EFFECTS OF VISUAL PERFORMANCE PRESENTATIONS ON STUDENT PERCEPTIONS OF THE ELEMENTS OF MUSIC

by

Stephen Campbell Etters

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APPROVED:

C. Vernon Burnsed, Chair

Lawrence Weber

David M. Moore

John Burton

David Widder

Keitha V. Lucas

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Committee Chairman: Vernon Burnsed
Music Education

(ABSTRACT)

The purpose of this study was to determine the effects of visual performance presentations on student perceptions of the elements of music. Eighth and 12th grade student groups (n = 155) were randomly assigned from intact music classes into two presentation groups (audio and video). A Posttest Control Group Design was utilized to determine the treatment effects of four videotaped performances on student responses to Olson's *Part One: Musical Detail* from the *Measurement of Musical Awareness* (© 1987). Two excerpts in Jazz style (big band) and two in Classical style (symphony orchestra) were presented in random order to each of the treatment groups. The experimental group was presented a videotaped music performance of each excerpt while the control group was presented only the audiotaped performances of the same excerpts. The students responded to twenty-eight test statement items regarding melody, form, texture, meter, rhythm, harmony, tone color, tempo, and dynamics in the four different music performances.

The results of a two-factor ANOVA (grade level and mode of presentation) on correct student responses revealed significant differences for grade level on one of the Jazz style excerpts. Additionally, the results of another two factor ANOVA (same variables) on student heard responses revealed that the visual performance presentations elicited significantly higher ($p < .05$) student heard response mean scores for all four music excerpts across both grade levels. There was no significant interaction found between grade levels and presentations for either series of analyses. Furthermore, results of a Chi-Square analysis of individual test statement items revealed that the number of correct and incorrect responses were relatively equal between groups. Therefore, it appears that while the visual performance presentations enhanced student heard responses, it did not enhance the number of correct responses. It was hypothesized that viewing music performances may send conflicting signals to listeners about certain elements of music. For example, answers to questions about melody may not be perceived accurately when viewing a performer play an instrument.

The results of the study emphasized the importance of understanding the limitations for applying the videotape format to classroom music instruction, as well as the importance of identifying those elements of music that can be best perceived and presented in that media. Further study was recommended of the visual versus the more aural elements of music and into what audiences actually perceive while viewing music presentations.

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CHAPTER I

Introduction

Continuous advances in technology have greatly expanded the music teaching and learning capabilities available to the traditional music classroom. Many music education authorities agree that the microcomputer, MIDI (Musical Instrument Digital Interface), the video cassette recorder and CD ROM technology will have significant impact on contemporary music education. This general agreement is supported by the numerous articles published on technology and music education (Blackburn, 1986; Boody, 1992; Brown, 1978; Feldstein, 1988; Forsythe & Kelly, 1989; Kassner, 1988; McClaren, 1988; Reimer, 1989; Wagner, 1988) and by the many music and technology presentations at state, regional and national conferences.

The video cassette is one of the most widely used formats of all the instructional technologies in music education. Videotaped music performances of all genres and styles are now available to the general public through public libraries and merchants specializing in videotape rentals and purchases. Videotape formats can be found in such areas as music appreciation, instrumental and choral methods, and rehearsal strategies. For example, the Social Issues Resources Series, Inc. distributes *The History of Bands in America*, a 2-part videotape series containing live performances and photographs of the early to modern wind bands in North America. Another resource pertaining to the wind band is the *Master Teacher Seminar* series where aspects of the organization and development of instrumental music programs are discussed and demonstrated. Videotapes in this series range in scope from lectures in the development of leadership style to rehearsal techniques in the music classroom.

A more recent resource material for videotaped music performances is published by the Music Educators National Conference entitled *Teaching Music with a Multicultural Approach* (1991). This four videotape series involves lectures and live performances given at the 1990 Symposium on Multicultural Approaches to Music Education. The four main topics of discussion include the music and cultures of African Americans, American Indians, Asian Americans, and Hispanic Americans. Another source is the catalogue of full-color videotaped performance materials published by Films for the Humanities and Sciences (1993). This catalogue provides videotaped lectures and music performances ranging from composers' biographies and compositions, to the evolution of musical instruments. Also, a twenty-two volume series on the music of Western civilization from Thirteenth Century Rome to the present is included. The above are but a few of the videotape materials available to music educators and the general public.

Almost every public school has at least one video cassette recorder and comparatively speaking, video cassette recorders are relatively inexpensive to purchase and to maintain. They are also easy to operate. There are many musical styles now available in video cassette format and student acceptance of videotaped performances can be evidenced through acclimation to music as programmed on major television networks, educational television, cable television and music videos on Music Television.

As previously discussed, many instructional videos and videotaped music performances are available to teachers and students alike. Therefore, it would seem appropriate to use videotaped music performances in the music classroom. Even though music is considered an aural art form, one cannot ignore the important visual aspects that are inherent within the 'live' music performance. The sound that is emitted from the instrument can be directly related to the image of the person producing that sound. What could be more realistic than studying music through observing live performances? While logic would support the utilization of the videotape format to enhance student perceptions of the elements of music, very little is known about the effectiveness of visual performance presentations in music education.

Purpose and Need for the Study

The purpose of this study was to determine the effects of visual performance presentations on student perceptions of the elements of music. This study attempted to answer the following question:

> What is the effect of visual performance presentations on student perceptions of the elements of music?

McClaren (1988) identified the paucity of research literature concerning the effects of visual performance presentations in a study based on audiotaped and videotaped solo marimba performances as they were presented to university music majors. McClaren found that the videotaped performances were preferred by more respondents over those performances that were audiotaped. In view of the results of the study, the author addressed the positive aspects of videotaped performances and called for further research in this area.

