

Effects of a Vocal Jazz Workshop on Choral Music Education Majors' Achievement in Improvisation and Confidence in Teaching Improvisation

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Abstract

This study examined the effects of an intensive, research–based vocal jazz workshop on choral music education students' achievement in improvisation and confidence in teaching improvisation. Participants ($N = 24$) were students enrolled in a large Midwestern university. They were recruited to participate in a study that focused on how people develop skill and confidence in improvisation tasks, as well as on relationships among improvisation skills, confidence in teaching it, musical background, and personality type. No previous experience with improvisation was required. Participants were informed that they would (a) complete the *Myers–Briggs Type Indicator*, (b) complete the *Confidence in Teaching Improvisation Questionnaire*, (c) sing a short improvised solo into an audio–recorder in the privacy of the researcher's office, (d) attend a workshop ("treatment") of eight sessions, and (e) complete the questionnaire and improvisation again. After the order of recordings was randomized, CDs were provided to two assessment–trained judges, along with *Blues Improvisation Rating Sheets* that consisted of 12 criteria to be rated on scales from 1 to 6. Interrater reliability was .93. Mixed–Design ANOVAs showed significant gains from pre–test to post–test in both achievement in improvising ($p < .01$) and confidence in teaching improvisation ($p < .001$). Interestingly, no significant relationship was found between improvisation achievement and teaching confidence. Positive, moderately strong correlations ($p < .01$) were found between post–test improvisation achievement and (a) years of participation in an instrumental jazz ensemble ($r_s = .60$) and (b) self–assessment of improvisation skill ($r_s = .55$).

Keywords

vocal improvisation, achievement, confidence, singing, choral music education

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Musical improvisation is an art that has been practiced for centuries (Madura, 1999) and “is part of virtually every musical tradition in the world” (Solis & Nettle, 2009, p. 1). Jazz ensembles have existed in school settings since the 1920s. Yet, in the early 21st century, improvisation is notably lacking in the training of many music majors at the university level.

This status is an unfortunate one, because major professional music education organizations, such as the National Association for Music Education (NAfME) and the National Association of Schools of Music (NASM), have continued to stress the importance of this skill for all educated musicians. The *National Standards for Arts Education* (1994), the NASM Standards for Composition/Improvisation (2010), and the Framework for Learning in the 21st Century (2009), are just a few of the influential published documents that recommend or mandate that musicians, and thus, music educators, achieve competency in improvisation.

Research indicates repeatedly that the improvisation standard of *The National Standards for Arts Education* (1994) is the most challenging of the nine standards for music teachers to address in their classrooms (Lehman, 1995). The most obvious reason for this difficulty is that unless teachers had participated in jazz band or studied Orff or Dalcroze pedagogy (Shuler, 1995) they are often unsure how to improvise and how to teach it (Reimer, 1996; Shuler, 1995). Studies show that some music teachers overestimate or exaggerate the time they spend on improvisation activities in their classrooms (Abrahams, 2000; Wang & Sogin, 1997), while others teachers clearly express their lack of training and confidence in teaching improvisation. A host of studies suggests that despite assumed efforts by university music faculty to prepare future teachers for skills outlined in the National Standards, there is a

disconnect between their goals and the results (Abrahams, 2000; Adderley, 1999, 2000; Bell, 2003; Byo, 1999; Frego & Baltagi, 2006; Froseth, 1996; Gruenhagen & Whitcomb, 2012; Jorgensen, 1997; Kirkland, 1996; Lehman, 1995; Louk, 2002; Madura, 2000; Orman, 2002; Pignato, 2010; Reimer, 1996; Riley, 2009; Riveire, 1997; Rummel, 2010; Schmidt, Baker, Hayes & Kwan, 2006; Shuler, 1995; Wang & Sogin, 1997; Wilson, 2003; Wollenzein, 1999). For a comprehensive review of these studies, see Madura Ward-Steinman (2007) and Riley (in press). One positive note, according to most of these studies, is that music teachers are eager to learn more about improvising and how to teach it.

