

Title: Systematic Research in Applied Music Instruction: A Review of the Literature

Author(s): Charles P. Schmidt

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It is with pleasure that we inaugurate the reprint of the entire seven volumes of The Quarterly Journal of Music Teaching and Learning. The journal began in 1990 as The Quarterly. In 1992, with volume 3, the name changed to The Quarterly Journal of Music Teaching and Learning and continued until 1997. The journal contained articles on issues that were timely when they appeared and are now important for their historical relevance. For many authors, it was their first major publication. Visions of Research in Music Education will publish facsimiles of each issue as it originally appeared. Each article will be a separate pdf file. Jason D. Vodicka has accepted my invitation to serve as guest editor for the reprint project and will compose a new editorial to introduce each volume. Chad Keilman is the production manager. I express deepest thanks to Richard Colwell for granting VRME permission to re-publish The Quarterly in online format. He has graciously prepared an introduction to the reprint series.

Systematic Research In Applied Music Instruction: A Review Of The Literature

By Charles P. Schmidt

Indiana University

Appplied music instruction is pervasive in music education. It occurs in formal, informal, institutional, and noninstitutional settings and is directed toward a diverse population of students who vary widely in interest, motivation, experience, ability, and ultimate performance objectives. Despite its long-standing importance in the training of musicians, relatively little systematic research has addressed the complex nature of one-to-one or tutorial music instruction. This is in marked contrast to the relatively extensive research base that has accumulated in the area of classroom music teaching. Extant literature in applied music can be classified according to a focus on

- (a) development of instrumentation to measure teacher and/or student behavior;
- (b) description of teacher or student behavior;
- (c) identification of factors influencing teacher or student behavior or student-teacher interaction;
- (d) evaluation of instruction; and
- (e) instructional methods and curricular issues.

Charles P. Schmidt is Associate Professor of Music at Indiana University and serves as Coordinator of Graduate Studies in Music Education. His research interests include social psychology of music and applied music instruction.

The purpose of this paper is to review this body of literature and to identify future research directions.

Instrumentation

The development of instrumentation to measure applied teaching behavior and/or effectiveness was the objective of work by Abeles (1975), Gipson (1978), and Hepler (1986).

Abeles's (1975) Likert-type instrument was based upon students' descriptions of effective applied music instructors and assessed factors identified by the researcher as rapport, instructional systemization, instructional skill, musical knowledge, and general instructional competence (see Figure 1). Although this instrument was intended to measure students' perceptions and evaluations of their own instructors, the measure lends itself well to use with other samples of raters. The 30-item Abeles instrument is practical, and reliability data

are promising. For example, Abeles reported that inter-rater reliability coefficients for student ratings of applied faculty ranged from .71 to .94 for rapport, .56 to .73 for instructional systemization, .67 to .71 for instructional skill, .80 to .89 for musical knowledge, .72 to .88 for general instructional competence, and .88 to .96 for the composite measure.

To assess validity, Abeles determined cor

"[R]elatively little systematic research has addressed the complex nature of one-to-one or tutorial music instruction...in marked contrast to the relatively extensive research base...in classroom music teaching."

Rapport

He/she does not instill a feeling of confidence in students
His/her enthusiasm is infectious and inspiring
He/she encourages the student to express himself/herself
He/she brings out the best in students
He/she is too overbearing
He/she shows a genuine interest in the student outside the lesson
He/she is patient and understanding

Instructional Systemization

He/she gives explicit directions regarding what to practice
Music is chosen to strengthen the student's weaknesses
Analysis is part of his/her approach to a new piece of music
He/she is absent-minded and forgetful, and never seems to remember what music the student is working on each lesson
He/she outlines his/her system of teaching for the student, so the student knows where he/she is heading

Instructional Skill

His/her explanations are clear and concise
His/her method of teaching gives the student insight into teaching as well as performing
He/she is flexible, and instruction begins at the student's own level of proficiency
He/she is unable to diagnose technical problems
He/she is able to correct technical difficulties

Musical Knowledge

He/she has a knowledge of different musical styles and performance practices
He/she has to refer to references in order to answer basic questions
He/she knows little music outside his/her own interests
He/she has a knowledge of the repertoire
He/she has a knowledge of good performing editions of music in his/her field
He/she has a knowledge of reference materials to which the student can refer

General Instructional Competence

He/she "talks down" to his/her students
He/she is reluctant to admit a mistake
His/her teaching includes criticism and correction mixed with compliments and praise
He/she has difficulty communicating his/her ideas
He/she is aware of current professional musical activity
He/she instills a sense of responsibility which is needed to get the work done
He/she has an accurate perception regarding the student's ability

Figure 1. Applied Faculty Student Evaluation Scale (Abeles, 1975)

relations between students' jury grades and students' ratings of the applied teaching factors. These relations were moderately high and positive for instructor rapport, instructional skill, general instructional competence, and the total measure. However, relations between jury grades and students' ratings of instructional systematization and musical knowledge were low. Interestingly, relations between students' evaluations and ratings by applied teachers' colleagues were mildly negative. That is to say, as students' ratings tended to increase, colleagues' ratings tended to decrease, and vice versa. This finding is in contrast to previous research in classroom teaching in which correlations between student and colleague evaluations were positive (i.e., similar in direction) (see Doyle, 1983).

