The Relationships Between Time Usage During Instrumental Lessons and Preservice Teachers’ Self-Evaluations

Jay Dorfman¹

Abstract

The purpose of this study was to investigate the relationships between proportions of time spent on particular pedagogical behaviors and preservice teachers’ perceptions of their own teaching, as measured by reflective self-evaluations. Preservice teachers (N = 9) taught and video recorded small-group instrumental music lessons and completed a reflective self-evaluation form while watching the video. The video footage was coded for time spent on physical space setup, talk, modeling, and student performance. Correlation statistics indicated relationships between several components of the reflection form and time spent on various activities during the lesson. Possible reasons for these correlations are examined, and suggestions are provided for modification of the undergraduate methods curricula based on the findings.

Keywords

self-evaluation, teacher talk, instrumental music

Introduction and Review of Previous Research

A common notion among those who discuss effective teaching is that artful allocation of time to particular tasks within a class is learned through experience. Additionally, it is often posited that particular teacher actions are more effective than others and that as teachers gain experience, they become more efficient. Little investigation has been

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conducted on the relationships between these typical indicators of effectiveness and the attitudes that teachers develop regarding their own teaching.

Several researchers have examined the proportions of time dedicated to various types of activities associated with music rehearsal scenarios as indicators of effectiveness. Of the teacher behaviors observed in Goolsby’s (1996) study, student teachers spent the largest proportion of time talking and allowed their students to play for the smallest proportion of time. Additionally, there were significant differences in the proportions of time dedicated to rehearsal activities depending on the amount of teaching experience. In another study of effectiveness of instruction in the instrumental classroom, Goolsby (1999) found that novice teachers, when rehearsing the same literature as experienced teachers, required more rehearsal time, and spent more of that rehearsal time using verbal instruction strategies, than did experienced teachers. Wagner and Strul (1979) provided evidence that experienced teachers spend significantly less time giving their students verbal instruction than do less experienced teachers. Worthy (2005) showed that in a lab rehearsal environment, the amount of time spent talking or modeling decreases and time devoted to student performance increases as novice teachers gain experience. Witt (1986) found that with a sample of teachers with a mean of 11.02 years experience, performance encompassed from 25.6% to 72.5% of rehearsal time, with minimal time dedicated to all other types of activities. These studies provide a foundation for the claim that novice teachers spend time differently than do experienced teachers and lead logically to the need for an investigation of the effects of those time differences on the improvement of teaching.

Talk in the classroom can serve many purposes, including communication of the philosophical beliefs that teachers hold (Bakai, 2006; Baker, 2007; Duke & Henninger, 2002; Lassman, 2006), but it has been shown to be valuable for both students and teachers for developing relationships and providing feedback to enhance student knowledge (Cook, 2007; Dobbs, 2005). Skilled teachers, who are experts in their subject areas, may be able to adjust the content and patterns of their language to accommodate for the individual needs of students (Yedlin, 2003).

Despite the positive outcomes of teacher talk, it is generally accepted that effective music instruction includes a minimized amount of talk. Yarbrough and Price (1981) found that students were generally more engaged during time spent in performance activities than they were during nonperformance activities. Napoles (2006) provided evidence that regardless of student musicians’ skill levels, attentiveness is greater when teachers spend less rehearsal time talking. Grimland (2005) concluded that modeling can be a very effective tool for preparing students for musical tasks. It has also been shown that teachers who conduct reflective self-evaluations of their own teaching that include analyses of the types of talk used during that teaching tend to improve their use of language in the instructional setting (Bradley, 2007; Roskos & Boehlen, 2001).

Reflective self-assessment is undoubtedly beneficial for preservice teachers (PTs), especially when it is considered separately from grading criteria for methods courses (Cyboran, 2006). Specific teacher actions, such as talk, modeling, and giving feedback or praise, can be “targeted” through the use of self-assessment at the preservice level.
(Keller, Brady, & Taylor, 2005). Restaino (2006) claimed that self-assessment, although difficult to organize and implement, is “fundamental to teachers’ growth and thus an essential component to any methods course” (p. 43), and Butler (2001) found that novice teachers’ abilities to organize knowledge improved as a result of participation in self-assessment activities. The practical difficulties of requiring PTs to conduct self-assessments of their teaching experiences can be overcome, given the ready integration of technologies such as video and audio recording devices and computers (Greher, 2006; Swain, 2006).

The purpose of this study was to investigate the relationships between proportions of time spent on particular pedagogical behaviors and PTs’ perceptions of their own teaching, as measured by reflective self-evaluations. PTs were of particular interest in this investigation because they represent teachers who have minimal teaching experience and should therefore demonstrate less effective teaching practices.