In a pilot study of participants who attended vocal jazz improvisation conference sessions, Madura (2000) examined educators' ($N = 81$) confidence in implementing the national K-12 improvisation achievement standards (*National Standards for Arts Education*, 1994). On a researcher-constructed questionnaire, participants rated their confidence in teaching students to achieve these 12 standards. Results indicated that teachers felt “moderately confident” to teach the elementary school standards, but “minimally confident,” at best, to teach the grade 5–12 standards. Participants also rated their own ability to improvise the lowest of all questionnaire items, but rated their motivation to learn more the highest of all items. They indicated a preference to learn more about teaching improvisation at intensive summer workshops, followed by conference sessions, videotapes, and college courses.

A replication of that study utilized a larger ($N = 213$) sample. Madura Ward-Steinman (2007) used the same questionnaire to assess music teacher confidence in implementing the national content standard #3: Improvising melodies, variations and accompaniments (*National Standards for Arts Education*, 1994). Five-point rating scales were designed to indicate the following: (1) *no confidence at all*, (2) *almost*

no confidence, (3) *slight confidence*, (4) *moderate confidence*, and (5) *great confidence*. Internal consistency of the measure as determined by Cronbach's *alpha* was .95. The surveys were administered at state, national and international vocal jazz improvisation conference sessions from 2004 through 2006.

Results confirmed findings of the earlier study (Madura, 2000), which indicated that participants' confidence in teaching improvisation according to the 12 national achievement standards declined as the grade level rose from elementary school (K–4) through high school (grades 9–12). The highest teacher means were found for the K–4 improvisation standards, indicating “moderate confidence;” followed by the means for the Grades 5–8 improvisation standards, indicating “slight confidence;” and the lowest teacher means were found for the high school improvisation standards, indicating “almost no confidence.” A repeated measures ANOVA revealed significant differences among the means for all three grade levels, $F(1.71, 326.08) = 128.62, p < .001$. These participants were also asked to rate their own ability to improvise, to which the mean response corresponded to the phrase “I can improvise a little.” They also reported that they were “very interested” in learning more about how to teach improvisation, particularly through “intensive workshops.”

To follow up on that reported interest, Madura Ward-Steinman (2007) examined whether a six-week “intensive” vocal jazz workshop could enhance the improvisation teaching confidence of music education undergraduates at a Midwestern university. A pretest-posttest design was carried out with 13 choral music education majors who participated in the workshop and served as the treatment group, and 19 choral music education majors who did not receive the vocal jazz instruction serving as the control group. The researcher conducted the vocal jazz workshop, and all

confidence questionnaire responses were anonymous. The vocal jazz workshop included both improvisation and stylistic elements of the vocal jazz genre. It consisted of eleven 50-minute meetings that provided instruction in listening to vocal jazz recordings, singing solo jazz standards and choral arrangements, notating jazz bass lines and piano voicings, transcribing and memorizing a recorded blues solo, and improvising with the blues scale. A *t*-test for independent samples indicated no significant difference in improvisation teaching confidence between the control group and the experimental group at the time of the pretest, $t(30) = 1.99, p = .06$.

Pretest and posttest teacher confidence means for each of the 12 achievement standards were examined. Results showed that, for the treatment group, pretest item means ranged from “almost no confidence” to “slight confidence,” and posttest item means ranged from “slight confidence” to “moderate confidence.” Notably, all of the high school standards were rated with “moderate confidence” at post-test, thus providing evidence that an intensive workshop in vocal jazz improvisation can change the trend (Madura, 2000; Madura Ward-Steinman, 2007) of confidence scores declining as grade levels advanced. A paired *t*-test compared the combined item pretest and posttest means to reveal a significant difference, $t = -4.30(12), p < .001$. The composite confidence mean increased one full point on the five-point scale, demonstrating an increase from slight confidence to moderate confidence in teaching improvisation according to the National Standards.