Comparison studies involving media technology (i.e., television, film, still photographs, etc.) used for instruction in all disciplines, including music (Blackburn, 1986; Brown, 1978; Forsythe & Kelly, 1989) have found that no specific medium of presentation, alone or combined, seems to be any more effective than another (Clark & Salomon, 1986; Dwyer, 1978; Kozma, Belle, & Williams, 1978; Thompson, Simonson, & Hargrave, 1992). Thompson, et al. (1992) reviewed numerous investigations in media comparisons from the past 90 years and concluded that the results were sketchy, due primarily to the vast differences in research environments and experimental designs. Clark and Salomon (1986) asserted that the downfall of most media comparison studies was the general misuse of technology. The researchers concluded that teachers should have thought of media more as processes within means instead of means within themselves. Dwyer (1978) maintained that the majority of comparison studies attempted to apply visual stimuli within a programmed instruction method that was much more novel than the conventional program of study. Over a period of time, the effectiveness of the newer program faded as familiarity increased. Dwyer concluded that teachers sometimes implement inaccurate or inappropriate visual illustrations of the subject matter that had been taught.

Thompson, Simonson & Hargrave (1992) proposed that alternate research designs for investigating media should be implemented in order to avoid the pitfalls of earlier research efforts. The authors expressed a need for studies that not only work from a stated hypothesis (empirical research), but also from a hypothesis generating viewpoint (natural research). This naturalistic view should employ studies that observe the use of media within a narrow constraint. The authors stated that two of the most promising areas for research in technology and education were that of restructuring the classroom through technology and technology-supported problem-solving environments.

The present study was not a media comparison study, as the intention was not to report that any one medium was any better or worse than the other. Instead, this study sought to investigate student perceptions of the elements of music through active visual cues, in addition to the traditional aural medium. This study neither involved an instructional format nor measured learning over an instructional period of time. The intent was to identify possible strengths and weaknesses in adding the visual medium for the enhancement of the aural presentation.

Studies of this nature can accomplish several goals by: (a) providing music educators with a better understanding of how visual performance presentations can be used in music instruction. (b) helping music educators determine which elements of music can best be perceived through the use of visual presentations, and; (c) informing music educators about the potential uses of visual performance presentations for planning and implementing strategies for music instruction.

Summary of Introduction

This chapter discussed the influence of technology in music education and the wide range of videotaped music performances available to the music classroom. Listed within the chapter were several sources for videotaped materials available to music teachers. The chapter also discussed the potential benefits of applying visual performance presentations to the classroom. Instead of comparing video to audio through programmed instruction, the purpose of this study was to determine the effects of visual performance presentations on student perceptions of the elements of music.

CHAPTER II

Related Literature

This chapter reviews pertinent literature in media instruction theories, multimedia and hypermedia technology, computer assisted instruction and music, video cassette technology and music, visual cue enhancement in music, and the development of music listening skills. Media theories and the results of research in the development of music listening skills were considered in the design of the present study.

Media Instruction Theories

Kozma, Belle, and Williams (1978) stated that the ultimate responsibility of all teachers is to understand media. The authors further expressed the importance of a teacher's working knowledge of media and how this knowledge affects the message that it is to communicate. By understanding the nature and operation of media, teachers obtain a basis for selecting a medium (or media) appropriate to the message being taught and to the students. More recently, Kozma (1991) examined studies that dealt with the effects of videotaped instruction, as well as other media, as they "influence the structure of mental representations and cognitive processes," (p. 179). He found that attention-holding presentations relied on features associated with variety in auditory changes as well as visual activity. The author stated that a majority of television viewers monitor presentations at low levels of cognitive engagement. For higher levels of cognitive engagement, the presenter must provide previewing instructions that were relative to the viewer's prior knowledge of the subject being presented.

Kosslyn (1981), in support of a dual-modality approach to visual instruction, claimed that "images constitute a distinct class of cognitive representations, parallel and equal in importance to semantic propositions," (p. 469). Two dimensions were expressed in reference to visual representations. The first dimension, called 'surface representation' (short term memory), illustrated the visual depiction of the object viewed. The second dimension, 'deep representation' (long term memory), occurred as the image was processed as information and then compared, when applicable, to an anticipated mental image. In the dual-modality approach, the quality of the external image viewed was in direct proportion to the internal image. If an external image bears a direct resemblance to the internal image, then the acquisition of the external image and all related events and processes would enrich the learner's store of internal images and operations.

It should be noted that in the case of the music classroom, the students should already recognize music as an aural medium. If Kosslyn's (1981) theory is true, then a visual representation of the sound source (vocal or instrumental) presented in the same realm of quality as the aural presentation should result in an enriching musical experience.

Dwyer's (1978) multiple channel communication theory (or realism theory) corroborated Kosslyn's (1981) dual-modality approach in two important points: (a) learning is complete as the number of relevant cues in the learning situation increases, and; (b) for visualization to have a maximum effectiveness in complimenting aural instruction, it should be specifically designed to improve learning and should be presented simultaneously with the information it has been designed to illustrate and clarify.

Clark and Salomon (1986) identified media technology in teaching as vehicles by which instruction is delivered to the learner. As a result of a detailed analyses of years of research data, the authors arrived at four conclusions: (a) past research has shown that no medium enhances learning any more than another, regardless of learning task, learner traits, symbolic elements, curriculum content, or setting; (b) any new technology is likely to teach better than its predecessors because it generally provides better prepared instructional materials and its novelty engages learners; (c) future research on media should be conducted in the context of and with reference to similar questions in the general cognitive sciences, and; (d) in the future, researchers might ask not only how and why a medium operates in instruction and learning but also why it should be used at all.

Clark and Salomon (1986) suggested that observations and evaluations of media alternatives would aid teachers in developing new forms of delivering and shaping instruction. These new forms of instruction would neither infer learning nor perform advantages for any particular medium. Dwyer (1978) discussed empirical and theoretical components of single (aural) vs. multiple (aural/visual) channel communication as relating to instruction. A commentary was made concerning the restricted nature of human capacity to process information. Dwyer stated that merely adding a relevant stimulus does not guarantee an increase in learning. The two stimuli must act as cues for one another while not reaching the capacity limit. The author warned that every person has an individual channel capacity, and while it is often impossible to distinguish one person's capacity from another's during an audio/visual (A/V) experiment, researchers must be sensitive to this point as they develop and implement multiple channel investigations.

