of 662 and 599 nursing educators differ significantly from each other on TSAS and on each of its five factors. However, the magnitudes of the differences vary. The greatest difference between the groups is in the total score for TSAS and in Factor 1. The differences are also substantial in Factor 2, Factor 3, and Factor 5. The slightest difference between the groups is on Factor 4. The differences also vary in degree of variance from the mean. The scores for the group of 662 are only slightly teacher-centered. In contrast, the scores of the group of 599 are firmly learner-centered, thus indicating that the group of 599 is more strongly committed to the learner-centered teaching style than the group of 662 is to the teacher-centered teaching style.

4. Differences Among the Four Groups

The two large groups comprised four groups of 514, 391, 208, and 148 nursing educators. The second research question asked if these four groups differed significantly from each other on TSAS and its five factors. One-way analysis of variance with the total TSAS score and its five factor scores was used to answer this question. Because the analyses involved four groups, the Scheffé test pinpointed the exact differences after finding a significant F ratio.

A separate one-way analysis of variance among the groups of 514, 391, 208, and 148 was calculated for TSAS and its five factors. The results showed significant differences among all groups for the total TSAS score and the scores for each of the five factors (see Table 2). The probability level for each analysis was less than .001 ($p < .001$).

Table 2. Analysis of variance of TSAS and factor scores by teaching style groups of 514, 391, 208, and 148

Scale	Source	SS	df	MS	F	p
TSAS	Between	195,411.2	3	65,137.1	1,137.9	< .001
	Within	71,956.8	1257	57.2		
Factor 1	Between	42,627.9	3	14,209.3	884.0	< .001
	Within	20,205.6	1257	16.1		
Factor 2	Between	4,646.2	3	1,548.7	232.6	< .001
	Within	8,369.3	1257	6.7		
Factor 3	Between	4,475.8	3	1,491.9	229.8	< .001
	Within	8,161.6	1257	6.5		
Factor 4	Between	1,616.9	3	539.0	50.7	< .001
	Within	13,358.7	1257	10.6		
Factor 5	Between	3,762.4	3	1,254.1	223.7	< .001
	Within	7,048.2	1257	5.6		

A Scheffé test was calculated for each of the significant *F* ratio outcomes. TheScheffé test analyses each possible pair of means for the four groups to determine if the means differ significantly. All of the Scheffé test results revealed the same pattern. In every analysis, each of the means of the four groups was significantly different from the others. That is, each of the groups was distinct. For each of the analyses, the order of the groups was the same in terms of their mean score. The order from the lowest mean score to the highest mean score was the group of (1) 148, (2) 514, (3) 391, and (4) 208 (see Table 3). Thus, the two groups that formed a larger group of 662 had lower and teacher-centered scores, while the groups that formed the larger group of 599 had higher and learner-centered scores. Importantly, although two groups can be combined to form a group with similar characteristics, each of the four groups is distinct by itself in teaching style features.

The Scheffé test results confirm the findings of the first research question but, more importantly, expand upon them. The groups of 148 and 514 are both teacher-centered, representing a larger teacher-centered group of 662. The groups of 391 and 208 are both learner-centered, thereby representing a larger learner-centered group of 599. However, these larger groups are not uniform. Instead, each large group is made up of two distinct groups.

Moreover, these distinct groups are of various sizes, with one of the large groups sizably larger than the other. For each of these, the smaller of the two groups is more committed to its teaching style preference. Thus, the findings of the first research question reveal (1) that the teachers are nearly equally distributed between support for the teacher-centered approach (52.5%) and the learner-centered approach (47.5%) and (2) that a smaller but sizable portion of each group is more strongly committed to that teaching style. However, the second research question's results indicate that each of these larger groups cannot be viewed as cohesive. They are not merely teacher-centered or learner-centered. Instead, there are degrees of support for the prevailing teaching style preference. Consequently, it is imperative not to view teachers stereotypically as either teacher-centered or learner-centered. Instead, the individual profile of each group must be considered.

5. Characteristics of the Four Groups

The third research question concerned the teaching style characteristics for each of the four groups on TSAS and its five factors. To answer this research question, a teaching style profile was constructed for each using the total TSAS score and the five factor scores (see Table 3).

Table 3. Scheffé Test Means for TSAS and Factor Scores by Teaching Style Groups of 208, 391, 514, and 148

Source	Group Size			
	208	**391**	**514**	**148**
TSAS (Teaching Style Assessment Scale)	104.70	92.65	80.58	61.31
Factor 1: Participation in the Learning Process	32.61	26.58	20.82	12.48
Factor 2: Relating to Experience	21.30	19.40	17.90	14.38
Factor 3: Climate Building	26.41	24.97	22.92	20.01
Factor 4: Learner-Centered Activities	11.69	10.84	9.51	7.92
Factor 5: Personalizing Instruction	12.70	10.86	9.43	6.52

In addition to the results from the Scheffé test, a discriminant analysis was run to help name the process that separates the four teaching style groups. Discriminant analysis is a multivariate statistical procedure for simultaneously examining the differences between groups using several discriminating variables. For this analysis, the 1,261 participants were grouped according to their teaching style group, and the discriminating variables were the 30 items in TSAS. This procedure produced a discriminant function with an eigenvalue of 3.34, accounting for 96.8% of the variance in the analysis. The structure matrix for the analysis contained eight items with correlation coefficients above .3 (see Table 4) that show the interactions within the analysis. As a result, the structure matrix can assist in naming the process that separates the groups.