The following research questions were addressed:

1. In heterogeneous instrumental music lessons taught by preservice music teachers, what proportions of time are allotted to (a) physical space setup, (b) talk, (c) teacher modeling, and (d) student playing?
2. How do preservice music teachers perceive their own teaching when they view videotapes of lessons they have taught?
3. What relationships, if any, exist between the proportions of lesson time allotted to the above teaching behaviors and the reflective self-evaluations of PTs regarding their own teaching?

**Method**

A partnership was formed between the music education division of a major midwestern university and a local independent school (henceforth referred to as IS). Per the arrangements of this partnership, students from the university’s Elementary and Middle School Instrumental Music Methods class traveled to the IS once per week (on Friday afternoons) and taught in small-group lessons. Lessons were scheduled for a maximum of 45 min.

The methods class students (N = 9), henceforth referred to as PTs, were all junior- and senior-level instrumental music education majors. Each PT video recorded himself or herself teaching an average of four lessons throughout the semester. The instrumental music classes at the IS met twice per week under the supervision of a veteran music teacher. There were approximately 50 IS students in the instrumental music program, the majority of whom were string players, and the remainder were wind or percussion players. There were no vocal lessons in this study. Ability levels of the IS students ranged from beginner to advanced middle school students, but each lesson generally contained students of similar levels. The cooperating teacher provided the music materials used in these lessons, which included music from *Essential Elements 2000* (Lautzenheiser et al., 1999) and age-appropriate concert literature.
Data for this study were collected during a 5-month period. PTs videotaped the individual or small-group lessons they were assigned to teach using a Panasonic GR-D770U digital video camera mounted on a tripod. No external microphones or lighting were used to encourage unobtrusiveness of the equipment. A total of 39 lessons were recorded; 6 of the recordings were determined to be unusable because of recording errors, resulting in 33 usable lesson recordings.

The PTs viewed their recorded lessons independently within 48 hr of teaching and completed a researcher-designed reflection instrument. The instrument was designed to solicit reflective responses regarding the components of a lesson plan (as the PTs had been taught to construct them during their course work), the execution of the lesson plan, and elements of self-evaluation. Although the instrument was not piloted directly in preparation for this study, the participants had used it prior to its implementation for this study. Items included in the instrument were contributed by other music education faculty from the department and were designed to conform to the criteria used by the state’s Department of Education for evaluating qualification for teacher

### Table 1. Preservice Teachers’ Responses to Self-Evaluation Form

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. The procedures helped my students to accomplish the goals and objectives.</td>
<td>9.36</td>
<td>1.404</td>
</tr>
<tr>
<td>4. The materials used in this lesson were appropriate for the level of the students.</td>
<td>7.38</td>
<td>2.174</td>
</tr>
<tr>
<td>2. This lesson showed clear short-term objectives.</td>
<td>7.26</td>
<td>1.974</td>
</tr>
<tr>
<td>1. I had clear long-term goals in mind in developing this lesson.</td>
<td>7.09</td>
<td>2.391</td>
</tr>
<tr>
<td>9. I did a good job of evaluating my students to make sure they met the objectives.</td>
<td>7.00</td>
<td>1.820</td>
</tr>
<tr>
<td>3. The students were aware of the objectives of this lesson.</td>
<td>6.97</td>
<td>2.293</td>
</tr>
<tr>
<td>10. I spent the right amount of time talking during this lesson.</td>
<td>6.94</td>
<td>2.103</td>
</tr>
<tr>
<td>5. The materials used in this lesson allowed me to accomplish the objectives of the lesson.</td>
<td>6.91</td>
<td>2.050</td>
</tr>
<tr>
<td>13. I feel that I did a good job of teaching this lesson.</td>
<td>6.50</td>
<td>2.415</td>
</tr>
<tr>
<td>7. I spent the right amount of time on each step of the procedures.</td>
<td>6.48</td>
<td>1.787</td>
</tr>
<tr>
<td>6. The procedures I used to accomplish my goals and objectives were done in the right order.</td>
<td>6.32</td>
<td>1.854</td>
</tr>
<tr>
<td>12. I feel that I did a good job of planning this lesson.</td>
<td>6.25</td>
<td>2.328</td>
</tr>
<tr>
<td>11. I spent the right amount of time playing with, or modeling for my students during this lesson.</td>
<td>5.44</td>
<td>2.513</td>
</tr>
<tr>
<td>16. If I were to teach this lesson again, I would change the way I evaluate the students.</td>
<td>4.34</td>
<td>2.789</td>
</tr>
<tr>
<td>15. If I were to teach this lesson again, I would change the short-term objectives.</td>
<td>3.94</td>
<td>2.662</td>
</tr>
<tr>
<td>14. If I were to teach this lesson again, I would change the long-term goals.</td>
<td>3.85</td>
<td>2.630</td>
</tr>
</tbody>
</table>