In contrast to the relatively global dimensions of applied teaching measured by the Abeles scale, Gipson's (1978) and Hepler's (1986) instruments were designed to measure specific teacher and student behaviors in the private lesson. A comparison of the major behavioral categories measured by these instruments is presented in Figure 2.

Gipson's instrument, designed for wind instrument lessons, measures 37 discrete musical, verbal, appraisal (feedback) and physical behaviors and 23 primary categories of teacher or student behavior. To validate the instrument, data were collected across lessons of three university-level wind teachers. Observations were made of the three teachers instructing three students from each of the levels of freshman, sophomore-junior, and senior/graduate. Three 30-minute lessons were recorded for each student. In addition to determining reliability and validity of the measure, Gipson found that across the lessons of all teachers, frequency counts for musical behavior (e.g., student and/or teacher performance) were greater than frequencies for verbal and appraisal behavior (e.g., positive feedback). Similarly, frequencies for teacher behavior were greater than those for student behavior (e.g., performance) or shared student-teacher behavior (e.g., teacher modelling/student performance). Gipson found significant differences among teachers for 17 of 23 primary student and teacher behavioral categories, indicating

wide variability among subjects.

Similar to Gipson's instrument, Hepler's (1986) Observational System for Applied Music (OSAM) measures 30 individual teacher and student behaviors. Hepler's validation study was based upon video-recorded lessons of 20 instrumental instructors, each working individually with three different intermediate-level nonmusic majors. While Gipson's sample was restricted to wind teachers, Hepler's sample included teachers of piano, guitar, winds, and strings. Somewhat in contrast to Gipson, Hepler found teacher verbal behavior, followed by student performance, to be the most frequently observed behavioral categories. As for teacher verbal behavior, task-related statements such as those pertaining to musical concepts and technique predominated.

An interesting aspect of OSAM is that it provides data regarding the sequence of student-teacher behavior (i.e., interaction). Specifically, within five-second interval observations, teacher-student behavior may be classified as:

- (a) teacher behavior following teacher behavior;
- (b) student behavior following student behavior;
- (c) student behavior following teacher behavior; or
- (d) teacher behavior following student behavior.

Hepler's results indicated that continuous teacher behavior (i.e., teacher behavior following teacher behavior) was the most frequently observed of these categories.

The Abeles, Gipson, and Hepler instruments represent major contributions to the literature. Yet, little follow-up work on these measures is available. These instruments merit the attention of practitioners and researchers alike.

Although her purpose was not to develop instrumentation, Kostka (1984) also examined teacher and student behavior in the lessons of 48 piano teachers. Data were obtained for rates of academic and social approvals and disapprovals, reinforcement errors, teacher interruptions, teacher performance, teacher talk, and nonmusic activity. Student performance, talk, and on-task behaviors were also recorded. In line with the

Gipson	Hepler
VERBAL BEHAVIORS	
Soliciting Clarification	Technical-Visual Concern
Responding	Conceptual-Aural Concern
Initiating	Expressive-Aural Concern
	Unclassified--Lesson Related
	Unclassified Non-Lesson Related
Requesting Performance	Questions:
Questioning	Technical-Visual
	Conceptual-Aural
	Expressive Aural
	Unclassified Lesson-Related
	Unclassified Non-Lesson Related
Judging Incorrect	Negative Verbal Appraisal
Judging Correct	Positive Verbal Appraisal
Teacher Acknowledging	
Personal Positive Judgment	
Personal Negative Judgment	
NONVERBAL BEHAVIORS	
Musical Directing	Vocal Behavior, Nonverbal
Physical Responding	Performance in Medium
Physical Initiating	Body Movement
Physical Requesting--Performance	Physical Contact
Musical Responding	On-Task Analysis
Musical Initiating	Positive Nonvocal Appraisal
Musical Requesting--Performance	Negative Nonvocal Appraisal
Student/Teacher Musical Response	Inactive--Off task
Student Musical Response/Teacher	
Conducting	
Figure 2. Comparison of applied teacher and student behaviors measured by Gipson (1978) and Hepler (1986).	

findings of Gipson (1978) and Hepler (1986), Kostka found student performance and teacher talk to be the most frequently observed behavioral categories.