Table 4: Structure Matrix for Discriminant Analysis of Teaching Style Groups by TSAS Items

No.	Item	Corr.	Mean Score for Group			
			208	**391**	**514**	**148**
25	I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.	.460	4.01	3.38	2.45	1.49
26	I have my students identify their own problems that need to be solved.	.433	4.12	3.46	2.86	1.89
23	I gear my instructional objectives to match the individual abilities and needs of the students.	.426	3.65	2.93	2.15	1.12
18	I help my students develop short-range as well as long-range objectives.	.411	3.65	2.84	2.21	1.11
17	I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.	.407	3.18	2.44	1.92	1.01
16	I have individual conferences to help students identify their educational needs.	.363	3.39	2.86	2.06	1.08
22	I plan activities that will encourage each student's growth from dependence on others to greater independence.	.341	4.17	3.7	3.19	2.51
14	I utilize the many competencies that most adults already possess to achieve educational objectives.	.314	4.07	3.79	3.32	2.54

5.1 Group of 148: Distinctly Teacher-Centered

The group of 148 was the smallest group and the most teacher-centered. Its mean scores were lower than any other group on the overall TSAS score and the five factors. The group mean scores were the following standard deviations below the mean: (a) TSAS: 1.31 standard deviations ([81-61.31]/15), (b) Factor 1—Participation in the Learning Process: 1.36 standard deviations ([22-12.48]/7), (c) Factor 2—Relating to Experience: .87 standard deviations ([17-14.38]/3), (d) Factor 3—Climate Building: 1.00 standard deviations ([23-20.01]/3); (e) Factor 4—Learner-Centered Activities: .52 standard deviations ([10-7.92]/4), and (f) Factor 5—Personalizing Instruction: .83 standard deviations ([9-6.52]/3). Collectively, the group of 148 scored almost one full standard deviation (-.98) below the mean for each TSAS measurement of teaching style. Consequently, the group of 148 is firmly committed to the teacher-centered approach to teaching.

The teaching style scores for the group of 148 contradict the concept of Personalizing Instruction that discriminates between teacher-centered and learner-centered approaches to teaching (see Table 5). In addition, the mean scores for the TSAS items in the structure matrix from the discriminant analysis revealed that this group rarely (between *Almost Never* and *Seldom*) considered the student's motives for learning or allowed students to identify their own problems that needed to be solved. They *Almost Never* geared instructional objectives to match the individual abilities and needs of the students, helped students develop both short-range and long-range objectives, allowed students to work at their own rate, and held individual conferences with students to help them identify their educational needs. Occasionally (between *Seldom* and *Often*), they planned activities to encourage each student's growth toward greater independence and utilized the many competencies

the students already possess to achieve educational goals. Collectively, these actions indicate a stronger focus on the teacher's actions than on the individual student's needs and abilities.

With its mean of 61.31, approximately two-thirds of the group of 148 can be expected to score between 46 and 76 on TSAS, which is one standard deviation from the mean. Based on these characteristics, the group of 148 can be named *Distinctly Teacher-Centered*.

Table 5. Teaching Style Scores for Groups or 148 and 514

TSAS and Factors	Group of 148: *Distinctly Teacher-Centered*	Group of 514: *Moderately Teacher-Centered*
For 30 items in TSAS	The average item score for this group is 2.04 (61.31/30), indicating that they Seldom practice the teaching behaviors in the items.	The average item score for this group is 2.7 (80.58/30), indicating that they Seldom to Often practice the teaching behaviors in the items.
Factor 1: Participation in the Learning Process	The average item score for this group is 1.4 (12.48/9), indicating that they Almost Never or Seldom gear their instructional objects to match the individual abilities or needs of the students or allow students to actively engage in making decisions related to the learning process.	The average item score for this group is 2.3 (20.82/9), indicating that they Seldom gear their instructional objects to match the individual abilities or needs of the students or allow students to actively engage in making decisions related to the learning process.
Factor 2: Relating to Experience	The average item score for this group is 2.9 (14.38/5), indicating that they Often teach units about everyday living and encourage students to relate new learning to their prior experiences.	The average item score for this group is 3.6 (17.90/5), indicating that they Often to Almost Always teach units about everyday living and encourage students to relate new learning to their prior experiences.
Factor 3: Climate Building	The average item score for this group is 3.3 (20.01/6), indicating that they Often informally counsel students and encourage student interaction in the classroom.	The average item score for this group is 3.8 (22.92/6), indicating that they Almost Always informally counsel students and encourage student interaction in the classroom.
Factor 4: Learner-Centered Activities	The average item score for this group is 1.3 (7.92/6), indicating that they Almost Always (negative items reverse coded in this factor) use lectures as a means of providing knowledge and use formal tests to evaluate students.	The average item score for this group is 1.6 (9.51/6), indicating that they Often to Almost Always (negative items reverse coded in this factor) use lectures as a means of providing knowledge and use formal tests to evaluate students
Factor 5: Personalizing Instruction	The average item score for this group is 1.6 (6.52/4), indicating that they Almost Never or Seldom modify their techniques or classroom conditions to meet the student's individual needs.	The average item score for this group is 2.4 (9.43/4), indicating that they Seldom modify their techniques or classroom conditions to meet the student's individual needs.

