

## **An Exploratory Study of a Confluence Model of Preservice Music Teacher Creativity**

Peter Miksza

*University of Colorado—Boulder, U.S.A.*

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### **Abstract**

*This study investigated the viability of adapting the Sternberg and Lubart (1995) confluence model of creativity in the context of preservice instrumental music teaching. The model suggested that one's ability to be creative hinged on six distinct yet interrelated personal resources: intellect, knowledge, thinking style, personality, motivation, and environmental constraint. Two undergraduate music education students teaching in a band outreach program participated in this study. Data sources included (a) the Sternberg and Wagner (1991) Thinking Styles Questionnaire (O'Hara & Sternberg, 2001), (b) the Costa and McCrae (1992) NEO-PI-R, (c) a researcher-adapted Motivation for Teaching Questionnaire, (d) objective measures of teaching effectiveness across seven weeks, (e) an objective measure of student achievement, (f) semi-structured, open-ended interviews, and (g) consensual assessment of music teacher creativity. Independent judges verified the reliability of observational data. Results indicated that the music teacher creativity rankings from the consensual assessment corresponded with the respective teacher profiles resulting from the psychological measures and interviews, which was consistent with Sternberg and Lubart's theory. The teacher ranked most creative also (a) had the highest legislative thinking score on the Thinking Styles Questionnaire, (b) had the highest openness score on the NEO-PI, (c) reported a willingness to take risks, (d) reported the highest level of intrinsic*

*motivation, and (e) considered the environment to be open to creative possibilities. Although teaching effectiveness ratings improved over time for both participants, the teacher rated more creative was also more effective overall.*

Upon entering the music education profession, each new music teacher is confronted with a classroom situation unique unto itself. For example, classroom settings that new teachers encounter may vary widely as a function of any number of elements related to individual-, school-, or community-based characteristics such as individual student abilities, class size, school schedule structure, specific types of equipment available, number of co-workers present, day-to-day fluctuations in teaching demands, demographic characteristics, and community support resources. The tremendous amount of variability possible among teaching settings, whether from school to school, class to class, or day to day, makes preparing preservice teachers a difficult task. This variability dictates that a careful balance between breadth and depth regarding the content of music teacher education curricula must be struck. Of equal importance is the need to prepare preservice teachers to be creative in both thought and action so that they are able to be flexible and adaptable to the specific settings and day-to-day situations in which they find themselves.

Several researchers have identified creativity and flexibility as important prerequisites for effective music teaching. In

reviews of research regarding effective music teaching, Brand (1985) and Grant and Drafall (1991) cited the importance of creative approaches to personal interactions and the use of imagery and metaphor for effective music teaching, respectively. In a study involving 34 experienced music teachers, Pembroke and Frederickson (2000) asked what advice the participants would give to first-year teachers. The most frequent advice given (54% of the sample) was to “be prepared, yet flexible.” Sogin and Wang (2002) found similar results in a study of 51 music teachers that were divided into two groups, expert and non-expert, according to expert teacher ratings and the number of specialized teacher-training courses the participants had completed. In this study, 87% of the teachers in the expert group ranked flexibility as the most important principle for effective teaching compared to only 14% of the teachers in the non-expert group. Furthermore, Robinson (2001) reported that many of the lessons and best practices derived from an innovative methods course revolved around the need to be a creative teacher. Robinson developed a methods course that entailed seminar and practicum experiences being housed entirely in an authentic context—a public school setting. The researcher asserted that teachers needed to be able to (a) adjust instructional plans to student needs, (b) understand the value of flexibility, (c) draw upon many techniques and strategies to respond to unanticipated events, and (d) teach as though teaching is an improvisational art.

interesting). It is possible that the breadth of this operational definition may capture many

profile of personal resources consistent with  
the Sternberg and Lubart confluence model

Furthermore, there was no unusual stress on the importance of teacher creativity provided by the researcher during the program when providing feedback or advice. The band students in the outreach program were from 13 different middle schools in the university's surrounding area and varied widely in skill and experience level (e.g., 1 to 4 years).