Influences on Lesson Behavior **Lesson Activity and Musical Content**

The identification of factors that may influence the behavior of teachers and students has been a major question of applied music research. One source of variation is the na-

ture of the musical tasks and musical content of the lesson. Although little evidence is available on these phenomena, Albrecht's (1991) research suggests that behavioral data in applied music research should likely be differentiated according to lesson activity (e.g., warm-up, performance of literature). In her study, data concerning verbal communication and performance were gathered from 126 college-level voice lessons (nine lessons for each of 14 voice instructors). Find-

“While measuring different aspects, instrumentation developed by Abeles (1975), Gipson (1978), Hepler (1986), and Wolfe (1990) provide systematic means by which applied teachers can be evaluated.”

ings indicated that ratios of teacher talk to student performance differed according to lesson activity, with this ratio being lower during technical work. Mean duration for episodes of teacher talk was 14 seconds, while mean length of student performance episodes was 22 seconds. Not surprisingly, episodes for both behaviors were longer during the song literature segments of the lessons. Albrecht also found that, across the lessons of the 14 teachers, approximately one-third of lesson time was devoted to technical study (with a mean of five exercises) and two-thirds to study of song literature (with a mean of three songs). Clearly, more research is needed on the contents and effects of lesson activity and musical material in applied instruction across performance media.

Student Characteristics

Student Characteristics is another set of variables that probably influences lesson events and behavior. Student age and experience level were examined as a secondary research question in the aforementioned studies by Gipson and Kostka. As was described above, Gipson's sample of three university-level wind teachers was observed teaching freshman, sophomore-junior, and senior/graduate level college students. While 23 primary behavioral categories were observed, differences according to student level were found only for student physical and verbal behaviors with higher frequencies for student physical behavior (e.g., responding) occurring in lessons of freshman level students. Conversely, significantly greater frequencies for student verbal behavior were found for lessons of seniors/graduate students than for the freshman or sophomore/junior levels. In general, however, Gipson's results indicated that teacher and student behavior in applied lessons did not vary significantly by level of student.

Similar to Gipson (1978), Kostka (1984) examined differences in lesson behavior as a function of student level (elementary, sec-

ondary, adult). Significant differences by student level were found for all observed behaviors with the exception of academic disapprovals and teacher talk. Higher frequencies for approval/disapproval ratios, social reinforcement, and rate of reinforcement were found in lessons of elementary students. More time was allocated to performance in the lessons of secondary students while greater frequencies for student talk and off-task behavior were noted for elementary lessons. A greater number of teacher interruptions of performance were found for lessons of secondary and adult students. Thus, while few differences in lesson behaviors were found among different levels of college-aged subjects (Gipson, 1978), a considerable number of behavioral differences were evident when the lessons of elementary, secondary, and adult piano students were compared (Kostka, 1984).

Teacher Characteristics

Because of the one-to-one nature of applied music instruction, teacher and student characteristics such as personality or cognitive style may be especially useful as predictors of behavior and the quality of student-teacher interaction. This view is supported by the results of Hepler (1986), who, in addition to developing instrumentation to measure behavior, also examined teachers' cognitive style of field dependence-independence as a factor influencing lesson behavior. Field dependence-independence pertains to relatively consistent individual differences in information-processing strategies that are intertwined with personality traits (see Witkin, Moore, Goodenough & Cox, 1977; Witkin, 1981). A field-dependent orientation may be described as global or integrated, and as being particularly attuned to the context of a situation and to social cues. Conversely, a field-independent style may be characterized as analytical, articulated, autonomous, and relatively less sensitive to context and social cues. Field-dependent individuals

tend to be drawn to the helping professions such as teaching or counseling, while field-independent individuals tend to select vocations that emphasize quantitative, analytical, or technical skills.

Hepler found field-independent teachers significantly more likely to use singing, counting, and syllables to reinforce their teaching than field-dependent teachers. Lessons of field-independent teachers also were found to have significantly greater frequencies of inactive or "off-task" behavior following teacher verbal behavior. Further, field-independent teachers tended to follow periods of inaction with vocal behavior significantly more often than field-dependent teachers. Field-dependent teachers were significantly more likely to follow student statements about technical concerns with their own statements about technical concerns than field-independent teachers. Related to this is the fact that Hepler identified trends in his data which suggested that field-dependent teachers may demonstrate more two-way interaction with their students in comparison with field-independent teachers.

Teachers' personality variables measured by the Myers-Briggs Type Indicator (MBTI) have also been linked to applied teaching behavior. Schmidt (1989a) studied MBTI personality-behavioral relationships in a sample of 43 college-level applied instructors who taught in the areas of keyboard, winds, strings, and voice. The purpose of the MBTI is to measure individual preferences and normal variation in human behavior. The MBTI is comprised of four scales, extraversion-introversion (EI), sensing-intuition (SN), thinking-feeling (TF), and judgment-perception (JP), which in turn are used to identify 16 psychological types (e.g., ENTJ, ISFP).