5.2 Group of 514: Moderately Teacher-Centered

The group of 514 was the largest group and part of the teacher-centered group of 662. Its mean scores on TSAS and three factors were slightly to the teacher-centered side of the mean. The group mean scores were the following standard deviations below mean: (a) TSAS: .03 standard deviations ([81-80.58]/15), (b) Factor 1—Participation in the Learning Process: .17 standard deviations ([22-20.82]/7), (c) Factor 3—Climate Building: .03 standard deviations ([23-22.92]/3), and (d) Factor 4—Learner-Centered Activities: .12 standard deviations ([10-9.51]/4). Its group mean scores were above the mean for two factors: (a) Factor 2—Relating to Experience: .3 standard deviations ([17.90-17]/3) and (b) Factor 5—Personalizing Instruction: .14 standard deviations ([9.43-9]/3). Overall, the group of 514 scored near the mean (.02 standard deviation) for each TSAS measurement of teaching style. Consequently, the group of 514 is moderately committed to the teacher-centered approach to teaching.

The teaching style scores for the group of 514 were near the mean for TSAS and its factors (see Table 5). The scores were below the mean for TSAS and Factors 1, 3, and 4. Their scores were above the mean for Factors 2 and 5.

In addition, the mean scores for the TSAS items in the structure matrix from the discriminant analysis revealed that this group occasionally (between *Seldom* and *Often*) considered the student's motives for learning or students to identify their own problems that needed to be solved. They *Seldom* geared instructional objectives to match the individual abilities and needs of the students, helped students develop both short-range and long-range objectives, allowed students to work at their own rate, and held individual conferences with students to help them identify their educational needs. They *Often* planned activities to encourage each student's growth toward greater independence and utilized the many competencies that the students already possess to achieve educational goals. Collectively, these actions indicate a more moderate focus on the actions of the teacher rather

than on the needs and abilities of the individual student.

Thus, the group of 514 is the largest of the 4 groups and a part of the teacher-centered group of 662. However, all of its teaching style scores are near the mean for TSAS and its factors. With its mean of 80.58, approximately two-thirds of the group of 514 can be expected to score between 66 and 96 on TSAS, which is one standard deviation from the mean. Based on these characteristics, the group of 514 can be named *Moderately Teacher-Centered*.

5.3 Group of 391: Consistently Learner-Centered

The group of 391 was the second-largest group and part of the learner-centered group of 599. Its mean scores on TSAS and all five factors were above the mean. The group's mean scores were the following standard deviations above the mean: (a) TSAS: .78 standard deviations ([92.65-81]/15), (b) Factor 1—Participation in the Learning Process: .65 standard deviations ([26.58-22]/7), (c) Factor 2—Relating to Experience: .8 standard deviations ([19.40-17]/3), (d) Factor 3—Climate Building: .66 standard deviations ([24.97-23]/3), (e) Factor 4—Learner-Centered Activities: .21 standard deviations ([10.84-10]/4), and (f) Factor 5—Personalizing Instruction: .62 standard deviations ([10.86-9]/3). Generally, the group of 391 scored approximately one-half standard deviations above the mean (.62 standard deviation) for each TSAS measurement of teaching style. Consequently, the group of 391 is solidly committed to the learner-centered approach to teaching.

The teaching style scores for the group of 391 were consistently and tellingly above the mean for TSAS and its factors (see Table 6). In addition, the mean scores for the TSAS items in the structure matrix from the discriminant analysis revealed that this group constantly (between *Often* and *Almost Always*) considered the student's motives for learning or allowed students to identify their own problems that needed to be solved. They *Often* geared instructional objectives to match the individual abilities and needs of the students, helped students develop both short-range and long-range objectives, allowed students to work at their own rate, and held individual conferences with students to help them identify their educational needs. They *Almost Always* planned activities to encourage each student's growth toward greater independence and utilized the many competencies they already possess to achieve educational goals. Collectively, these actions consistently focus on the needs and abilities of the individual student rather than on the teacher's actions.