Similar to the findings of Clark and Salomon (1986), Dwyer (1978) also found that research in the visualization of teaching materials had historically yielded less than promising results when compared to the more 'conventional' techniques of instruction. Dwyer proposed several reasons for this phenomena. First, when visual materials were integrated into instruction to improve learning, the learners did not receive clear or accurate visual representations of the content material. Second, when the visual material was clear and relevant, there was still a likelihood that the visual presentation was either too simple or too complex for the learner to properly react. If the stimulus was too simple, then the reader lost interest and preferred to communicate with the conventional instruction. However, if the stimulus was too complex, then the learner became overwhelmed and withdrew only to go back to the more familiar, conventional stimulus. And last, when realistic colors were added to the presentation, they not only increased complexity, but also created an effective device for improving learner achievement on specific tasks. The use of colors was found to aid in information processing by increasing student interest and by providing a more realistic presentation. This latter point seems particularly relevant to the present study. What could be a more realistic presentation of music than a color videotaped performance.

Media Technology and Music Education

Thompson, Simonson, and Hargrave (1992) recognized hypermedia as the newest form of educational technology. According to the authors, a single definition has not been agreed upon by specialists. However, one major distinction has been made between hypermedia and multimedia. Multimedia is merely applying a combination of varying media to enhance instruction, while hypermedia is technology that:

> "combines methods of representation, like video, graphics, animation, and text, and connects the information represented in these formats in a multitude of paths in order to create an environment that affords

immediate, yet random, access to large amounts of information" (Thompson, Simonson, and Hargrave,1992, p. 57).

The authors continued to state that research in hypermedia and music education is in a very early stage, although, there are many applications that can be imagined from the limited research conducted in other disciplines. The most promising application is allowing students to explore different paths of information with intellectual freedom in non-linear formats. These non-linear paths in return can be explored through either audio media, video media, or both, with the assistance of a microcomputer. One drawback, however, was admitted by the authors. The new technology may provide so much learner freedom that level organizers, or cognitive maps, would be needed to keep students from losing themselves in the wealth of information.

Boody (1992) examined the role of multimedia technology in the present and future of music education. Although the author admitted that the term 'multimedia' lacked a true definition, one alternative description was "the capability to digitize still pictures, moving pictures, and high quality sound within a personal computer..." (p. 29). The author further expressed that these three media of technology, together, combine to create a high-quality interactive audio/video production.

The author stated difficulty in initiating multimedia technology in the music classrooms due to the high costs in procuring essential hardware and softwarev for implementation. Another reason given for the lack of use in multimedia was the general lack of technical understanding and training on the part of the average music teacher. Boody stated that soon, however, multimedia will prove to be more cost-effective as schools discover the benefits that can be derived from its applications to education. He commented further that multimedia hardware and software products are already being made available to the average consumer. Boody expressed optimism as the recent push in marketing multimedia to the general public should ease the process of introducing new technological products to music classrooms.

Research in Computer Assisted Instruction (CAI) as an avenue for influencing music listening skill development has investigated various aspects of music concept attainment with mostly positive results. Turk (1985) developed and tested a software program entitled Music Listening Strategy - TEMPO (MLS - TEMPO) whereby participants were asked to discriminate tempo changes within a music context. Music excerpts were played as participants (n = 30, ages 11 to 14) viewed notated examples as well as read and answered questions initiated by the computer. Results of the study indicated that participants' perceptions of changes in tempo, improved significantly between pre-and posttest scores. The author also reported that attitudes toward the computer elicited test were very positive and attributed this finding to the use of varied styles of music as well as the instructional media (computer graphics, computerized testing, and high quality audio recordings).

Hofstetter (1978, 1979, 1980) completed a series of studies investigating the effects of computer-based instruction utilizing the University of Delaware's GUIDO® software system for training dictation skills in harmonies, intervals, chord qualities and rhythms, respectively. The GUIDO® system was developed by the investigator as a system for presenting a cognitive sequenced approach to music learning. While the primary goal of these studies was not to compare the GUIDO® system to any other traditional teaching method, the participants were reported to have increased their general abilities and attitudes toward learning music concepts over other students who were not included in the studies.

Arenson and Hofstetter (1983) studied the effects of a competency-based computer program, PLATO®, on learning fundamental music skills. The study involved a pre- and posttest format that tested the music achievement of undergraduate non-music majors ($n = 40$). Results of the study revealed that the treatment group gained significantly ($p < .001$) in its pre- to posttest scores over the control group. According to the authors, the major factor of contribution was due to the "degree of structure present" in the PLATO® instructional package (p. 57). The authors further stressed the benefits of the package in that students were able to receive immediate feedback after answering a question and were provided the opportunity to drill a concept until it was mastered.

Rives (1970) conducted a study involving traditional instruction (lecture approach) and programmed multimedia instruction (audio tape-recorder and overhead projector) methods to develop music listening skills in Caucasian and American Indian fifth grade participants ($n = 99$). An analysis of the data revealed that no significant difference ($p < .05$) in listening achievement was found in regard to either method of teaching. The researcher stated concerns about the assumptions of standards that are made in programmed vs. traditional method investigations. Standards of instructional content as well as method of delivery can be quite different from one researcher to another. The author also suggested that portions of both methods of instruction can be effectively brought together into one superior method. The use of visual cues in music listening and active participation in the teaching and learning process were promoted by the author for increasing attention and retention spans of listeners.

The video cassette recorder is yet another example of the influences of technology in music. Havelock (1969) referred to the videotape format as a 'one-way' or 'presentational' medium, where negative as well as positive aspects were identified. On the negative side, Havelock stated that the presenter has no control over the message being communicated. The student controls the options of not accepting, or even ignoring, the message that is being presented. Finally, the author stated that it is possible for the student to alter the message through distortion from personal biases and preconceptions. On the positive side, however, Havelock expressed that the videotape format can be an ideal tool for conveying large quantities of information to large numbers of people, in a short amount of time. The author further added that video presentations can be highly stimulating and informational when utilized with careful planning and with a basic understanding of how they can best be applied to classroom instruction.