In Schmidt's (1989a) findings, extraversion-introversion, sensing-intuition, and the interaction of extraversion-introversion with judgment-perception were significantly related to teacher behavior. These personality variables may be defined briefly as follows: Extraversion is associated with an orientation toward the outer world of objects, people and action; while introversion is characterized by an inwardly directed, relatively detached personality. A sensing personality

type is noted for its emphasis on perception of and attention to concrete details and practical matters, while intuition is associated with a predilection for abstraction, inferred meanings, hidden possibilities, and spontaneity. Judgment is characterized as a preference for system, order, and organization, while perception is related to tendencies of open-mindedness, flexibility, curiosity, and adaptability (Myers & McCaulley, 1985).

Schmidt's (1989) results indicated that extraverted applied teachers demonstrated significantly greater numbers of approvals and evidenced higher rates of reinforcement (i.e., positive and negative feedback) relative to introverted teachers. Likewise, intuitive teachers demonstrated significantly higher numbers of approvals, rate of reinforcement, teacher modeling, and a faster teaching pace than sensing teachers. Teachers having a combination of extraversion and judgment had higher approvals, rates of reinforcement, and faster lesson pace relative to the other subgroups of teachers. With a range of up to 25 percent of the variance in applied teaching behavior explained through these personality types, extraversion-introversion and its interaction judgment-perception in particular appear to offer practical significance in applied music research.

Evaluation Studies

Besides clarification of theories of instruction and teaching effectiveness, perhaps the most important outcome of applied music research is the refinement of evaluation procedures. Evaluation of applied instruction has been examined from both the perspective of the student-as-participant (Abeles, 1975; Wolfe, 1990) and the nonparticipant observer (Duke & Prickett, 1987; Duke, 1987; Schmidt, 1989b; Schmidt, in press; Schmidt, Lewis, & Kurpius-Brock, 1991; Schmidt & Stephans, 1991). Both perspectives provide insight into factors influencing assessment of applied instruction.

Wolfe (1990), like Abeles (1975), used a Likert-type instrument to obtain ratings of 28 applied instructors from a sample of 333 applied students. The 24-item instrument was composed of items drawn from the Michigan State University Student-Instructional Rating System. Wolfe identified four factors or dimensions within the instrument and these

“Research in individual differences...calls attention to the often overlooked fact that teachers teach and students respond in different ways. Applied teachers’ awareness of these differences and their ability to adapt to them are probably significant in teaching success.”

were labeled as instructional organization and effectiveness, teacher-student interaction, student interest/motivation, and course demands. Internal reliability coefficients for these factors ranged from .81 to .92. As is evident in the factor names, Wolfe’s instrument had a somewhat different emphasis than Abeles’. It is noteworthy and indeed promising that reliability for students’ ratings of their own applied instructors was high in both the Wolfe and Abeles studies.

The items in Wolfe’s instrument were more generic than Abeles’, as Wolfe’s primary purpose was to compare student ratings of four college music faculty groups—instructors of music history, music appreciation, ensemble, and applied music. Relevant to the current discussion is the fact that Wolfe found ratings of applied instructors to be significantly higher on all four dimensions of teaching effectiveness. In other applied music results, Wolfe found that students’ anticipated grade was significantly related to students’ interest/motivation but not with ratings on the other three dimensions of teaching effectiveness.

Several issues need to be considered when interpreting students’ evaluations of applied teachers. On the basis of their results, Abeles (1975) and Wolfe (1980) suggested that students’ relatively high ratings of applied instructors may be explained in part by susceptibility to “halo effect.” Halo effect may be defined as an error in judgment of a specific trait or characteristic which is influenced by the rater’s previous impressions or evaluations of the ratee. Hence, students’ perception of expertise and applied teachers’ relatively high public exposure may affect student ratings. The one-to-one individual attention afforded by applied instruction may be another. Previous research (e.g., Centra, 1979; Feldman, 1978; Miller, 1989) indicates that small class size is related to higher rat-

ings of instruction. Along these same lines, Wolfe suggests that the lack of regular written examinations and the “Dr. Fox” effect may also influence students’ ratings of their applied instructors. The “Dr. Fox” effect refers to cases in which an instructor’s expressiveness (e.g., style, charisma) influences evaluations of other aspects of instruction (e.g., knowledge of subject matter, content).