With its mean of 92.65, approximately two-thirds of the group of 391 can be expected to score between 78 and 108 on TSAS, which is one standard deviation from the mean. Based on these characteristics, the group of 391 can be named *Consistently Learner-Centered*.

Table 6. Teaching Style Scores for Groups or 391 and 208

TSAS and Factors	Group of 391: *Consistently Learner-Centered*	Group of 208: *Decidedly Learner-Centered*
For 30 items in TSAS	The average item score for this group is 3.09 (92.65/30), indicating that they Often practice the teaching behaviors in the items.	The average item score for this group is 3.49 (104.70/30), indicating that they Often to Almost Always practice the teaching behaviors in the items.
Factor 1: Participation in the Learning Process	The average item score for this group is 3.0 (26.58/9), indicating that they Often gear their instructional objects to match the individual abilities or needs of the students or allow students to actively engage in making decisions related to the learning process.	The average item score for this group is 3.6 (32.61/9), indicating that they Often to Almost Always gear their instructional objects to match the individual abilities or needs of the students or allow students to actively engage in making decisions related to the learning process.
Factor 2: Relating to Experience	The average item score for this group is 3.9 (19.40/5), indicating that they Almost Always teach units about everyday living and encourage students to relate new learning to their prior experiences.	The average item score for this group is 4.3 (21.30/5), indicating that they Almost Always teach units about everyday living and encourage students to relate new learning to their prior experiences.
Factor 3: Climate Building	The average item score for this group is 4.2 (24.97/6), indicating that they Almost Always informally counsel students and encourage student interaction in the classroom.	The average item score for this group is 4.4 (26.41/6), indicating that they Almost Always to Always informally counsel students and encourage student interaction in the classroom.
Factor 4: Learner-Centered Activities	The average item score for this group is 1.8 (10.84/6), indicating that they Often (negative items reverse coded in this factor) use lectures as a means of providing knowledge and use formal tests to evaluate students.	The average item score for this group is 1.9 (11.69/6), indicating that they Often (negative items reverse coded in this factor) use lectures as a means of providing knowledge and use formal tests to evaluate students.
Factor 5: Personalizing Instruction	The average item score for this group is 2.7 (10.86/4), indicating that they Often or slightly less often modify their techniques or classroom conditions to meet the individual needs of the students.	The average item score for this group is 3.2 (12.70/4), indicating that they Often modify their techniques or classroom conditions to meet the student's individual needs.

5.4 Group of 208: Decidedly Learner-Centered

The group of 208 was the second-smallest group and part of the learner-centered group of 599. This group of 208 had the highest mean scores on TSAS and all five factors, and all of its scores were well above the mean. The group's mean scores were the following standard deviations above the mean: (a) TSAS: 1.58 standard deviations ([104.70-81]/15), (b) Factor 1—Participation in the Learning Process: 1.52 standard deviations ([32.61-22]/7), (c) Factor 2—Relating to Experience: 1.43 standard deviations ([21.30-17]/3), (d) Factor 3—Climate Building: 1.14 standard deviations ([26.41-23]/3), (e) Factor 4—Learner-Centered Activities: .42 standard deviations ([11.69-10]/4), and (f) Factor 5—Personalizing Instruction: 1.23 standard deviations ([12.70-9]/3). Generally, the group of 208 scored approximately one-and-one-fourth standard deviations above the mean (1.22 standard deviation) for each TSAS measurement of teaching style. Consequently, the group of 208 is firmly committed to the learner-centered approach to teaching.

All of the teaching style scores for the group of 208 are meaningfully above the mean for TSAS and its factors (see Table 6). In addition, the mean scores for the TSAS items in the structure matrix from the discriminant analysis revealed that this group practically *Always* considered the student's motives for learning. They nearly *Always* (between *Almost Always* and *Always*) allowed students to identify their own problems that needed to be solved, geared instructional objectives to match the individual abilities and needs of the students, helped students develop both short-range and long-range objectives, and allowed students to work at their own rate. They constantly (between *Often* and *Almost Always*) held individual conferences with students to help them identify their educational needs and planned activities to encourage each student's growth toward greater independence. They *Often* utilize the many competencies the students possess to achieve educational goals. Collectively, these actions indicate an unambiguous and dedicated focus on the needs and abilities of the individual student rather than on the teacher's actions.

With its mean of 104.7, approximately two-thirds of the group of 208 can be expected to score between 90 and 120 on TSAS, which is one standard deviation from the mean. Based on these characteristics, the group of 208 can be named *Decidedly Learner-Centered*.