Note: Items are listed in descending order of mean response.
certification, both measures contributing to the content validity of the instrument. Having been involved in early field experiences during several previous university classes, the PTs were all familiar with procedures for completing self-evaluation forms. The items in the data collection instrument are listed in Table 1.

The researcher trained two graduate research assistants, themselves veteran teachers, to view the recorded lessons and log time allotments. The research assistants were both experienced instrumental music teachers who had been involved in research methodology course work as part of their graduate degree programs in music education. They did not view them simultaneously; rather, only one research assistant reviewed each lesson. They analyzed the recordings for the following time allotments:

1. **Total lesson time**: This measure was determined on the basis of the recording’s time code; it was a measure of the time from the beginning to the end of each recording. This was recorded so that the remaining four elements of the lesson could be converted to percentages of the total time of each lesson.
2. **Setup time**: This was a measure of the time between the start of each recording and when the lesson actually began.
3. **Time spent talking**: This was the total amount of time throughout the lesson that either the IS student or the PT talked as opposed to being engaged in other activities.
4. **Time spent modeling**: This was a measure of the total time that the PT spent modeling for the IS student, including both verbal modeling and performing on an instrument.
5. **Student playing time**: This was a measure of the total time that IS students spent playing their instruments, either individually or in any group combination.

The data were recorded on an Excel spreadsheet, then transferred to SPSS for Macintosh Version 16 for analysis. All time allotments were rounded to the nearest half-minute interval. Proportions of each behavior for each lesson were calculated by dividing the number of minutes dedicated to a particular behavior by the total number of minutes in the lesson.

**Analysis**

Research Question 1 addressed the proportions of time that are allotted to particular components of instrumental lessons. The recorded lessons were viewed by trained research assistants and coded for several categories of time use. The researcher chose to use the lesson as the unit of measure rather than the rehearsal frame, as in Worthy (2005), because the concept of the rehearsal frame relies on the assumption that the teacher has chosen the literature to be studied and is ultimately responsible for the long-term success of the students. This was not the case because there was a full-time teacher in the school’s music department.
Table 2 displays descriptive statistics for these time allotments for the 33 recorded lessons.

Research Question 2 addressed the attitudes of preservice teachers regarding their own teaching. Within 48 hr after each lesson, the PTs viewed the video recordings of the lesson they had taught and completed a response form. The form contained 16 items with Likert-type scale responses ranging from 10, representing strongly agree, to 1, representing, strongly disagree. Table 1, which lists all of the items from the form used for PT reflection, displays descriptive data from the PTs responses in descending order of mean response.

Of note from these data is that the highest rated item, Item 8, relates to the procedures that the PTs chose to help students achieve the objectives. The lowest rated item, Item 14, refers to modifying the long-term goals of the lesson. Both of these items will be addressed in the Discussion section.

Research Question 3 addressed the relationships between the time allotments, as recorded from the videotaped lessons, and the PTs’ responses on the self-evaluation form. With these proportions determined, the PTs’ responses to the questionnaire items were compared with the proportions using the Pearson product moment correlation statistic ($r$). This procedure determined the relationship between PTs’ attitudes about their own teaching and the proportion of time allotted for each teacher behavior. In essence, this technique explored whether high (or low) attitude values were related to large (or small) proportions of time engaged in each component of the lesson. Table 3 displays the correlation coefficients between the 16 survey items and the four time allocations.

Several of the correlation calculations between the survey items and the time proportions demonstrated statistically significant relationships. Few of these relationships showed strong correlations, but some can be interpreted as moderate, such as the strongest correlation, the relationship between clarity of short-term objectives and talk time, calculated at –.530. Scatter plots of the interactions confirmed that the correlation relationships were reasonably linear.