While a significant boost in self-reported teaching confidence after an intensive vocal jazz workshop is a positive step forward in the improvisation literature, little is known about the relationship between that confidence and the actual ability to improvise, or about whether said intensive workshop would also

significantly improve ability. Therefore, further research was recommended to examine actual improvisation *achievement* from pre-treatment to post-treatment. Although several of the studies cited above reported that music educators have expressed an interest in learning to improvise, and other studies have reported strategies used to teach non-jazz improvisation skills to children and adolescents (Davison, 2006; Hirschorn, 2011; Joseph, 1982; Reese, 2006; Rinehimer, 2012), no research exists that provides evidence of a significantly effective “treatment” for improving jazz improvisation achievement with preservice choral music education majors.

Previous research has identified significant predictors of the ability to improvise jazz solos, and those predictors include imitative ability, extensive jazz experiences, jazz theory knowledge, and self-assessment of improvisation skill (Berliner, 1994; Ciorba, 2006; Madura, 1996; May, 2003; Rummel, 2010; Salonen, 2010), as well as creative strategies that include the generation of divergent musical ideas (Madura Ward-Steinman, 2008a; Townsend, 2005; Webster, 2002). Other studies have suggested that a jazz-related primary musical instrument (Rummel, 2010), a musical family (Berliner, 1994; Madura Ward-Steinman, 2008b; Reid, 2002), and personality types, particularly the Myers-Briggs combination of Intuitive (N), Feeling (F), and Perceiving (P) types (Kemp, 1996; MacKinnon and Simon, as cited in Kemp, 1996; Madura Ward-Steinman, in press), may influence improvisation achievement.

Madura Ward-Steinman (2008b) is the only study to examine the relationship between the Myers-Briggs personality type and improvisation skill, finding that the NFP type characterized the majority of participants in a study of vocal improvisers. However, other studies of creative thinkers have also identified this personality type. Kemp (1996) found both student and professional composers to be

predominantly INFP. In studies of creative non-musicians (including artists, writers, and architects), studies by both MacKinnon and Simon (as cited in Kemp, 1996) found that INFP was the most representative type. MacKinnon suggested that Intuitives (N) tend to prefer to make their own conceptual links rather than base their work on static facts; that Feelers (F) prefer to endow their work with personal value and meaning; and that Perceptives (P) tend to be open-minded, flexible and spontaneous. Regarding the findings that creative types tend toward Introversion (I), there are conflicting results for the subpopulations of singers and educators who tend toward Extroversion (Kemp, 1996; Reardon MacLellan, 2011).

The purpose of this study was to determine the effects of a vocal jazz workshop on preservice teachers’ improvisation achievement and on their confidence in teaching improvisation. The following research questions were addressed:

1. Is there a statistically significant difference in vocal improvisation achievement after an intensive workshop in vocal jazz?
2. Are there statistically significant correlations between post-test vocal improvisation achievement, previous musical experiences, and MBTI personality type?
3. Is there a statistically significant difference in confidence to teach improvisation after an intensive workshop in vocal jazz?
4. Are there statistically significant correlations between post-test confidence to teach improvisation, previous musical experiences, and MBTI personality type?
5. Is there a statistically significant relationship between improvisation achievement and confidence in teaching improvisation?

6. How do participants describe their improvisation development from pre-test to post-test?

Method

Participants

Participants ($N = 24$) were choral music education students enrolled at a university in the Midwest. All choral music education majors seeking teaching licenses (BME and MS) were invited to participate during the noon hour when most upperclassmen were available. They were recruited through both emailed and in-class invitations to participate in a research study that would focus on how people develop skill and confidence in improvisation tasks, as well as on relationships among that skill, confidence, musical background and personality type. No previous experience with improvisation was required.