6. Demographic Variables

Demographic data were collected related to the type of school at which the nursing educator was employed, the nursing educator's position at the school, and the years of experience teaching. The 1,261 participants were distributed as follows:

- Type of School: Nursing School—783 (62.1%) and Nursing University—478 (37.9%);

- Position at the School: School teacher—571 (45.3%), School managerial position teacher—212 (16.8%), University assistant professor—9 (0.7%), University lecturer—155 (12.3%), University associate professor—155 (12.3%), University professor—149 (11.8%), and No response—10 (.8%);

- Years of Experience: 1–3 years—146 (11.6%), 4–6 years—183 (14.5%), 7–9 years—180 (14.3%), 10–13 years—267 (21.2%), 14–16 years—154 (12.2%), and over 17 years—331 (26.2%).

Each demographic variable contained categorical data (i.e., frequencies). Therefore, a separate chi-square for each of the three variables examined the relationship between the demographic variable and the membership in one of the four groups. Based upon a significance level of $\alpha = 0.05$, significant differences were found for each of the demographic variables: Type of School ($\chi^2 = 24.4$, $df = 3$, $p < .001$), Position at School ($\chi^2 = 56.2$, $df = 18$, $p < .001$), and Years of Experience ($\chi^2 = 42.4$, $df = 15$, $p < .001$). These chi-square values strongly support (a) rejecting the null hypothesis that the demographic variables and the group membership are independent (not related) and (b) accepting the alternative hypothesis that there is a relationship between each demographic variable and the group membership.

Further analyses revealed a pattern in the association between (i.e., dependent upon) the demographic variable and the group membership. For each demographic variable, the groups of 514 and 208, which comprised the larger group of 662, differed from those of 391 and 148, which comprised the larger group of 599. The 599 groups had greater representation among the nursing universities, while the 662 groups had greater representation in the nursing schools. The 599 groups had greater representation among the various university professor rankings, while the 662 groups had greater numbers among the school teachers. The 599 groups progressively had greater representation than the groups of 662 as the years of experience increased. Indeed, this difference can be summed up collectively as each category of years of experience becomes more learner-centered in membership as experience increases. This is so dramatic that significant differences exist when the first level of experience (1–3 years) is compared to all other levels as a group ($\chi^2 = 21.7$, $df = 2$, *p*

< .001).

7. Discussion

7.1 Continuity of Findings

A hierarchical flow reveals the continuity among the research questions. The findings from each research question build on the next to create a hierarchical structure that supports the study's primary conclusion. The findings from the first research question revealed that two approximately equal-sized groups exist among the practicing teachers, with one group favoring the teacher-centered approach. At the same time, the other group supports the learner-centered approach. However, the findings from the second research question revealed that each of these approaches is subdivided into two unequal-sized groups, creating four groups. Although each group has similarities with one other group in terms of its teaching style approach, each of the four groups is distinct by itself in teaching style features.

Thus, the two groups that formed a larger group of 662 had lower and teacher-centered scores on TSAS, while the groups that formed the larger group of 599 had higher and learner-centered scores. Importantly, although two groups can be combined to form a group with similar characteristics, each of the four groups is distinct by itself in teaching style features.

The third research question continues the clarification of teaching style groups by providing a comprehensive description of the teaching style characteristics for each group. These profiles are as follows:

- *Distinctly Teacher-Centered*: This group opposes the concept of Personalizing Instruction, rarely considers the student's motives for learning, hardly ever gears instructional objectives to match the individual abilities and needs of the students, and seldom allows students to work at their own rate. This style focuses more on the teacher's actions than on the individual student's needs and abilities.

- *Moderately Teacher-Centered*: This group occasionally supports the concept of Personalizing Instruction and considers the student's motives for learning or allows students to identify their own problems that need to be solved. They seldom gear instructional objectives to match the individual abilities and needs of the students, help students develop both short-range and long-range objectives, allow students to work at their own rate, and hold individual conferences with students to help them identify their educational needs. They often plan activities to encourage each student's growth toward greater independence and utilize the many competencies they already possess to achieve educational goals. This style indicates a moderate focus on the teacher's actions rather than on the needs and abilities of the individual student.

- *Consistently Learner-Centered*: This group consistently supports the concept of Personalizing Instruction and constantly considers the student's motives for learning or allows students to identify their own problems that need to be solved. They often gear instructional objectives to match the individual abilities and needs of the students, help students develop both short-range and long-range objectives, allow students to work at their own rate, and hold individual conferences with students to help them identify their educational needs. They nearly always plan activities to encourage each student's growth toward greater independence and utilize the many competencies they already possess to achieve educational goals. This style consistently focuses on the needs and abilities of the individual student rather than on the teacher's actions.