*Data Sources (also see Appendix)*

*Teaching effectiveness.* Each participant's weekly rehearsal segment as well as their final performance was video recorded with a Panasonic PVGS35 mini-DV camera aimed at the teacher from the back of the rehearsal room or stage as necessary. Due to video camera availability and related logistical issues, Maggie had a total of seven recorded teaching segments and Tina had a total of four. The teaching segments were transferred to Quicktime format and burned to a recordable DVD. The researcher and an independent rater evaluated the teaching videos using a researcher-adaptation of the Hamann and Baker (1996) Survey of Teaching Effectiveness (STE). The independent rater was a graduate music education student with

thinking style, personality, and motivation, respectively. The participants completed all self-report measures in one, 30-minute session. The Sternberg and Wagner questionnaire consisted of three sub-scales designed to measure legislative (e.g., I use my own ideas and strategies to solve problems), judicial (e.g., I like to compare and rate different ways of doing things), and executive (e.g., I like to follow definite rules or directions) thinking styles. Participants responded to how well each of the 24 items described them on a Likert-type scale ranging from 1 “not at all well” to 7 “extremely well.” The range of scores for the legislative, judicial, and executive sub-scales was 9 to 63, 8 to 56, and 7 to 49 respectively. Previous studies have demonstrated validity for the measure through factor analyses and have reported reliability coefficients for college age participants ranging from .72 to .81 (O’Hara & Sternberg, 2001). The NEO-PI-R consisted of 240 items designed to measure five global personality facets: neuroticism (e.g., emotional stability vs. maladjustment), extraversion (e.g., sociability, assertive, active, talkative), openness (e.g., imaginative, aesthetic sensitivity, preference for variety, independent judgment), agreeableness (e.g., altruistic, sympathetic vs. egotistic, skeptical), and conscientiousness (e.g., purposeful, strong-willed vs. prone to impulses and temptation). Although each of the five facets was comprised of six, more specific scales, only the five facet scores were reported given that the constructs derived at the five-facet-level were the most relevant to the Sternberg and Lubart (1996) confluence model (i.e., openness and extraversion). Participants responded to statements regarding personality traits using a 5-point, Likert-type scale ranging from “strongly disagree” to “strongly agree.” Each facet has a total possible score range from 0 to 192.

Extensive validity and reliability information as well as a description of the development of the assessment tool were provided in the manual (see Costa & McCrae, 1992). The researcher-adapted Motivation for Teaching Questionnaire consisted of 10 items designed to measure intrinsic (e.g., I am more interested in satisfying my love for teaching than other potential rewards) and mastery (e.g., I prepare for teaching lessons because I want to be the best teacher I can be) motivation orientations toward engaging and persisting in teaching. Participants responded to each statement using a Likert-type scale ranging from 1 “not at all true of me” to 7 “very true of me,” which resulted in a total possible score range from 10 to 70. Items for this scale were adapted from previous measures designed by Schmidt (2005) and Miksza (2008), who each found excellent reliability results in the context of music education.

*Participant interviews.* The researcher conducted private semi-structured, open-ended interviews with each of the participants immediately following the completion of the self-report measures. Interviews were recorded using a Sony MZ-R700 minidisc recorder and Sony ECM-MS907 microphone. The interviews were transcribed by the researcher verbatim. In order to reduce bias, the interview questions were identical across participants and only generic probes were used when asking for clarification or elaboration of responses (e.g., can you tell me more about that, anything else) (Fowler & Mangione, 1990). The interviews were designed to gather information on elements of the Sternberg and Lubart (1996) confluence theory not associated with any of the self-report measures as well as to probe more deeply for information regarding the elements of the confluence theory assessed in other ways (e.g., thinking style, personality,

motivation). The specific personal resources that were examined exclusively by means of the interview questions were knowledge and environment. Questions were also included to examine the participants' thoughts regarding the nature of creativity and its relation to teaching music. The interview questions are presented in Figure 3. The preservice teacher participants were debriefed as to the purpose of the study following each interview. Participants were also sent the transcripts and summaries of their interview responses to confirm the meaning and accuracy of the researcher's interpretations.

*Preservice music teacher creativity.*

The participants were assessed for music teacher creativity using a consensual assessment technique (e.g., Amabile, 1996; Hickey, 2001). Four independent judges viewed all teaching videos in a unique random order and ranked the participants. Each independent judge was a graduate music education student with several years of instrumental music teaching experience. The judges were told to rank the participants relative to each other rather than consider an idealized standard. In addition, the judges were guided to consider criteria commonly associated with notions of creative thought and action (e.g., novel or original ideas for the lesson, adapting to the moment, being flexible in approach and/or trying out many different ideas, and evidence of divergent thinking). Lastly, the judges ranked the participants on separate criteria (e.g., conducting effectiveness) in order to check for discriminant validity. Creativity rankings across the four independent judges were unanimous.