Brown (1978) investigated the effects of videotaped instruction on music selection (vocal and instrumental), music skills and attitudes toward school music of first grade students (n = 72). Students were randomly assigned to a treatment group (videotaped music lesson) and a control group (teacher taught lesson). They were then asked questions on their preference of vocal or instrumental music and on attitudes concerning music. A pretest was given, the lessons were taught over a three week period of time and a posttest (same as pretest) was administered. The study revealed that videotaped lessons did not affect music listening abilities based on comparisons of pretest and posttest scores. However, teacher-taught lessons did achieve statistical significance in music listening abilities. No significant differences were found to exist for either group, regardless of instructional method, in the area of participants' changed attitudes toward school music. In concluding statements, the researcher admitted that the children in the study may not have accepted television viewing as a viable part of their normal structured learning environment, since it was the school's policy to only use television viewing as a reward for positive behavior.

Blackburn (1986) investigated the effects of utilizing a videotaped presentation to aid in teaching Dolch Sight Words to kindergarten children ($n = 80$). The words were viewed on the monitor, along with music being played in the background. Although overall significance was not achieved, the author reported across the board gains for all treatment group (audio/visual instruction) scores in comparison to the control (traditional instruction) groups. The author urged further research into the effects of videotape presentations for eliciting higher response scores from students.

Forsythe and Kelly (1989) studied the effects of pairing visual cues (videotaped representations of object shapes) with aural examples of melodic phrases. This was done in order to identify the effects of adding visual cues to enhance aural cues for same-different discriminations. The participants studied ($n = 244$) were students from three different elementary school systems (Kindergarten through 5th grade level). An analysis of the data revealed that the videotape treatment significantly ($p < .001$) enhanced student same-different discriminations. Teachers were urged to be consistent in their presentation of same-different discrimination tasks in music listening tests and to continue the search for effective ways by which visual stimuli could be paired with aural stimuli to enhance music listening skill development.

McClaren (1988) studied the responses of college undergraduate non-music majors ($n = 37$) to audiotaped and videotaped music performances of six different marimba soloists. Results of the study found that listeners tended to rate the videotaped music performances higher than the audiotaped performances of the same music selections. The researcher's remarks on this phenomenon included a general statement on the paucity of related pedagogical methodology as well as a need for further study in the visual attributes of music performance and the interaction of aural and visual stimuli on an audience.

Research in Music Listening Skill Development

Cutietta (1982) studied a variety of hypothesis testing formats of 11 to 16 year old participants ($\underline{n}$ = 330) on the elements of timbre, tempo and rhythm. Results of the study suggested that students from ages 11 to 16 increasingly used hypothesis testing techniques for timbre, tempo and various aspects of beat, in respective order, while listening to music. The author proposed that there may be limits to the number of hypotheses that can be tested according to age level. Findings of the study suggested that the 11 to 13 year olds could only attend to one attribute at a time during a music presentation, thus only allowing one hypothesis testing to take place during a single presentation. However, those participants in the 14 to 16 year old category were found to be able to focus on several different attributes of what they heard, therefore enabling the participants to formulate as many hypotheses as there were attributes attended to during a presentation.

Cutietta also reported that gender appears to be an active independent variable in regards to hypothesis testing. He found that males performed at lower levels of hypothesis testing than females until around 14 years of age. Upon reaching this age level, however, it appeared that males began to surpass females in the complexity of hypothesis testing techniques as well as the number of attributes attended to during a single presentation. It was also at this age level that the author suggested music instruction in tonal memory should begin, and not before, since most male and female students begin crossing into another learning plateau between the 8th and 9th grade levels.

Hedden (1980) reviewed 25 studies on music listening skill development and categorized them into three overlapping areas: (a) notated themes or visual representations; (b) guided listening, and; (d) methods or teaching techniques. The review of research in the area of visual presentations revealed that no pedagogical advantage for notated themes existed over regular instruction in music at the primary school level. However, visually notated themes appeared to improve the listening skills of older students. The author postulated that perhaps students at the junior high level (seventh grade) had gained sufficient experience with notation to accept the visual presentation as helpful.

Hedden (1981) also reviewed current literature in the area of developmental sequences in music listening. The author cited several studies in listening skill development as being potentially important for improving music instruction. The general finding of these studies suggested a sequential effect. Timbre and dynamics were perhaps the earliest perceived elements of music (1st and 2nd grade levels), followed by rhythm and tempo factors (3rd grade level), then simple discrimination of changes in key (3rd and 4th grade levels), succeeded by pitch and melody discrimination (4th and 5th grade levels), and finally by sensitivity to factors of harmony (7th grade level).

Hufstader's (1977) study on learning sequences in music listening investigated four specific music elements: timbre, rhythm, melodic pitch patterns, and harmony. Results of the study revealed that discrimination of timbre developed by the 1st grade, while rhythm discrimination evolved between the 3rd and 5th grades. Melodic discrimination unfolded between the 5th and 7th grade levels as discrimination skills in harmony did not reach requisite levels until the 7th grade level, if even then. This sequence of music skill development confirmed the findings of related studies and contemporary theories. The author also stated that although growth patterns vary from person to person, the first step in analyzing developmental growth is to attempt to establish a general learning sequence from which to begin further investigations.

Taylor (1969) investigated the sensory and aesthetic development of young people through live performance techniques in the classroom. The study involved choral and instrumental students from ages 7 to 11. Results of the study indicated that as the participants progressed through interval age levels their music ability levels increased proportionately. The researcher also found that instrumental participants' mean scores were reported to have been significantly higher ($p < .01$) than the non-instrumentalists' scores.