Design

The research utilized a one-group pre- to post-test design, with all participants ($N = 24$) serving as members of the treatment group. The decision to retain all participants for the experimental group and not assign some to a control group was based on substantial evidence that shows a pronounced lack of experience, confidence, and skill with regard to improvisation tasks (as cited in Madura, 1992 and Madura Ward-Steinman, 2007) in pre-service and in-service music educators. This particular sample had had no previous collegiate coursework in jazz improvisation so the pre-test was considered a baseline measure.

Dependent Measures

The *Blues Improvisation Rating Sheet* (Berliner, 1994; Madura Ward-Steinman, 2008a) was used by two judges to rate pre- and post-test improvisations. Twelve items were grouped into three factors (Horowitz, 1994;

Madura, 1992; Sarath, 2002; Webster, 2002) of jazz style, musical creativity, and overall musicianship, and were rated on scales ranging from 1 (*low*) to 6 (*high*). The 12 items were the following: Stylistically appropriate jazz rhythmic language, jazz tonal language, jazz scat syllables, and jazz timbre/inflections; musically creative (original or varied) rhythms, melodies, scat syllables, timbre, range, and dynamics; and overall musicianship aspects of correct notes for the given harmonies and cohesive structure.

The *Confidence in Teaching Improvisation Questionnaire* (Madura Ward-Steinman, 2007) was comprised of Likert-type scales for participants to rate their self-confidence in teaching K-12 students to achieve each of the twelve improvisation standards from the *National Standards for Arts Education* (1994). They also rated their extent of various types of music study, self-assessment of improvisation skill, and interest in learning more about improvisation. Questionnaire items specifically addressed each of the 12 standards, which were stated verbatim from the National Standards document to indicate that students in grades K-12 should be able to:

K-4a. improvise “answers” in the same style to given rhythmic and melodic phrases;

K-4b. improvise simple rhythmic and melodic ostinato accompaniments;

K-4c. improvise simple rhythmic variations and simple melodic embellishments on familiar melodies;

K-4d. improvise short songs and instrumental pieces, using a variety of sound sources, including traditional sounds, nontraditional sounds available in the classroom, body sounds, and sounds produced by electronic means;

5-8a. improvise simple harmonic accompaniments;

5-8b. improvise melodic embellishments and simple rhythmic variations on given

pentatonic melodies and melodies in major keys;

5-8c. improvise short melodies, un-accompanied and over given rhythmic accompaniments, each in a consistent style, meter, and tonality;

9-12a. improvise stylistically appropriate harmonizing parts;

9-12b. improvise rhythmic and melodic variations on given pentatonic melodies and melodies in major and minor keys;

9-12c. improvise original melodies over given chord progressions, each in a consistent style, meter, and tonality;

9-12d. improvise stylistically appropriate harmonizing parts in a variety of styles; and

9-12e. improvise original melodies in a variety of styles, over given chord progressions, each in a consistent style, meter, and tonality (*National Standards for Arts Education*, 1994).

The *Myers-Briggs Type Inventory (MBTI)* is intended to match personality types with satisfying careers, and certain personality types have been found to be associated with musicians and music educators (as cited in Kemp, 1996; Madura Ward-Steinman, in press; Reardon MacLellan, 2011). Test reliability and validity are well-documented in the *MBTI Manual* (Myers, McCaulley, Quank & Hammer, 1998). The four dichotomous personality types are Extroversion (E) vs. Introversion (I), Sensing (S) vs. Intuitive (N), Thinking (T) vs. Feeling (F), and Judging (J) vs. Perceiving (P). Results suggest that the NFP personality type may indeed predict whether an individual prefers to participate in improvisation activities.

Procedures

Participants were informed that they would be asked to do the following as a research participant: (a) complete the *Myers-Briggs Type Indicator* online and receive personalized results, (b) complete the *Confidence in*

Teaching Improvisation Questionnaire (Madura Ward-Steinman, 2007), (c) sing a short (1.5 mins) improvised solo into an audio-recorder in the privacy of the researcher's office, (d) attend four weeks (eight 50-minute sessions) of a vocal jazz workshop ("treatment"), and (e) complete the questionnaire and improvisation again after the workshop. They were assured of anonymity of results. IRB approval was granted in March 2011.