**Discussion**

Research Question 1 addressed the amount of time allotted to (a) physical space setup time, (b) talk time, (c) teacher modeling time, and (d) student playing time during
<table>
<thead>
<tr>
<th>Item</th>
<th>Proportion of setup time</th>
<th>Proportion of talk time</th>
<th>Proportion of teacher modeling time</th>
<th>Proportion of student playing time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I had clear long-term goals in mind in developing this lesson.</td>
<td>.062</td>
<td>-.360*</td>
<td>.242</td>
<td>.218</td>
</tr>
<tr>
<td>2. This lesson showed clear short-term objectives.</td>
<td>.077</td>
<td>-.530**</td>
<td>.312</td>
<td>.226</td>
</tr>
<tr>
<td>3. The students were aware of the objectives of this lesson.</td>
<td>.089</td>
<td>-.356*</td>
<td>-.017</td>
<td>.292</td>
</tr>
<tr>
<td>4. The materials used in this lesson were appropriate for the level of the students.</td>
<td>.084</td>
<td>-.301</td>
<td>.080</td>
<td>.243</td>
</tr>
<tr>
<td>5. The materials used in this lesson allowed me to accomplish the objectives of the lesson.</td>
<td>-.038</td>
<td>-.508**</td>
<td>.247</td>
<td>.364*</td>
</tr>
<tr>
<td>6. The procedures I used to accomplish my goals and objectives were done in the right order.</td>
<td>-.040</td>
<td>-.337</td>
<td>.163</td>
<td>.229</td>
</tr>
<tr>
<td>7. I spent the right amount of time on each step of the procedures.</td>
<td>.000</td>
<td>-.399*</td>
<td>.236</td>
<td>.203</td>
</tr>
<tr>
<td>8. The procedures helped my students to accomplish the goals and objectives.</td>
<td>.127</td>
<td>.063</td>
<td>-.127</td>
<td>-.020</td>
</tr>
<tr>
<td>9. I did a good job of evaluating my students to make sure they met the objectives.</td>
<td>-.141</td>
<td>-.299</td>
<td>.133</td>
<td>.232</td>
</tr>
<tr>
<td>10. I spent the right amount of time talking during this lesson.</td>
<td>-.096</td>
<td>-.396*</td>
<td>.140</td>
<td>.365*</td>
</tr>
<tr>
<td>11. I spent the right amount of time playing with, or modeling for my students during this lesson.</td>
<td>-.038</td>
<td>-.246</td>
<td>.133</td>
<td>.159</td>
</tr>
<tr>
<td>12. I feel that I did a good job of planning this lesson.</td>
<td>-.104</td>
<td>-.409*</td>
<td>.253</td>
<td>.266</td>
</tr>
<tr>
<td>13. I feel that I did a good job of teaching this lesson.</td>
<td>-.066</td>
<td>-.415*</td>
<td>.372*</td>
<td>.183</td>
</tr>
<tr>
<td>14. If I were to teach this lesson again, I would change the long-term goals.</td>
<td>.147</td>
<td>.259</td>
<td>-.160</td>
<td>-.181</td>
</tr>
<tr>
<td>15. If I were to teach this lesson again, I would change the short-term objectives.</td>
<td>.084</td>
<td>.266</td>
<td>-.163</td>
<td>-.127</td>
</tr>
<tr>
<td>16. If I were to teach this lesson again, I would change the way I evaluate the students.</td>
<td>.103</td>
<td>.256</td>
<td>-.132</td>
<td>-.134</td>
</tr>
</tbody>
</table>

*p ≤ .05, **p ≤ .01.
heterogeneous instrumental music lessons taught by PTs. As evidenced in Table 2, the greatest amount of time was dedicated to PTs’ talking, whereas the smallest amount of time was dedicated to PT modeling of correct technique, tone, and other executive skills. This corroborates earlier findings of research related to allocations of time in music classes of several types (Goolsby, 1996; Napoles, 2006; Wagner & Strul, 1979; Witt, 1986; Yarbrough & Price, 1981). These young, developing teachers dedicated more than half of the lesson time to talking, and it is possible that as their teaching skills mature, this proportion will decrease. The process of reflection and self-evaluation may serve to elucidate for these PTs that the amount of time they spend talking may be excessive.

The second research question examined the attitudes of the PTs toward their own teaching, as measured with a Likert-type scale response sheet that they completed after viewing a videotape of each lesson. The PTs felt most strongly (9.36/10) that the procedures they had followed during the lessons had enabled the students to accomplish the goals and objectives of that lesson. This provides evidence that the PTs are comfortable selecting and planning procedures that function toward accomplishing specific musical objectives. This is further confirmed by the lowest scores, those that indicated that the PT would elect to change goals or short-term objectives (3.85/10 and 3.94/10, respectively) if they were to teach the lesson again. Perhaps as these young music educators mature, they will recognize the importance of adapting and changing short-term objectives to meet the needs of their own students.