Hair (1981) investigated how elementary children verbally identified musical concepts. It was discovered that even though the children were introduced to the traditional vocabulary of music concepts, they often chose to use non-traditional vocabulary when confronted with questions about music listening examples. In a later study, Hair (1987) investigated the verbal and non-verbal responses of elementary students to perceived changes in music listening examples. The premise for this study was that a young child's understanding of changes in music stimuli can be accurately conveyed through non-verbal communication even though correct verbal responses to those changes have not been mastered. The results of the study suggested that even though children often show difficulty in applying traditional music vocabulary to music concepts, visual associations for those same concepts were learned and identified easily.

Teaching Music Listening Skills Through Visual Cues

Moore and Staum (1987) investigated the effects of aural and visual stimuli on sequential memory of tonal patterns. Participants (n = 180, ages 5, 6 and 7) from England and the United States were tested on tonal memory through a popular music game entitled "Simon Says". The results of the study reported that the five-year-olds could successfully imitate up to four patterns on a consistent level. The seven-year-old participants were able to consistently deal with five and more tone/symbol patterns. The results suggested that age readiness is important in the processing of musical information that is seen and heard simultaneously. An ancillary finding of the study was that increased experience in music instruction can have a direct influence upon memory for visual as well as aural patterns.

Bradley (1974) studied the effects of creative processes (compositional and improvisational activities) on the development of aural and visual perception skills of fourth grade students. The experimental groups were instructed through compositional and improvisational activities. Results of the study revealed that the experimental group gained significantly ($p < .01$) in their scores when compared to the control groups. Further analyses of the aural acuity portion of the tests revealed that the experimental group improved significantly over the control groups, indicating that the addition of visual materials (music notation) to the instructional format may have contributed to improving the discrimination skills of participants.

Haack (1982) presented visual and performing arts exemplars to high school students ($n = 70$) in an "actively directed" music listening framework to study the development of music listening skills (p. 193). The author reported a significant gain from pretest to posttest scores ($p < .001$). Results of the study supported the programmed method as an effective means for teaching stylistic concepts of music through Classical music exemplars. Recommendations were directed toward music educators to expand their scope of music teaching methods and increase their knowledge of the development of consumer listening skills.

Wylie (1987) examined survey responses of participants (n = 90) regarding their reasons for listening to recorded and live music. Results of the survey indicated that more varied responses arose from answers to questions concerning live performances than to recorded music. Answers concerning live music attendance ranged in frequency from enjoyment of the attractiveness of performers (high variability and high response) to the aesthetic pleasures of concert attendance (low variability and low response).

Wylie (1987) warned that music educators should not make the assumption that young people attend live performances to fulfill intellectual or musical needs. It was discovered that most of the participants questioned in the study attended live concerts for non-musical reasons. A point was made for the rising popularity of Music Television (MTV) as an alternative to attendance at live concerts. This point was stressed and provided further warning to music educators to increase efforts toward aural and visual literacy in young people. The author recommended that music educators acquaint themselves with options for performance attendance as well as formulate educational rationales that can accompany these options.

Evaluation Instruments for Perceptions of Elements of Music

There have been many evaluation instruments for measuring students' perceptions of music elements in past research efforts. The majority of these instruments were researcher-generated specifically for a given study. Studies that combined audio and video media in music have involved evaluations from computer-generated scores (Arenson & Hofstetter, 1983; Turk, 1985), tests for music skill attainment (Brown, 1978; Blackburn, 1986), same-different discrimination (Forsythe & Kelly, 1989), and written comments concerning music performances (McClaren, 1988).

Olson (1984) developed and validated an instrument that attempted to measure aural awareness of musical detail (i.e., perceptions of elements of music) in the areas of melody, form, texture, meter, rhythm, harmony, tone color, tempo and dynamics. He tested the instrument on 186 college students. All respondents were asked to record hearing specific musical details from listening to five audiotaped recordings of orchestral (Classical style) excerpts. There were a total of 41 specific test statement items on the test sheet. The researcher devised a form whereby mean scores could be derived for each excerpt. The test was administered four times: twice during each of the regular Spring and Fall 1982 semesters, at the beginning and again at the end of each semester.

Mean scores of correct responses between the two test administrations increased significantly ($p < .01$). A KR-21 reliability coefficient of .77 was obtained for the musical detail portion of the instrument. The results of the study indicated that the instrument was able to measure cognitive experiences in music; therefore, the instrument was a valid diagnostic test for perceptions of the elements of music. In view of these results, the present study incorporated Olson's (© 1987) *Measurement of Musical Awareness, Part One: Musical Detail'* as a valid testing instrument for measuring perceived responses to the elements of music.

Summary of Related Literature

This chapter revealed three points that must be addressed in order for a visual presentation to be effectively coupled with an aural presentation: (Kozma, 1991; Dwyer, 1978; Kosslyn, 1981) (a) the closer the presentation is to the real object, the more likely the learner or observer would respond accurately to that presentation; (b) a color representation of an image is a major contributing factor toward its complexity and realism, and; (c) the external image (video) must be in direct proportion to the internal (audio) image. Accurate concepts of external cues must be given in order to make the internalization of concepts effective.

The preceding points were relevant to the present study in that each visual performance presentation depicted musicians performing the music on their instruments. A color videotape format was used in order to attain as close to a real-life performance as is possible, and the video presentation was shown simultaneously with the audio presentation, thus providing relevant cues for the internalization of perceived elements in music.

Studies investigating the effects of instructional technology in music have utilized videotaped performances (McClaren 1988), videotape instruction formats, (Blackburn 1986; Brown 1978; Forsythe & Kelly 1989), film strips and overhead projection (Haack 1982; Rives 1970), pictures (Bradley 1974; Hedden, 1980; Hair 1981, 1987), and CAI (Arenson & Hofstetter, 1983; Hofstetter, 1978, 1979, 1980; Turk, 1985). However, none of these studies specifically addressed the effects of visual performance presentations on student perceptions of the elements of music.