- *Decidedly Learner-Centered*: This group unreservedly supports the concept of Personalizing Instruction and practically always considers the student's motives for learning. They nearly always allow students to identify their own problems that need to be solved, gear instructional objectives to match their individual abilities and needs, help students develop short-range and long-range objectives, and allow students to work at their own rate. They constantly hold individual conferences with students to help them identify their educational needs and plan activities to encourage each student's growth toward greater independence. They often utilize the many competencies the students possess to achieve educational goals. This style indicates an unambiguous and dedicated focus on the needs and abilities of the individual student rather than on the teacher's actions.

7.2 Typology

Collectively, the findings from the three research questions reveal that a typology, the Teaching Styles Typology of Practicing Teachers, exists based on the teaching styles of practicing teachers. A typology is simply a means or system for grouping things according to their similarities. Typologies are commonly used in science and the social sciences for dividing things into different types. By dividing or classifying a group of things into smaller groups according to similar qualities, typologies provide a framework for processing, organizing, and better understanding information. Thus, a typology basically classifies people, things, or concepts by general type in

similar categories to enhance and facilitate understanding by grouping these things with similar characteristics together. Indeed, "classification of objects into meaningful sets—clustering—is an important procedure in all of the social sciences" (Aldenderfer & Blashfield, 1984, p. 5), and the statistical procedure of cluster analysis supports uncovering these meaningful sets (Camille et al., 2015; Tan & Samavedham, 2022). Cluster analysis can amazingly make the invisible visible.

The typology revealed by the findings consists of four distinct types of teachers based on the commonalities in their shared teaching style. These similarities in teaching style are for *practicing* teachers because all of the educators in the study were experienced teachers who were currently active in various teaching roles. The findings first confirmed that the four groups differed from each other and then provided descriptions of the characteristics that distinguished each type. Together, the findings define and describe four types of practicing teachers that are differentiated based on their teaching style.

7.3 Implications for Practice

7.3.1 Increasing Professionalism

A typology of teaching styles can be a valuable tool for teachers to improve their professional practice. The typology categories can provide guidelines for individual teachers to better understand the teaching-learning transaction. The overall typology and its groupings can provide a general conceptual basis for making sense of their observations and intuitions about teaching, and, importantly, it can provide them with a model for analyzing their experiences. Consequently, the typology of teaching styles has implications for increased professionalism, which includes better self-awareness and the development of an educational philosophy.

A primary characteristic of professionalism involves consistently improving competence and knowledge and achieving high standards. As a result, "true professionals are always open to learning more and advancing their skill set" (Indeed, 2023, para. 5). To accomplish this improvement, teachers need a better understanding of what they do in the classroom and why they do it. "True professionals know not only what they are to do, but are also aware of the principles and reasons for acting. Experience alone does not make a person a professional …. The person must also be able to reflect deeply upon the experience he or she has had" (Elias & Merriam, 1980, p. 9). The Teaching Styles Typology of Practicing Teachers can help stimulate and direct this self-reflection.

A typology can be a means of providing clarity for complex areas such as teaching. The categories of the typology help simplify similarities and differences among cases to facilitate comparisons and contrasts. Typologies can provide a general model to quickly identify and evaluate specific situations and make sense of them. This way, the typology can serve as a template for systematically analyzing the teacher's actions and beliefs. Fortified with a typology of teaching styles, each teacher can engage in the teaching-learning transaction prepared rather than empty-headed.

Specifically, the Teaching Styles Typology of Practicing Teachers can serve as a guide for self-awareness and self-evaluation. While formal knowledge for a profession is usually generated from basic and applied research within a university setting, daily real-world problems and unexpected situations require teachers to adopt a reflection-in-action approach to their professional practice (Schon, 1987). This reflection-in-action approach starts with the teacher's self-assessment of their teaching style and then reflecting upon the implications that this style has for their learners (Conti, 2004, p. 76). This reflective process allows them to acquire new knowledge for future actions (Schon, 1987). Notably, the Teaching Styles Typology of Practicing Teachers simplifies this process by presenting them with a transparent model against which to evaluate their actions. The knowledge that the teacher gains from this self-awareness can be used in various ways. The teacher can use this new knowledge from the reflection-in-action to manage themselves and to direct future professional development. They can also use this information in their relationships with others by identifying similarities and differences with others. In addition, this knowledge of their own preferences related to teaching style can be shared with others so that they better understand the teacher.

Self-awareness also involves an identification and understanding of one's educational philosophy. Teaching style is inclusive. Consequently, teaching style "includes the implementation of philosophy; it involves evidence of beliefs about, values related to, and attitudes toward all the elements of the teaching-learning exchange" (Jarvis, 2004, p. 40). This educational philosophy serves as the organizing structure for the teacher's beliefs, values, and attitudes related to the teaching-learning exchange (Heimlich & Norland, 1994, p. 38). Research related to educational philosophy and teaching style reveals that educational philosophy and teaching style are directly related and that the process that discriminates groups in this relationship is the educator's view of the role of the teacher in the teaching-learning process (Hughes, 1997; Martin, 1999; O'Brien, 2001, pp. 172–174). Teachers can use instruments such as the Philosophy of Adult Education Inventory (Zinn, 2004) and the Philosophies Held

by Lifelong-learners (Conti, 2007) to identify their educational philosophy and relate this to their teaching style. The various philosophical schools differ in the instructor having either a teacher-centered or learner-centered teaching style. In order to become an effective professional educator, a teacher must develop a philosophical perspective on education (Ozmon & Craver, 1981, p. 268). The Teaching Styles Typology of Practicing Teachers can be a decisive tool to assist teachers in this challenging task.