First, each participant signed an IRB consent form, completed a hard copy of the pre-test Confidence Questionnaire, and completed the *MBTI* personality test online. They were asked to rate their teaching confidence on a scale from 1 (*no confidence*) to 5 (*very confident*) for each of the 12 improvisation achievement standards; and to complete the *MBTI* at their earliest convenience, which was assessed by *CPP, Inc.*, the exclusive publisher of the *MBTI*, for reliability purposes.

Second, each participant was recorded in a music studio with only the researcher present to give instructions and manage the sound equipment. A Superscope PSD340 Music Practice CD Recording System was used to simultaneously play the rhythm section accompaniment CD (Aebersold, 1988) on one drive and record the improvisations on a second drive. Participants were asked to vocally improvise four choruses of 12-bar blues in the key of F. The researcher made every effort to be unobtrusive yet encouraging.

Third, participants attended an intensive workshop of eight 50-minute sessions over four weeks in vocal jazz style taught by the researcher. The vocal jazz workshop included both improvisation and stylistic aspects of the art of vocal jazz. The improvisation instruction was research-based (Berliner, 1994; Greenagle, 1995; Levitin, 2005; Madura, 1996; Salonen, 2010; Sarath, 2002; Webster, 2002) to emphasize aural imitation, immersion in jazz style, jazz theory knowledge, and creative strategies, and at each session participants

engaged in listening, singing, and analyzing vocal jazz materials. Reference materials for the workshop included one book, Steve Zegree's (2002) *The Complete Guide to Teaching Vocal Jazz*; blank manuscript paper; recordings of jazz ensembles and solo singers; and jazz choral arrangements. Workshop equipment included a piano, a CD player, and a white board.

Although space constraints prevent inclusion of all workshop details, the eight sessions covered the following topics:

- Day 1. Roots & Traditions of Vocal Jazz;
- Day 2. Elements of Vocal Jazz Style;
- Day 3. Arrangements and Arrangers of Vocal Jazz;
- Day 4. Rehearsal of Choral Arrangements;
- Day 5. Improvising to the 12-Bar Blues and Transcribing Solos;
- Day 6. Writing and Playing 12-bar Blues Piano Voicings and Bass Lines;
- Day 7. Jazz Solo Singing;
- Day 8. Informal "Jam Session" of Choral Arrangements, Improvisations, Transcriptions, and Standards.

At the conclusion of the sessions and for the post-tests, participants repeated the confidence in teaching improvisation questionnaire, were again recorded improvising four choruses of the 12-bar blues accompanied by the Aebersold CD (1988); and responded to the prompt: "How did you feel or what did you think about your second recorded improvisation versus your first improvisation?"

After the original order of all of the recordings was randomized, using www.randomizer.org, master CDs were provided to two jazz professors with extensive training in judging recordings for research purposes. They were also provided with the *Blues Improvisation Rating Sheets*, which consisted of 12 criteria to be rated on scales of 1 (*extremely weak, or never uses the criterion*) to 6 (*outstanding; or optimally uses the criterion*).

Interjudge reliability for the 48 combined assessment ratings (24 participants' pre-tests and post-tests) was found to be high (Cronbach's $\alpha = .93$), especially considering the somewhat limited (but adequate) number of items, participants, and judges. Finally, each participant's pre-test and post-test achievement scores and confidence ratings were entered into SPSS, along with dichotomous Myers-Briggs personality types for E/I, S/N, T/F, and J/P, each coded as 1 or 2 for analysis. Pre-screening of data for outliers, the Kolmogorov-Smirnov Tests for Normality, the Levene Tests of Homogeneity of Variances, and graphs/plots were examined to assure that the assumptions were met for parametric statistical procedures. Analysis of Variance (ANOVA) procedures were used to compare means from pre-test to post-test, and due to the ordinal (rating scales) and nominal (personality dichotomies) levels of the variables, nonparametric correlations were computed.