The only study that specifically attempted to investigate particular aspects of visual performance presentations (McClaren, 1988) solicited participants' ratings of preference for attending to videotaped and audiotaped performances. Participants for the McClaren study were college music majors. However, studies in the area of developmental learning in music suggested that sensitivity to the primary elements of music was attained at or around the 7th grade level (Hedden, 1981). Therefore, a need exists for investigations of the effects of visual performance presentations on younger students' responses to music elements.

The music elements of melody, form, texture, meter, rhythm, harmony, tone color, tempo and dynamics were commonly used (in part or whole) in studies regarding music listening skill development and tests of musical awareness (Hedden, 1980; Olson, 1984). Hedden (1980) and Cutietta (1982) suggested that upper grade level students (junior to senior high school) were able to identify and apply these elements more effectively than the lower grade level students, especially in terms of form, texture and harmony.

The present study investigated the effects of visual performance presentations on 8th and 12th grade students' perceptions of selected elements of music. It was hypothesized that the four years that separated 8th and 12th grade students would produce an interaction between age and visual performance presentations. Olson (1984) developed and validated a measurement instrument (*Measurement of Musical Awareness*, © 1987) that sought to indicate to what degree musical awareness and appreciation can be measured. This instrument was utilized in the present study.

CHAPTER III

The Study

The purpose of this study was to determine the effects of visual performance presentations on student perceptions of the elements of music. The design of the study incorporated the Posttest Control Group Design to determine the effects of four videotaped music presentations on student responses to Olson's *Part One: Music Detail* from the *Measurement of Musical Awareness* (© 1987). The experimental groups viewed and heard the four videotaped music presentations (two in Jazz style and two in Classical style) while the control groups only heard the same four presentations.

Participants

Participants for the study were 8th and 12th grade music students chosen from a stratified random selection of school districts in South Carolina, North Carolina, and Virginia. One school district from each of the three states was randomly selected. Then, two schools (one middle school and one high school) within each district were randomly selected from each of the school districts. All of the students involved in the study (n = 155) were selected from intact instrumental music classes. Table 1 describes the participants in the study.

Table 1

Student Participants by Grade and Geographical Location

Grade	S. Carolina	N. Carolina	Virginia	Total
8	33	23	52	108
12	18	13	16	47
Total	51	36	68	155

Instrumentation

All students in the study were administered Olson's *Part One: Music Detail* from the *Measurement of Musical Awareness* (© 1987). See Appendix A. This instrument contains twenty-eight statements pertaining to the elements of melody, form, texture, meter, rhythm, harmony, tone color, tempo and dynamics. To estimate appropriateness and to determine correct scores for the four music excerpts utilized in the current study, a panel of three college music faculty members rated each excerpt with the instrument. A correct answer for each test statement item was determined for each excerpt. This created a test key for correct and incorrect responses, the Correct Response Form (CRF). See Appendix B. The judges unanimously agreed that the instrument was appropriate for the chosen music excerpts.

Statement Item and Music Excerpt Descriptions

Each of the music elements was defined and student questions were answered prior to the administration of the treatment. The following definitions were given:

Melody - A meaningful succession of single pitches, usually ending with a feeling of finality. A melody is usually classified in terms of flowing in either a step-wise or disjoint fashion. A melody that is played by only one person is considered a solo.

Form - Repetition in a melody or between two or more melodies. Sometimes a melody can vary from its original theme.

Texture - The difference in qualities of sound that can be heard as either one melody is played or several melodies are being played at the same time.

Meter - The pulse that is felt while a song is being heard. The pulse is usually felt in patterns of either 2 or 3 beats throughout a song. Sometimes the meter can change within a song.

Rhythm - Patterns of beats in the melody or supporting line where the pitches vary in duration. There is usually a basic rhythm pattern that can be identified in a song. Sometimes these patterns can vary within a song. There are also cases where two or more patterns can be heard at the same time.

Harmony - Pitches that are played to complement the melody. Two or more pitches played at the same time are called chords. Traditional chords are those that follow conventional theory and are mostly pleasing to the ear. Non-traditional chords are those that stray away from conventional theory and are less familiar to the ear. When the tonal center in a musical selection appears to change, then a change has probably been made in the key of the music. Sometimes there can be little change in key. Sometimes so many changes can happen that there appears to be no key at all.

Tone Color - Identified by the sounds of the performing instruments. Some instruments have bright tone colors like the violin and trumpet, while some have dark tone colors like the string bass and trombone. Tone colors also have to do with the majority of the instruments that are performing within a particular musical composition.

Tempo - The rate of speed of a musical selection ranging from very slow to very fast. Sometimes the tempo can remain constant within a performance, and sometimes the tempo can vary.

Dynamics - The volume of a performance ranging from very soft to very loud. Sometimes the volume can remain the same within a piece and sometimes they can change often. Sometimes these changes can be very slight.

All students were asked to attend to the presentation once without responding to the test statement items. Then, upon the second listening, the students were instructed to identify the test statement items that had been heard by filling in the corresponding bubble to the right, and to leave blank those items that were not heard. Two of the four music performances were representative of a Jazz (big band) musical style while the other two performances represented a Classical (symphony orchestra) musical style. The four excerpts that were used in the study are described as follows:

A. "C Jam Blues." Duke Ellington and the Duke Ellington Orchestra. Duration - 2:07. "All-Star Swing Festival," Vestron Music Video, Inc., 1986.

This presentation provided videotaped coverage of Duke Ellington and his orchestra in a live, on-stage performance at the Kennedy Center. The camera fanned from section to section within the orchestra, stopping to spotlight solo instrumentalists (trumpet, trombone and clarinet) as they performed during different segments of the song.

B. *Symphony No. 4,* (excerpt from Movement I). Gustav Mahler. Duration - 1:41. "Music and Time: Vienna and the Turn of the Century," Films for the Humanities, Inc., 1989.

This excerpt was also videotaped on-stage in a large performance area. The camera work was similar to that of the Ellington selection, in that there was constant movement of the camera around the stage. The camera frequently stopped to focus on solo instruments and *tutti* sections (violin, bass, horn and clarinet) during the excerpt.