The confounding factors of the “halo effect,” the “Dr. Fox” effect, and so forth are arguably alleviated to some extent when evaluation is examined from the standpoint of the nonparticipant observer. This approach has been used in several recent studies. Using a sample of 143 nonmusic education majors, Duke and Prickett (1987) compared the evaluations of observers who directed their attention toward the student, the teacher, or both student and teacher in three different videotaped presentations of a single 11-minute applied violin lesson. Even given the limited 11-minute stimulus, significant differences were found in the evaluations of teacher attitude and student attitude among the three presentation conditions. In each case, subjects rated less positively the individual to whom attention was directed (e.g., evaluations focused on students yield lower ratings of students). Interestingly, subjects who were directed to focus on teacher behavior estimated a significantly greater number of teacher disapprovals than those subjects observing the student or both student and teacher.

In a similar study of nonparticipant observers, Duke (1987) examined the effect of training in observation techniques by having 50 music education and music therapy majors make estimates of lesson time devoted to student talk, teacher talk, student performance, and teacher performance. They also estimated teacher time spent giving approv-

als, disapprovals, instructions/explanations, and performance demonstrations. With the exceptions of estimates of lesson time devoted to student talk and teacher talk, no significant differences between trained and untrained observers were found. Furthermore, the degree of variability within the trained and untrained groups was statistically similar, with the exception of estimates for student talk and student performance. In both cases, a smaller variance was found within the trained group. Duke concluded that "even subjects specifically trained in techniques of observation and who are familiar with the observation task may evidence a great disparity among perceptions concerning an observed activity" (p. 122).

The question of variability among raters and factors that may explain that variability have also been the focus of research by Schmidt (1989b; in press) and Schmidt and Stephans (1991). As an extension of work by Duke (1987), Schmidt (in press) investigated reliability of untrained nonparticipant observers' evaluation of applied instruction. Using a modified version of the Abeles (1975) instrument, reliability data were collected in three phases. In the first, an examination of interjudge reliability for three untrained observers' ratings across lessons of 39 teachers indicated relatively high coefficients for items that defined the Abeles factor of rapport (e.g., demonstrates patience and understanding, genuine interest in the student) and items pertaining to clarity of musical explanations and teachers' use of praise and criticism. Notably, 19 of 36 items had interjudge reliability coefficients below .60. The lowest reliability coefficients were obtained for items pertaining to suitability of music selection to student ability level, teacher perception of student ability, teachers' knowledge of vocal/instrumental technique, speaking style (i.e., repetitive), speaking ability, and perception of teacher feedback as controlling.

In the second phase of the study, test-retest reliability (i.e., stability) was examined. Coefficients (based upon a one-week interval) were highest (i.e., >.70) for items pertaining to rapport, suitability of music selection to student ability, clarity of verbal explanations, ability to break down a task, and teacher's

accurate perception of student ability. Interestingly, while interjudge reliability was low for ratings of teachers, perceptions of student ability and suitability of musical selections, intrajudge reliability (i.e., test-retest) for these same items was high.

A third phase of the study focused on interrater reliability among groups of subjects who evaluated selected single lessons. Coefficients were highest for items concerning:

- (a) rapport;
- (b) clarity of directions and explanation;
- (c) suitability of music to student ability;
- (d) diagnosis and analysis of technical problem;
- (e) knowledge of technique and repertoire;
- (f) content and use of feedback; and
- (g) speaking style.

Across the three reliability assessments, only 5 of 36 items consistently had reliability coefficients above .60: The teacher is too overbearing; the teacher shows a genuine interest in the student; demonstrates patience and understanding; clarity of verbal explanations, and balanced use of criticism and praise. Three of these five items represent the factor of rapport, a factor also identified by Abeles (1975) as having relatively high reliability. Schmidt's (in press) results highlight the context of evaluation as a factor influencing reliability of ratings. Nevertheless, it appears that certain applied teaching behaviors can be reliability evaluated by untrained nonparticipant observers—even when these evaluations are based on a limited 25-minute sample of behavior. The results, however, also provide a caveat that evaluations of other aspects of applied teaching need to be interpreted with extreme caution.

In addition to studies of conditions (e.g., focus of observation), reliability, and trained versus untrained observers, some research has investigated personality characteristics of raters and teachers as factors that may be associated with evaluations of applied music instruction. As a follow-up to the study of the MBTI personality scales and teaching behavior described above (Schmidt, 1989a), Schmidt (1989b) investigated rater characteristics of extraversion-introversion and judgment-perception as factors in ratings of feedback in applied teaching. Subjects rated taped examples of applied teaching feedback

“Research methodologies such as case study, in-depth interviews, and single-subject experimental designs are particularly well suited to applied music instruction.”

that employed positive or negative feedback. Based upon the social psychology literature (e.g., Ryan, 1982), approvals were categorized as featuring:

- (a) academic information (e.g., “The phrase was played correctly.”);
- (b) student improvement (e.g., “That is much better than last week.”);
- (c) norm-referenced feedback (e.g., “You’re doing much better on that piece than most freshmen I’ve had.”);
- (d) person praise (e.g., “You have a special talent for that.”);
- (e) personal approval on the part of the teacher (e.g., “I particularly like your tone today.”); and
- (f) control (e.g., “That’s the way it should be played.”).