Results

Participants

Interestingly, the personality types of the participants ($N = 24$) were rather evenly distributed between the dichotomies: Extrovert ($n = 12$; 50%) vs. Introvert ($n = 12$; 50%), Sensing ($n = 11$; 46%) vs. Intuitive ($n = 13$; 54%), and Judging ($n = 13$; 54%) vs. Perceiving ($n = 11$; 46%). Only the Thinking ($n = 6$; 25%) vs. Feeling ($n = 18$; 75%) dichotomy showed a strong leaning in one direction over the other. No dominant four-letter type was identified, other than ENFP by 17% of the group ($n = 4$).

Almost half of the participants were senior undergraduates. Participants' years in university study included the following: Freshmen, $n = 2$ (8%); Sophomores, $n = 3$ (12%); Juniors, $n = 5$ (21%); Seniors, $n = 11$ (46%); and graduate students, $n = 3$ (12%). There were 10 females and 14 males. Mean years for vocal jazz ensemble experience was .81 ($SD = 1.49$),

instrumental jazz ensemble experience, 1.49 ($SD = 2.47$), voice lessons, 4.52 ($SD = 4.03$), and instrument lessons, 7.58 ($SD = 5.24$). Although the participants were choral music education students, standard deviations indicate a wide variety of levels of experience in the

four activities, with surprisingly more instrumental experience than vocal.

Table 1 shows descriptive statistics for improvisation. For each item, the post-test mean is higher than the pre-test mean, except for “correct notes.”

Table 1. *Pre- to Post-test Means and Standard Deviations for Improvisation Achievement*

Criterion	Pre-test Mean/ SD		Post-test Mean/ SD	
Jazz rhythmic language	3.60	1.17	4.02*	1.16
Jazz tonal language	3.10	1.35	3.52*	1.31
Jazz scat syllables	2.88	.96	3.35**	1.06
Jazz tone color/inflections	3.60	1.21	3.75	1.28
Original rhythms/melodies	3.40	1.41	3.67	1.43
Develops rhythms/melodies	3.38	1.09	3.60	1.12
Original/varied scat syllables	3.00	1.20	3.73**	1.27
Original/varied tone color	3.25	1.32	3.67**	1.37
Varied vocal range	4.13	.95	4.54**	.93
Varied dynamics	3.35	.97	3.77*	.92
Correct notes	3.50	.94	3.44	1.04
Cohesive structure	3.42	1.01	3.75*	.99

Note. * = $p < .05$; ** = $p < .004$.

A mixed-design ANOVA showed that overall vocal jazz improvisation *achievement* significantly improved from pre-test ($M = 3.38$, $SD = .91$) to post-test ($M = 3.73$, $SD = 1.01$), $F(1, 22) = 9.23$, $p < .01$. Although statistically significant, a composite gain score of only .35 on a five-point scale from pre-test to post-test achievement suggested that a closer look at the 12 item differences was warranted. Although eight of the items show a significant difference

beyond the .05 level, Bonferroni adjustments were necessary to control for Type 1 errors. A stringent .004 level of significance was honored, revealing four items that likely strongly influenced the composite significant result. Those items were appropriate jazz scat syllables, variety and originality of scat syllables, variety and originality of vocal tone color, and variety in vocal range. The nonsignificant items (besides “correct notes”)

were appropriate jazz tone color, development of musical ideas, and originality of rhythmic and melodic ideas.

Spearman-Brown correlations between the combined post-test improvisation achievement items and the individual questionnaire items indicated the following moderately strong, positive correlations with achievement: Years in an instrumental jazz ensemble ($r_s = .60, p < .01$), self-assessment of improvisation skill ($r_s = .55, p < .01$), and years of voice lessons ($r_s = .45, p < .05$). The "Thinking" personality type was also significantly related to improvisation achievement ($r_s = .42, p < .05$).