Of note in these responses is Item 11, which examined the PTs’ attitudes toward the proportions of time they allotted to playing along with or modeling for their students. Time spent modeling was, by far, the lowest proportion of time for the grouped lessons, as shown in Table 2. This neutral response score, coupled with the relatively small proportion, provides evidence that the PTs may be less comfortable with modeling as a strategy or that they do not yet see the potential effectiveness of this pedagogical behavior. A possible implication of this study is that methods course work should emphasize the importance of modeling in lessons. Music teacher educators might then provide more opportunity during methods course work for PTs to practice and explore types of modeling so that they gain comfort with this particular strategy.

The final research question examined the relationships between the time proportions of the recorded lessons and the attitudes the PTs expressed about their own teaching. Several of these correlations indicated statistically significant relationships. There was a moderately strong, though negative, relationship between the PTs’ beliefs that these lessons contained clear short-term objectives and the proportion of time devoted to talking during the lesson. This may indicate that these inexperienced teachers recognized that excessive talk interfered with their ability to accomplish the objectives they had established for their students. A similar negative correlation was shown between the PTs’ beliefs that the materials used for the lesson were appropriate and the proportion of talk time. This finding indicates that although the PTs believed materials were appropriate, there was still a need to use talk to supplement the use of those materials in practice.
The responses also indicated a moderately strong negative relationship between PTs’ opinions that they spent the right amount of time on each step of the lesson and the amount of time they spent talking. This finding may indicate that PTs recognized that they did not spend enough time on important elements of their lesson plans because they dedicated a lot of time to talking. Perhaps most important in these findings is the negative correlation between the PTs’ overall self-evaluation, as measured by Item 13 (“I feel that I did a good job of teaching this lesson”), and the amount of time spent talking. This finding may indicate that the PTs recognize the relationship between limiting talking and effective teaching.

Although correlations between opinion items and the talk time category were clearly the strongest, other comparisons showed significance as well. There was a moderate correlation between Item 13, “I feel that I did a good job of teaching this lesson,” and the proportion of teacher modeling time. This may indicate that the PTs associate greater time spent modeling with good teaching, which supports the previous assertion that they see time spent talking as limiting effectiveness. Finally, Item 5, “The materials used in this lesson allowed me to accomplish the objectives of the lesson,” was moderately correlated with the proportion of student playing time.

**Limitations and Implications**

Given that the number of PTs involved in study (N = 9) and the number of recorded lessons (33) were both relatively small, this study should be considered only exploratory, and the researcher does not make claims of generalizability on the basis of these data. Additional research is needed to support the notion that PTs’ reflective self-evaluations are correlated with the proportions of time they devote to certain components of a lesson. It is also necessary to examine these and other lessons more carefully to determine whether there are finer methods by which the lessons can be analyzed. For example, in this study, student talk time was not distinguished from teacher talk time, but these two activities may serve very different purposes within an instrumental music lesson.

Although it was not hypothesized that teacher talk would dominate the proportions of time for each lesson, it did just that. It is important to note that almost all of the negative correlations in Table 3 were found in the analyses that related to talk time, indicating that that variable had a substantial impact on perceptions of teaching. This finding implies that more focus should be placed on the importance of making talk efficient within a rehearsal, because it clearly affects the ways teachers view their own teaching and may therefore have an impact on teachers’ growth and development. Kelly (2007) found that the ability to provide clear verbal instruction is among the most important and valuable traits for novice teachers to develop. The PTs in this study had received instruction regarding this aspect of music teaching, but findings support the notion that experience may refine teachers’ abilities to minimize talking in favor of modeling and student performance. Although the sample size is small and should therefore be cautiously generalized, on the basis of the findings of this study,
teachers of methods classes should be aware of the large proportion of time devoted to talking during beginning instrumental lessons. In a setting where development of executive and musical skills is so crucial to future success, devotion of so much time to talking seems less than ideal. As PTs develop their teaching skills in methods classes, instructors of these classes might emphasize activities that discourage talking and encourage musical demonstration and modeling.

Although this study explored several common activities that take place during instrumental lessons, it is important to investigate further the components of lessons that may be related to teachers’ self-evaluations. This study provided evidence that PTs tend to talk a great deal during these lessons and that as the amount of talk increases, attitudes about their teaching become increasingly negative. Music teacher educators can apply these findings to enhancements of methods curricula to promote more successful teaching once novice teachers enter the field in earnest.

**Declarative of Conflicting Interests**

The author declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

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**References**