C. "It Don't Mean A Thing (If It Ain't Got That Swing)." Duke Ellington and the Duke Ellington Orchestra. Duration - 1:38. "All-Star Swing Festival," Vestron Music Video, Inc., 1986.

This performance was within the same videotaped concert program as the "C Jam Blues" performance, therefore, the camera work was identical. Solo instruments that were featured at different times within this selection included piano (Ellington) and tenor saxophone.

D. *Symphony No. 5*, (excerpt from Movement II). Gustav Mahler. Duration - 2:28. "Music and Time: Vienna and the Turn of the Century," Films for the Humanities, Inc., 1989.

This videotaped performance was produced on the same program as the *Symphony No. 4* excerpt; therefore, the conductor, ensemble (with the addition of extra instrumentation) and camera work were identical. Again, soloists and *tutti* sections (violin, cello, bass, trumpet, horn, flute, percussion and oboe) were spotlighted throughout the excerpt.

As noted in the excerpt descriptions, each music excerpt was of similar audio and video production and was performed by the same instrumental ensembles according to musical style. The similar productions should have controlled for the variable of presentation effect within musical styles. The only difference within musical style was the selections themselves. The order of the presentation of excerpts was randomly assigned to all groups. The equipment used for the study consisted of a video cassette player and a stereo enhanced color display television monitor. All testing was done during regular classroom times during the Spring semester of 1991.

Results of the Study

A Kuder-Richardson formula 21 (Ferguson, 1966) was calculated to measure reliability on the means of the student heard responses to all four music excerpts across grade levels. The KR-21 is appropriate for dichotomously answered test items ('Heard' or 'Not Heard') of equal difficulty. The coefficients obtained for the four excerpts were .74, .91, .82 and .87 for excerpts A, B, C and D, respectively. These reliability coefficients were acceptable for the purposes of this study.

Correct Response Analyses

Analyses of the data were calculated from all 8th and 12th grade student respondents. Each student's raw score represented the sum of all correct responses for each excerpt. The Correct Response Form (CRF) was used as the key for these analyses (see Appendix B). The correct score for each excerpt is 28 since there are 28 statement items that can be answered correctly as either 'Heard' or 'Not Heard'. Table 2 illustrates correct response means and standard deviations.

Table 2

Correct Response Means by Presentation and Grade Level

Excerpt	Audio 8	Video 8	SD	Excerpt	Audio 12	Video 12	SD
A	12.87	13.13	3.65	A	12.61	12.08	4.49
B	10.72	11.29	2.95	B	10.43	9.58	2.91
C	12.11	12.84	2.92	C	11.0	11.75	3.40
D	10.11	10.18	3.32	D	10.91	9.38	3.12

As shown in Table 2, the correct response means for the 8th grade video group were higher than those found in the 8th grade audio group. However, this was not the case between the 12th grade level where the audio group recorded higher correct response means than the video group, with the exception of Excerpt C.

A two-factor ANOVA was calculated on the total number of correct responses to each music excerpt. This was done to determine if the differences in the means in Table 2 were significant ($p < .05$) between grade levels and presentation media, and also to search for a possible interaction between grade levels and presentation media. A significant F value was found to exist between grade levels for Excerpt C ($p = .0452$). Excerpt B approached significance between grade levels ($p = .0571$). No significant interaction was found between grade levels and presentations on correct student responses. Tables 3, 4, 5, and 6 illustrate the summary of the ANOVA calculations for excerpts A, B, C, and D, respectively.

Table 3

ANOVA Table for Correct Student Responses by Grade Levels and Presentation Media for Excerpt A

Source	df	MS	F	p
Grade (A)	1	13.898	.874	.3514
Presentation (B)	1	.579	.036	.8489
Grade x Media (AxB)	1	5.039	.317	.5743
Residual	151	15.904		

Table 4

Summary Table for Correct Student Responses by Grade Levels and Presentation Media for Excerpt B

Source	df	MS	F	p
Grade (A)	1	32.401	3.674	.0571
Presentation (B)	1	.630	.017	.7896
Grade x Media (AxB)	1	16.627	1.885	.1718
Residual	151	8.818		

Table 5

ANOVA Table for Correct Student Responses by Grade Levels and Presentation Media for Excerpt C

Source	df	MS	F	p
Grade (A)	1	39.593	4.080	.0452*
Presentation (B)	1	17.760	1.830	.1781
Grade x Media (AxB)	1	.006	.001	.9804
Residual	151	9.704		

note. significant at $p < .05$

Table 6

ANOVA Table for Correct Student Responses by Grade Levels and Presentation Media for Excerpt D

Source	*df*	*MS*	*F*	*p*
Grade (A)	1	.085	.008	.9298
Presentation (B)	1	20.392	1.859	.1748
Grade x Media (AxB)	1	18.353	1.673	.1978
Residual	151	10.970		

Heard Response Analyses

Another two-factor ANOVA was calculated from all 8th and 12th grade student respondents. In contrast to the correct response analyses where 'Heard and 'Not Heard' responses were analized, this time each student's raw score represented the sum of only the 'Heard' responses (i.e, those responses that were only indicated by filling in the bubble on the answer sheet). Table 7 illustrates total mean scores of heard responses and standard deviations.

Table 7

Student Heard Responses by Presentation and Grade Level

Excerpt	Audio 8	Video 8	SD	Excerpt	Audio 12	Video 12	SD
A	10.575	11.65	2.53	A	9.5	10.7	2.50
B	10.625	12.075	2.61	B	9.65	11.8	3.12
C	10.75	11.8	2.61	C	9.2	10.65	3.18
D	10.15	11.175	2.60	D	9.6	11.25	2.50

As shown in Table 7, for every music excerpt, across grade levels, the visual performance presentations elicited higher mean scores of student heard responses. A two-factor ANOVA was calculated on the total number of student heard responses to each music excerpt. This was done to determine if the differences in the means in Table 7 were significant ($p < .05$) between grade levels and presentation media, and also to search for a possible interaction between grade level and presentation. Significant F values were found to exist between grade levels for Excerpt C ($p = .04$), and statistical significance was found within presentation media for all four excerpts. Excerpt A approached significance between grade levels ($p = .058$). However, no significant interaction was found to exist between grade levels and presentations. Tables 8, 9, 10, and 11 illustrate the summary of the ANOVA calculations for excerpts A, B, C, and D, respectively.