Participants' responses regarding their own improvisations from pre-test to post-test reflected the achievement found from the quantitative data, as evidenced by the following comments (no negative or reverse comments were found):

"I think my 2nd improv. was much more creative, with unique licks."

"I was more confident the 2nd time because I had concrete ideas to draw from."

"Round 2 was a lot easier for me. I didn't plan anything but just sang what I felt. I ended

up coming up with a theme that I did little variations of."

"I felt the 2nd improv. went much faster because I knew the 12-bar blues, so I understood when phrases were ending.

"My 2nd improv. had a better sense of form and line."

"I had a lot more fun with #2 because I'd learned some improv. tools."

"My 2nd was a lot better than my first. I was a lot more confident and willing to go 'out of the box' when it came to harder riffs and intervals."

"The 2nd time was far more stylistically appropriate for jazz than the first time."

Confidence in Teaching Improvisation

Table 2 shows descriptive statistics for confidence in teaching students to achieve the 12 improvisation standards. All post-test means were higher (at least "4" on a five-point scale) than the pre-test means, with less variability of responses for the post-tests as well. Pre-test means ranged from 2.83 to 3.65, and post-test means ranged from 4.00 to 4.58, resulting in statistically significant increases ($p < .001$) in confidence for each of the K-12 improvisation standards.

Table 2. *Pre- and Post-test Means and Standard Deviations for Confidence in Teaching Improvisation*

Standard	Pre-test Mean/ <i>SD</i>		Post-test Mean/ <i>SD</i>	
K-4a	3.65	.73	4.46	.72
K-4b	3.54	.72	4.58	.58
K-4c	3.57	.90	4.39	.78
K-4d	3.00	.83	4.21	.78
5-8a	2.92	1.14	4.13	.74
5-8b	3.29	.96	4.42	.58
5-8c	3.17	1.01	4.29	.62
9-12a	3.17	1.17	4.14	.86
9-12b	3.09	1.20	4.26	.75
9-12c	3.25	1.19	4.29	.69
9-12d	2.83	1.13	4.00	.72
9-12e	3.04	1.16	4.29	.75
Self-Assess	2.77	1.09	3.25	.85
Interest	4.25	.79	4.04	.86

A mixed-design ANOVA showed that the composite of the confidence item means significantly increased from pre-test ($M = 3.26$, $SD = .84$) to post-test ($M = 4.26$, $SD = .49$), suggesting a move from “some confidence” (3.0) to “moderately strong confidence” (4.0), $F(1,20) = 42.77$, $p < .001$. In addition, a moderately strong correlation was found between the “Extrovert” personality type and post-test confidence in teaching improvisation ($r_s = .68$, $p < .001$). Other statistically significant ($p < .05$) but weaker relationships were found between post-test confidence and two questionnaire items: interest in learning more about improvisation and self-assessment of improvisation skill ($r_s = .47$ and $.46$, respectively). Interestingly, no significant relationship was identified between improvisation teaching confidence and improvisation achievement, although both significantly increased from pre-test to post-test.

Discussion

This exploratory study is the first of its kind to explore the effects of an intensive vocal jazz improvisation workshop on both achievement in improvisation and confidence to teach improvisation. While caution should be exercised when tempted to generalize these results due to the non-random sampling of the participants, the gains are encouraging considering the limited amount of time spent in focused vocal jazz improvisation instruction and practice. Perhaps for a similar sample of mostly senior level choral music education majors (preservice teachers), the following suggestions based on these results may be helpful.