## **Results**

### *Participant Profile Comparisons*

Data representing each of the personal resources of the Sternberg and

Lubart (1996) confluence model were collected for each participant. Archival data revealed that both participants had music-course specific and cumulative GPAs greater than 3.3 on a 4-point scale. Given that the coursework in which they participated required the exercise of synthetic, analytic, and practical-application intellectual skills, it could be assumed that the participants possessed at least what Sternberg and Lubart might consider the minimum threshold of intellect324 ructin GPA1Hakcu0 0

effectiveness ratings were consistently higher than Tina's at each comparable point in time. The student achievement scores

indicated a similar trend in that Maggie's final performance was rated somewhat higher than Tina's.

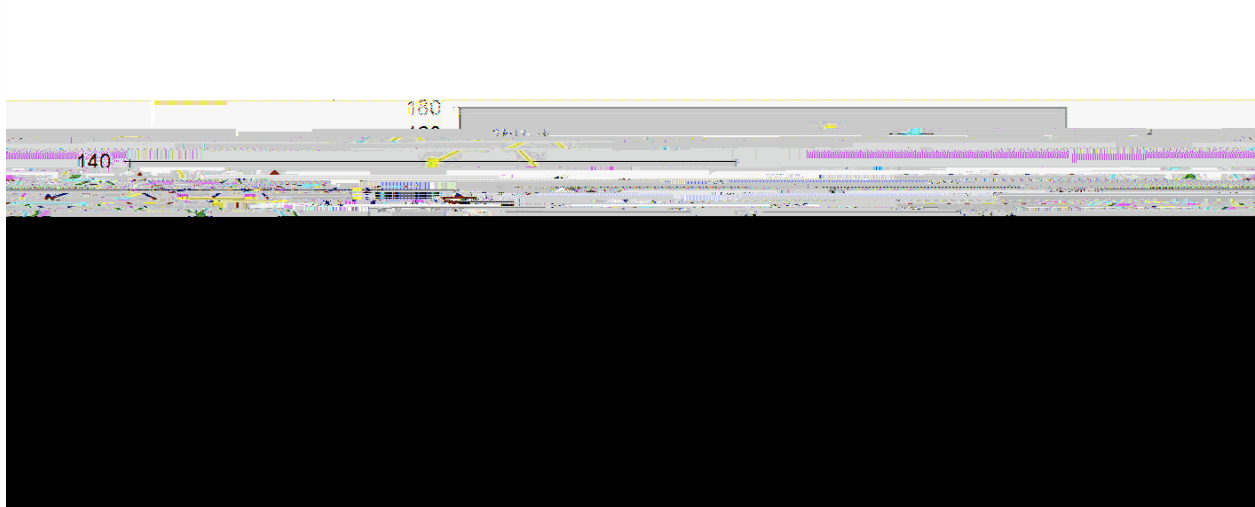


Figure 1. Profile plots of Thinking Style, Personality, and Motivation sub-scales. Note. Ex=executive thinking style, Leg=legislative thinking style, Jud=judicial thinking style, N=neuroticism, E=extraversion, O=openness, A=agreeableness, C=conscientiousness, Mot=motivation for teaching, and Norm=NEO-PI-R norms from manual.



Figure 2. Profile plots of teacher effectiveness ratings across seven weeks and student performance achievement at the final concert.



Summaries of the participants' responses to the interview questions are presented in Figure 3. Interview questions 3 and 7 were designed to gather information regarding thresholds of knowledge and whether the outreach program environment was conducive to creative possibilities, respectively. For example, both participants said "yes" when responding to the question "Did you feel like the program allowed you to try out and experiment with new ideas?" Maggie felt that she was equipped with enough knowledge to be successful in the program, whereas Tina did not. In addition, both suggested that they could benefit from more teaching experience to apply the knowledge they had. Responses to question 8 suggested that both participants believed the environment to be supportive of creative teaching. However, Tina acknowledged that she did not take advantage of those possibilities.