Undergraduate and graduate music majors ($N = 63$) rated examples of these approval and disapproval behaviors using four seven-point semantic differential scales (i.e., good-bad, effective-ineffective, sincere-insincere, appropriate-inappropriate). For the entire sample, ratings were highest for the approval behaviors of, in order, improvement, control, person praise, approval information, personal approval, and norm-referenced approval. While norm-referenced approval received the lowest mean rating, the standard deviation was relatively large.

Concerning rater characteristics, extremely extraverted subjects rated examples of approval-improvement, person-praise, approval-information, and disapprovals significantly lower than introverted subjects. For ratings of teacher behaviors featuring approval-control and person praise, subjects having a combination of extreme extraversion and judgment or introversion with perception tended to rate these behaviors significantly lower than other subgroups. In contrast, subjects having a combination of introversion and judgment rated these same behaviors significantly higher than the other subgroups.

Extraversion-introversion and its interaction with judgment-perception appear to be of some significance in applied teacher-student

interaction. Extraverted teachers and teachers having a combination of extraversion and judgment provided significantly greater numbers of approvals and had higher rates of positive and negative feedback compared with introverted teachers and teachers having a combination of introversion and judgment (Schmidt, 1989a). Yet, when these same personality characteristics were examined among students who rated such approval behaviors, significant group mean differences were in the opposite direction (Schmidt, 1989b). Thus, while extraverted individuals may provide high degrees of feedback as applied teachers, they may not respond positively to feedback when placed in the role of the student. In contrast, while introverted teachers provide less feedback to students relative to extraverted teachers, introverted students appear to respond positively to feedback. These results seem to be in line with findings of McCutcheon, Schmidt and Bolden (1991), who found that introverted classroom teachers were perceived to be more likely to make changes in teaching behavior based on feedback.

Although discrete personality variables appear to hold some promise in elucidating the nature of teacher-student behavior in applied music instruction, *interactions* among individual difference variables may be particularly useful. The interaction of field dependence-independence and locus of control serves as an example. As was reported above, field dependence has been linked to applied teaching behavior (Hepler, 1986). While field dependence-independence involves holistic versus analytical information-processing strategies, locus of control has been defined as “a generalized expectancy to perceive reinforcement either as contingent upon one’s own behaviors (internal control) or as the result of forces beyond one’s control and due to chance, fate, or powerful others (external control)” (Levenson, 1981, p. 15). Individuals’ generalized expectancies of internal versus external control involve their

causal analysis of success and failure (Lefcourt, 1982).

In a study by Schmidt and Stephans (1991), the interaction of locus of control and field dependence was examined as a factor in students' ratings of instruction. Undergraduate music majors ($N = 70$) evaluated 25-minute audiotaped excerpts of college-level applied lessons. A modified version of the Abeles (1975) instrument and a ratio of favorable to unfavorable adjectives from the Adjective Checklist (Gough & Heilbrun, 1980) served as dependent measures. The hypothesized interaction effect was significant for both measures, with students who scored in the middle range of both field dependence/independence and locus of control tending to rate applied teachers higher than other subgroups. Students having a combination of extreme field dependence and external locus of control used significantly greater numbers of negative adjectives to describe instruction than the other groups. Thus, the interaction of field dependence and locus of control appears to shed some light on the question of student perception, evaluation, and perhaps response to applied teachers.

Teacher personality is a related perspective from which to study evaluation. In a study of 41 applied music instructors, Schmidt, Lewis, and Kurpius-Brock (1991) investigated field dependence-independence, the aforementioned Myers-Briggs variables, and 15 personality variables measured by the Adjective Checklist (Gough & Heilbrun, 1980). No significant relations were found between ratings of effectiveness and field dependence-independence or the Myers-Briggs scales. This was in contrast to the previously identified significant relations between specific teaching behaviors and (a) field dependence (Hepler, 1986) and (b) the Myers-Briggs variables (Schmidt, 1989a). Significant ($p < .001$) and strong positive relations, however, were found between ratings of teaching effectiveness and, in order, the teacher characteristics of intraception, affiliation, nurturance, endurance, and achievement, with correlations ranging between .51 and .72.

Gough and Heilbrun (1980) have identified these personality traits as follows:

- (a) Intraception is to engage in attempts to

understand one's own behavior or the behavior of others;

- (b) Affiliation is to seek and maintain numerous personal friendships;

- (c) Nurturance is to engage in behaviors that provide material or emotional benefits to others;

- (d) Endurance is to persist in any task undertaken; and

- (e) Achievement is to strive to be outstanding in pursuits of socially recognized significance.