This replication supports previous research (Madura Ward-Steinman, 2007) that an intensive vocal jazz workshop can make a significant difference in the confidence of choral music education students to teach improvisation according to the *National*

Standards for Arts Education. This result is particularly important because in numerous earlier studies (e.g., Frego & Baltagi, 2006; Madura, 2000, 2007; Riveire, 1997), participants reported lacking confidence in all but the most basic approaches to teaching improvisation. If eight 50-minute workshop sessions can significantly increase confidence to teach even the most advanced improvisation achievement standards, it is clear that music faculty, and in particular music education faculty, should make concerted efforts to provide advanced instruction in improvisation. Perhaps choral music education majors should be required to enroll in an improvisation course offered by jazz faculty when music education faculty members are unable to meet this need.

This investigation is the first to examine the effect of a research-based improvisation workshop on choral music education students' *achievement* in improvisation tasks. Although a significant increase in improvisation skill was found, it appears to have been influenced by the more creativity-based items on the rating scale that emphasized variety and originality of scat syllables and range, as well as stylistically appropriate scat syllables. Most of the 12 items showed important gains, including appropriate jazz rhythm and tonal style, variety and originality of vocal tone color and dynamics, and overall structure. However, four items need attention in future vocal jazz workshops in order to increase achievement. They include one item that showed no improvement (singing the correct notes for the harmonies given), and three others that did improve but not significantly: stylistically appropriate jazz tone color, development of musical motives, and originality of rhythmic and melodic ideas.

In some ways, it is surprising that choral music education students achieved significantly with creative and appropriate use of jazz scat syllables, because that is a challenging skill for most beginning improvisers (Aitken & Aebersold, 1983). This result is encouraging,

especially when combined with significant gain scores in improvising cohesively, in jazz style, with creative use of tone color, dynamics, and range. It would seem that the research-based treatment/method used in this study was effective in many important ways, namely in teaching jazz style and creative techniques with timbre, dynamics, range and scat syllables. This study also suggests that both voice lessons and instrumental jazz ensemble experiences are helpful in improvising vocal jazz.

Where this “treatment” appears to have fallen short is with regard to connecting correct pitches with given harmonies. This finding suggests that significantly more time needs to be spent on the practice of scale/chord relationships, which could easily be incorporated into a daily warm-up. Also, participants did not substantially change their vocal tone from pre-test to post-test, despite hearing many vocal jazz recorded models. Perhaps this circumstance is to be expected considering that these choral music education students were currently studying applied voice with classically-trained professors, and were perhaps resistant or unable to sing in jazz style. Finally, while participants made only small gains in the more sophisticated types of improvisation, including motivic development and the creation of original rhythms and melodies, these characteristics may be too much to expect from a short-term intensive course.

It is perplexing that results of this study indicate a nonsignificant relationship between achievement in improvisation and confidence in teaching improvisation. A major question arising from this study regards the transfer of improvisation skill to teaching confidence. The disconnect may be due to the fact that the vocal jazz workshop was based on the findings of improvisation research, while the confidence questionnaire was based solely on the National Standards which do not mention the word “jazz.” Alternatively, it could suggest that acquiring a musical skill such as improvisation

does not necessarily transfer to the confidence (or the ability) to teach that skill. These questions have not been examined in previous research and thus provide ripe opportunities for further examination.

Although some research studies (e.g., Kemp, 1996; MacKinnon, as cited in Kemp, 1996; Madura Ward-Steinman, in press) have suggested that personality type may influence one’s confidence, interest, and participation in improvisation tasks, the only significant results found in this study suggest that the “Thinking” personality type may tend to achieve more quickly through improvisation instruction than other personality types, and that the “Extroverted” personality may tend to feel greater confidence in teaching improvisation after instruction. These exploratory results warrant further research.

Vocal jazz improvisation achievement and the confidence to teach it are important goals as recommended by professional music organizations and standards. This study suggests that both can be significantly improved with research-based teaching. Longitudinal studies are recommended to see how long the confidence and achievement “effects” linger before additional experience and instruction is needed. [IJRCS](#)

Institutional Review Board Approval and Compliance

The author obtained approval from an appropriate Institutional Review Board to conduct this research in a manner that assured the ethical treatment of participants and the confidentiality of participant information.

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