Interview questions 2, 4, 5, and 6 were included to gather more detailed and context-specific information about the personal resources assessed through the self-report measures. Responses to question 2 confirmed the results of the Motivation for Teaching Questionnaire in that both participants indicated an intrinsic/mastery motivation orientation. The responses to questions 4 and 5 somewhat reinforced the results of the legislative and executive thinking style sub-scales. Maggie indicated that she was likely to experiment with new ideas (e.g., relatively legislative), whereas Tina was less confident and wanted to implement only those ideas that she was confident would keep her from failing (e.g., relatively executive). Responses to question 6 were in accordance with the results of the

openness facet scores of the NEO-PI-R. Maggie's willingness to take risks was congruent with her higher openness score.

The remaining questions on the interview addressed self-perceptions of teacher effectiveness (question 1), personal impressions of teacher creativity (question 8), and self-perceptions of whether they felt they exhibited creative teaching (questions 9 and 10). Maggie believed that her teaching was effective and that she improved as time went on. She also indicated that she was able to be more refined and flexible in her lessons than she was in the past. Tina, however, indicated that she was not as confident in her teaching as Maggie was. Tina also indicated that she was not as confident in her teaching as Maggie was. Tina also indicated that she was not as confident in her teaching as Maggie was.

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<i>Interview Question</i>	<i>Tina</i>	<i>Maggie</i>
<i>1. How effective do you feel you were as a teacher over the course of this project?</i>	Not as could have been, room for improvement, kids played pretty well though	Good results, developed to better meet student's musical needs, more refined and flexible planning
<i>2. What do you see as the primary</i>		



more willing to experiment with new ideas, be flexible, and take sensible risks is also more likely to discover new and useful methods for reaching children.

The findings of this study have many useful practical implications for the training of future music teachers. The relationships found between music teacher creativity and teacher effectiveness suggest that preservice teachers may benefit from curricular projects or assessments that stress a legislative thinking style. Implementing course projects that require students to develop original ideas and evaluate competing theories may be more likely to help students develop a legislative thinking style than assigning projects that consist exclusively of convergent thinking tasks. Assignments and practicum experiences could also be designed in such a way that the students are encouraged to take reasonable risks and experiment with new ideas. However, the assessment procedures for situations such as this must provide the student with a way of feeling safe to fail to some degree. Teacher educators could also add attributes or characteristics of what they consider to be creative teaching to practicum and peer-teaching evaluation forms. Doing so would stress the importance of considering creative approaches when learning. Furthermore, teacher educators should model the attributes and characteristics of creative music teaching such as openness to new ideas for their students.

The exploratory nature of this study leaves many avenues open for future researchers to pursue. Given the small number of participants, it is important that researchers replicate the findings from this study with larger and more diverse samples of teachers. Replication across content areas such as in the contexts of choral teaching, general music teaching, and music teacher education may reveal interesting

comparisons to the current study. Researchers should also explore more refined operational definitions when assessing intellectual ability and knowledge as personal resources. For example, while the assumption that a threshold of intellectual abilities may have been reached by each participant as evidenced through their coursework is reasonable, more clear measures of practical, analytical, and synthetic intellectual abilities congruent with Sternberg and Lubart's (1996) theoretical stance are important for future research. The relative contribution of these personal resources to the profile of a creative teacher may differ drastically should more precise measurement approaches be used. Observational analyses of teachers identified as having a profile conducive to creativity may also be beneficial. Determining which specific behaviors might predict assessments of music teacher creativity is important for validating the theoretical model in the context of music education. Lastly, music



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(b) *Costa and McCrae (1992)* 的 *NEO-PI-R* 人格問卷，(c) 經研究者調適的教學動機問卷，(d) 七周教學有效性的客觀測量，(e) 學生成績的客觀測量，(f) 半結構、開放式訪談，以及(g) 音樂教師創造性的評估。所觀察數據的信度經獨立鑑定人檢驗。研究結果說明，音樂教師的創造性評級源自教師創造力的評估，此評估與由心理測量和訪談而得的教師剖面相符合。而這正與 *Sternberg* 和 *Lubart's* 的理論一致。最具創造性的教師(a) 在思維風格問卷中立法思考水平分最高，(b) 在 *NEO-PI-R* 人格問卷中開放水平分最高，(c) 表示願意承受風險，(d) 表現出最高水平的內在動機，並且(e) 認為周圍環境對各種創造可能性是開放的。儘管兩位參與者的教學有效性水平與日俱增，但從整體上看較具創造性的教師的教學則更為有效。