While it is not surprising that relations between these traits and ratings of applied teaching effectiveness were significant and strongly positive, the five Adjective Checklist scales of intraception, affiliation, nurturance, endurance, and achievement appear to be relevant in applied teacher evaluation and could be useful for purposes of self-evaluation.

Instructional Methods and Curricular Issues

As far as can be determined, only three researchers have focused specifically on curricular issues and instructional methods in applied music. Notably, each of the studies reviewed in this section was undertaken in a noninstitutional setting, unlike the research described above. Teacher decision-making was the focus of a study by Jorgensen (1986) in which 15 private piano teachers in London, England, were interviewed. The interviews dealt with four areas:

- (a) administrative decisions (e.g., studio location, enrollment capacity, scheduling);

- (b) student-related decisions (e.g., recruitment, selection, motivation, dismissal);

- (c) curricular decisions (e.g., curricular design, repertoire selection, and assignments); and

- (d) instructional decisions (e.g., method, lesson format, conflict resolution).

Not surprisingly, wide variability in response within these categories was found across the sample of 15 teachers. Jorgensen observed that the teachers had a wider decision-making role in administrative concerns than teachers in institutional settings. Administrative decisions, however, were ranked significantly lower in perceived importance than the other three areas examined. At the same time, differences in ranked importance among student-related, curricular, and instructional decisions were nonsignificant. Jorgensen's research on

“[T]heory and practice in applied music have traditionally relied on informal speculation, anecdotal evidence, and a cache of teaching methods handed down from one teacher-student generation to the next.”

decision making should be replicated with samples of teachers in other performance areas and in institutional settings.

Somewhat related to teacher decision making is the degree of teacher control in applied lessons. In a study of private piano instruction, Mackworth-Young (1990) employed action-research to investigate differences between teacher-directed, pupil-directed, and pupil-centered methods of instruction. In contrast to the methods dominated by teacher or pupil control, the pupil-centered method emphasized teacher sensitivity to the pupil's emotions, interests, and preferences (i.e., a humanistic approach), and drew upon both the teacher- and pupil-centered methods. The researcher acknowledged this overlap in instructional treatments, which could be seen as a weakness in the design.

Utilizing a case-study approach, Mackworth-Young monitored the progress of four secondary school aged piano students who received each of the three methods across ten weeks of instruction. A modified version of the Flanders Interaction Analysis Categories (Amidon & Flanders, 1967) was used to record teacher behavior (e.g., praise, questions, explanations) and pupil behavior (verbal response, performance). Additional data were obtained via:

- (a) analysis of videotaped lessons by independent observers;
- (b) pupil questionnaires;
- (c) follow-up pupil interviews;
- (d) pupil practice records;
- (d) teacher reports of student progress; and
- (e) parents' reports of pupil progress.

While generalizability is impossible with four subjects, Mackworth-Young did identify converging evidence across the multiple measures and found trends suggesting that pupil-centered lessons appeared to be most successful with three of the four students. Differences among students were noted. For example, some students did not adapt well to a pupil-centered (that is, pupil-controlled)

lesson format. Mackworth-Young points out that the results “were necessarily dependent on the personalities of the particular teacher and pupils involved, and the way in which these personalities interacted” (p. 82).

In similar research involving a case-study methodology, Gustafson (1986) focused on student-teacher interaction in the lessons of four violin teachers and their secondary school aged students. Gustafson examined two Freudian defense-mechanism concepts, *projection* and *turning passive into active*, as they affect teacher-student interpersonal dynamics. Gustafson suggested that these are particularly relevant to applied instruction in that both are used to ward off unpleasant memories and to re-enact the past. The researcher observed videotapes of lessons to analyze defense-mechanism behaviors within the diagnostic and remedial content of the lesson. Interpretations of behavior were presented in written form to teachers several months following observation. Private interviews were also carried out to verify the interpretations and to determine what impact they might have on teaching. Teachers were found to have a mixed reaction to the interpretations. However, they concurred that “the concept of psychological defenses had alerted them to the possibility of latent personal agendas” within the private lesson (p. 138). While the results of this study are tentative and not generalizable, Gustafson's theoretical contribution underscores the importance of interpersonal interaction as a powerful aspect of applied instruction.

Conclusions

Although systematic research in applied music is in its infancy, several major streams of investigation have been identified. The research to date has elucidated several key concepts and variables in applied music teaching, and the present review yields several specific directions for future research.

Much of the research reviewed here focused on teacher and/or student behavior. Instrumentation developed by Gipson (1978) and Hepler (1986) has helped to pinpoint and measure specific lesson behaviors. A considerable descriptive data base has been established for such basic lesson behaviors as teacher approvals, disapprovals, teacher talk, student performance, student talk, and so forth. Collectively, the cited studies provide data from a cross-section of performance areas (e.g., winds, strings, keyboard, voice). The establishment of norms for lesson behavior and direct comparisons of lesson content and behavior across performance media are likely topics for future research. Consistency of teacher/student behavior and content across lessons is another.