Self-awareness and knowledge of educational philosophy are vital to teaching success because research indicates that "consistency within key teaching style elements may be the most important element in fostering improved student achievement" (Conti, 1989, p. 14). Students can predict and understand teachers who score very high in their teaching style. Unsurprisingly, students are more comfortable and perform best with these teachers. Notably, the Teaching Styles Typology of Practicing Teachers can be a valuable guide to assist teachers in achieving and maintaining their consistency in teaching style.

7.3.2 Applying the Typology

In addition to stimulating increased professionalism through self-awareness and developing an educational philosophy, the Teaching Styles Typology of Practicing Teachers may be used in several other practical ways. The typology provides detailed descriptions of the actual differences among the various teaching styles. Moreover, it shows that these differences are incremental depending upon the intensity to which the characteristics in the typology category are practiced. These descriptions can be applied practically by teachers in two ways. First, the typology categories can serve as models against which teachers can assess themselves. Such self-assessments can identify areas of strengths as well as areas of challenges. This self-evaluation can be used for developing a professional development plan. Second, the typology categories can project ideal models toward which the teacher may wish to strife. This is especially so when the typology is used in conjunction with reflecting upon one's educational philosophy. The typology categories can guide teachers in implementing their desired philosophy or in altering their teaching behaviors to achieve their desired educational philosophy.

Using the typology categories as informational models can be a continuing activity. Teachers encounter different challenges during diverse phases of their careers (Hellebaut et al., 2023, p. 10). This is particularly true for those with low teaching experience (Sim & Mohd Matore, 2022, p. 12) and especially so during the first three years of teaching (Hellebaut et al., 2023, p. 10). This need also extends to preservice teacher training (Chan, Maneewan, & Koul, 2021). Moreover, the issues and problems faced vary with years of experience (Sim & Mohd Matore, 2022, pp. 10–12). Thus, the models from the typology categories can benefit teachers throughout their careers.

The typology categories also have implications for organizing teachers for various activities. Staff development sessions can be planned to emphasize different elements of the typology, and specialty training can be provided in areas of recognized need, such as addressing burnout of teachers (Hellebaut et al., 2023), changing career needs (Hellebaut et al., 2023, p. 10), or changing societal needs (Sim & Mohd Matore, 2022, p. 13; Wilkesmann & Lauer, 2015). The typology can also serve as a valuable guide for facilitating team-teaching pairings and achieving teaching-style balance for team activities. Accordingly, the typology can serve as a tool to assist educational leaders in providing targeted professional development, mentorship, and guidance (Hellebaut et al., 2023, p. 10).

The typology categories can provide guidelines to assist teachers in developing their educational philosophy. After identifying their educational philosophy with instruments such as the Philosophy of Adult Education Inventory (Zinn, 2004) and the Philosophies Held by Lifelong-learners (Conti, 2007), teachers can compare and contrast their results with the different typology categories. Such appraisals will give detailed context to the overall philosophical schools. Combining the information from the descriptions of the educational philosophies and the typology categories can provide teachers with a comprehensive understanding of their personal relationship with their professional environment.

Overall, the Teaching Styles Typology of Practicing Teachers can be a practical, multi-purpose tool for teachers for assessing, reflecting upon, and implementing their teaching style. These are vital because the teacher's actions impact students' motivation and engagement (Chan, Maneewan, & Koul, 2021). The typology categories can inform teachers about how the complex pieces of the teaching environment fit together to form a synergistic whole. Importantly, it can show the individual teachers how they relate to and interact with this dynamic professional environment.

8. Limitations

Teaching is a pervasive activity that occurs in a multitude of environments in formal and informal organizations. The sample for this study pertained to nursing educators in post-secondary institutions in Japan. Future studies in

various settings and at various levels of education can enhance and expand this typology's generalizability. In the meantime, this typology can serve as the foundation for a typology of teaching styles of practicing teachers.

9. Conclusion

The primary conclusion from this study is that a typology exists for classifying teaching styles as they are practiced in the field by teachers. This Teaching Styles Typology of Practicing Teachers is anchored in the findings from the three research questions:

1) First, there are two nearly equal sides to the typology. One side is teacher-centered, while the other is learner-centered.

2) Second, the typology is made up of four distinct groups.