The methodologies of the cited behavioral studies suggest that more fine-grained definitions of teacher and student behaviors are in order. That is to say, behavioral categories have typically been defined rather broadly as teacher talk, approval, performance, and so forth. The numerous behaviors measured by the Gipson and Hepler instruments are notable exceptions to this trend. Clearly, their measures should be explored further by researchers and practitioners.

Investigations of the temporal dimension of applied instruction are also recommended. While behavioral research has emphasized frequency counts and interval recording, little evidence is available for duration or sequence of teacher behavior in the applied studio. Preliminary findings concerning length of teaching episodes (Albrecht, 1991) and teaching pace (Schmidt, 1989a) suggest that investigations of these and similar variables would be fruitful. Somewhat related to this is the question of teaching intensity, which has been examined in classroom music instruction (see Madsen, 1990). Of interest would be the extent to which this construct generalizes to one-to-one instruction.

The results of several studies suggest that teacher and learner characteristics should be included as major components in theoretical models of applied instruction. They appear to be significant predictors of lesson behavior and the quality of teacher-student interaction. Student age levels (Kostka, 1984), teacher

cognitive style (Hepler, 1986), teacher personality (Schmidt, 1989a; Schmidt et al., 1991) and student personality (Schmidt, 1989b; Schmidt & Stephans, 1991), and defense mechanisms (Gustafson, 1986) appear to be salient variables in applied instruction and should be considered in future research.

Assessment of applied instruction is of particular practical importance. Evaluation in this area has often been limited to subjective criteria and impressionistic approaches. In some respects, each of the studies reviewed here yields implications for the refinement of evaluation procedures. While measuring different aspects, instrumentation by Abeles (1975), Gipson (1978), Hepler (1986), and Wolfe (1990) provide systematic means by which applied teachers can be evaluated. Each of these measures should undergo further scrutiny in field settings. Additional investigations of reliability and validity are also warranted. Importantly, students' ratings of their own instructors were found to be relatively reliable by both Abeles (1975) and Wolfe (1990). However, Schmidt's (in press) results for nonparticipant observers suggests that their ratings of some, if not most, aspects of applied instruction need to be interpreted with extreme caution.

While applied music evaluation may need to be differentiated according to participant versus nonparticipant evaluators, Duke's (1987) results suggest that trained and untrained observers' judgments generally do not differ significantly for estimates of lesson time devoted to teacher and student talk or performance. Duke's methodology should obviously be replicated with other evaluation tasks in order to examine the generalizability of the effects of training. Based on Duke's and Prickett's (1987) results, focus of observation (that is, teacher, student, or both) as it influences ratings is also a variable that merits additional study.

Compared to the other streams of applied music research, curriculum and instruction issues (e.g., methods, materials) have received surprisingly little systematic research attention. Albrecht's (1991) results provide preliminary evidence on musical content and lesson activity in voice lessons. Replication and extension of Albrecht's work in other per-

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formance areas seems justified. Jorgensen's (1986) study sheds some light on how private piano teachers make administrative and instructional decisions. Again, replication in other performance areas is in order. Little is known about the criteria that applied teachers use to determine lesson literature, content, sequence, and time allotment. Moreover, information concerning the philosophical underpinnings of applied instruction remains a major gap in the literature.

The studies of Gustafson and Mackworth-Young are especially valuable in that they serve to isolate and develop concepts such as diagnostic and remedial instruction, defense mechanisms in interpersonal relations, teacher-centered versus learner-centered approaches, and so forth. These studies and research in individual differences discussed above call attention to the often-overlooked fact that teachers teach, and students respond, in different ways. Applied teachers' awareness of these differences and their ability to adapt to them are probably significant in teaching success.


As far as can be determined, direct examination of instructional methods has been restricted to case studies (Gustafson, 1986; Mackworth-Young, 1990). While the results of these studies may not be generalizable, this research points up the value of case-study methodology in developing theory. Research methodologies such as case study, in-depth interviews, and single-subject experimental designs are particularly well suited to applied music instruction. Additional applications of these approaches would enable the identification of more refined research hypotheses.

Theory and practice in applied music have traditionally relied on informal speculation, anecdotal evidence, and a cache of teaching methods handed down from one teacher-

student generation to the next. The practice of applied instruction has tended to be idiosyncratic and based more on intuition than on a systematic examination of assumptions. While one-to-one music instruction has obviously been successful, additional systematic research could serve to identify its underlying principles, increase its efficiency and effectiveness, and provide a more complete understanding of the applied music process.

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