3) Third, each of these distinct groups can be clearly described. These groups are (a) *Distinctly Teacher-Centered*, (b) *Moderately Teacher-Centered*, (c) *Consistently Learner-Centered*, and (d) *Decidedly Learner-Centered*.

The development of the Teaching Styles Typology of Practicing Teachers has the potential to extend theory and practical research related to teaching styles. Theory can be extended by reframing the language concerning teaching styles. Language can influence how a concept is perceived and used. Desmond Tutu insightfully observed, "Language is very powerful. Language does not just describe reality. Language creates the reality it describes." Consequently, changing how the language associated with teaching styles is used can change the reality it creates.

The word *teaching* can be used as either a noun or a verb. As a noun, teaching is a thing. It is the job of being a teacher. It is the practice or profession of a person who provides instruction. Much of the current language treats teaching style as a noun. This is reflected in the laconic labels used in many instruments that measure teaching style. For example, the Grasha-Riechmann Teaching Styles are Expert Teaching Style, Formal Authority Teaching Style, Personal Model Teaching Style, Facilitator Teaching Style, and Delegator Teaching Style (Grasha, 1996). The Principles of Adult Learning Scale (Conti, 1982, 2004) and the Teaching Style Assessment Scale (Yoshida, Conti, Yamauchi, & Iwasaki, 2014) use numeric points between the Teacher-Centered and Learner-Centered tails of the scales. Studies using the Self-Determination Theory to examine the motivation to teach place teachers on a motivational continuum with labels of Autonomous Motivation, Controlled Motivation, and Amotivation (Ryan & Deci, 2002). Another scale, the Spectrum of Teaching Styles, labels teacher-student interactions ranging from the Command Style to the Self-teaching Style (Mouratidou, Grassinger, Lytrosygouni, & Ourda, 2022). A nationwide study in higher education in Germany labeled teaching styles as information-transmission/teacher-focused (ITTF) and the conceptual-change/student-focused (CCSF) approach (Wilkesmann & Lauer, 2015). These examples are not exhaustive of the current labeling of teaching styles, but they are symptomatic of the undynamic nature of the language in the discussion of teaching styles.

As a verb, teaching signifies action. Teaching is the action of providing information about or instruction in a subject or skill. Teaching gives someone knowledge or trains someone. It is the instruction to help someone learn. Consequently, as a verb, teaching is dynamic and forceful. The labels and the descriptions of the Teaching Styles Typology of Practicing Teachers capture this dynamism. Structurally, the modifiers for the *centeredness* of each of the four labels are adverbs that qualify the degree to which the teaching style is applied. As such, these adverbs grammatically signify that they are strengthening a verb. This further confirms that *centeredness* concerning teaching style is an action rather than a state of being. The descriptions for each typology category are vibrant, meaningful, and expressive. They contain verbs that are realistic for teacher-student interactions and suggestive of actions by the teacher (e.g., allow, consider, gear, hold, help, plan, support, and utilize). These verbs are specific and express precisely what the teacher needs to do. With its energetic labels and active descriptions, this language not only reframes the semantic discussion of teaching styles but also reconceptualizes teaching styles as the range of actions by the teacher rather than a professional situation. Such a reconceptualization can expand theory and practice associated with teaching styles.

The Teaching Styles Typology of Practicing Teachers can expand research in at least three areas. First, additional research can test the generalizability of the typology and explore modifications or additions to it. This typology was developed with a national sample of nursing educators in Japan. The research could be expanded with samples from other countries and various education levels. The Principles of Adult Learning Scale and the Teaching Style Assessment Scale are compatible instruments that could be used for these studies. Second, both quantitative and qualitative studies could be conducted to enhance the descriptions of the typology categories. Quantitative studies could measure the association of the typology categories with other variables. Qualitative

studies could identify teachers in each typology category and then use interviews and observations with these teachers to embellish the descriptions for each typology category. Third, an easy-to-use instrument could be developed to identify teacher placement in the typology categories. Such an instrument could facilitate teacher self-assessments.

Thus, the Teaching Styles Typology of Practicing Teachers can be used immediately and potentially enhance teaching style practice, theory, and research. This typology of teaching styles can be a valuable tool for teachers to advance their professional practice. The typology has implications for augmenting professionalism by facilitating enhanced self-awareness and assisting in developing an educational philosophy. Future research can expand the descriptions for each typology category and can test the typology's generalizability.

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Authors' contributions

Dr. Conti was responsible for the conceptualization, methodology, formal analysis, writing-original draft preparation, and writing-reviewing and editing preparation for the creation of the published work. Dr. Yoshida supervised the conceptualization, methodology, validation, investigation, writing-review and editing preparation, project administration, and funding acquisition. Dr. Yamauchi participated in the methodology and writing-review and editing preparation. Ms. Kawanishi participated in the data curation and writing-review and editing preparation. All authors read and approved the final manuscript.

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