Table 8

ANOVA Table for Student Heard Responses by Grade Level and Presentation Media for Excerpt A

Source	*df*	*MS*	*F*	*p*
Grade (A)	1	17.392	3.648	.0580
Presentation (B)	1	45.714	9.589	.0023*
Grade x Media (AxB)	1	.013	.003	.9580
Residual	151	4.767		

note. significant at $p < .05$

Table 9

ANOVA Table for Student Heard Responses by Grade Level and Presentation Media for Excerpt B

Source	*df*	*MS*	*F*	*p*
Grade (A)	1	16.935	2.991	.0858
Presentation (B)	1	122.777	21.685	.0001*
Grade x Media (AxB)	1	10.947	1.933	.1664
Residual	151	5.662		

note. significant at $p < .05$

Table 10

ANOVA Table for Student Heard Responses by Grade Level and Presentation Media for Excerpt C

Source	df	MS	F	p
Grade (A)	1	24.128	4.191	.0424*
Presentation (B)	1	52.366	9.096	.0030*
Grade x Media (AxB)	1	.510	.089	.7665
Residual	151	5.757		

note. significant at $p < .05$

Table 11

ANOVA Table for Student Heard Responses by Grade Level and Presentation Media for Excerpt D

Source	df	MS	F	p
Grade (A)	1	5.904	1.060	.3048
Presentation (B)	1	91.712	16.468	.0001*
Grade x Media (AxB)	1	15.302	2.748	.0995
Residual	151	5.569		

note. significant at $p < .05$

Statement Item Response Analyses

Additional analyses were conducted to investigate grade (8th and 12th) and presentation group (audio and video) responses on each of the twenty-eight test statement items across all four musical excerpts on the measurement instrument. Since the answer to each test statement item was classified as nominal data, the Chi-Square test for independent samples was used as the appropriate non-parametric statistic for analysis of significant differences between observed and expected response cells. This test determines "whether or not observations are significantly different from what might be expected by chance," (Huck, Cromier, and Bounds, 1974, p. 218). Tables 12 through 21 depict the test statement items that achieved statistically significant ($p < .01$) Chi-Square observed values across all four music excerpts. 'Not Heard' and 'Heard' responses are designated in categories by row. Observed and expected cell values for the treatment groups are designated by the top and bottom numbers, respectively, in each response category.

Results of the Chi-Square statistic revealed significant differences ($p < .01$) among 10 test statement items across the four musical excerpt presentations. Perusal of expected vs. observed cell frequencies provided an analysis for determining the location of the greatest differences. A summary table and analysis for each of the significant test statement items is given (Tables 12 through 21). Correct 'Heard' or 'Not Heard' responses are also identified for each of the statement items, according to the CRF (see Appendix B).

Table 12

Significant Chi-Square Values for Statement Item A-5
(Main melody used in various ways)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	16	18	7	18	59
	20.17	20.94	8.37	9.52	
Heard	37	37	15	7	96
	32.83	34.06	13.63	15.48	

note. value = 14.635   df = 3   p = .002   n = 155

The 12th grade video group observed frequencies exceeded the expected frequencies. The ratio favored the 'Not Heard' response. 'Heard' was the correct response.

Table 13

<u>Significant Chi-Square Values for Statement Item B-2 (Melodies alternate)</u>

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	24	36	10	21	91
	31.12	32.29	12.92	14.68	
Heard	29	19	12	4	64
	21.88	22.71	9.08	10.32	

<u>note</u>. value = 13.164   <u>df</u> = 3   <u>p</u> = .004   <u>n</u> = 155

Neither the 8th grade audio group nor the 12th grade video group achieved frequencies that were close to the expected responses. The 8th grade audio group favored the 'Heard' response while the 12th grade video group favored the 'Not Heard' response. 'Not Heard' was the correct response.

Table 14

Significant Chi-Square Values for Statement Item B-12
(More than one rhythm pattern used)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	20	31	5	5	61
	20.86	21.65	8.66	9.84	
Heard	33	24	17	20	94
	32.14	33.35	13.34	15.16	

note. value = 13.197 df = 3 p = .004 n = 155

The 8th grade video group observed frequencies exceeded the expected frequencies in favor of the 'Not Heard' response. 'Not Heard' was the correct response.

Table 15

Significant Chi-Square Values for Statement Item B-20 (Mostly strings)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	19	43	11	14	87
	29.60	30.16	12.29	13.96	
Heard	34	12	11	11	68
	23.40	23.84	9.71	11.04	

note. value = 20.050 df = 3 p = .0001 n = 155

Neither of the 8th grade presentation groups achieved observed frequencies near to the expected frequencies. The audio group favored the 'Heard' response while the video group favored the 'Not Heard' response. 'Heard' was the correct response.

Table 16

Significant Chi-Square Values for Statement Item C-1 (Hear one melody)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	14	20	5	0	39
	13.34	13.84	5.54	6.29	
Heard	39	35	17	25	116
	39.66	41.16	16.46	18.71	

note. value = 12.184 df = 3 p = .007 n = 155

Both of the video presentation group observed frequencies varied from expected frequencies. The 8th grade video observed frequencies were less than expected for the 'Heard' response, yet more than expected for the 'Not Heard' response. The 12th grade video group observed frequencies were unanimous in favor of the 'Heard' response. 'Heard' was the correct response.

Table 17

Significant Chi-Square Values for Statement Item C-5
(Main melody used in various ways)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	10	14	6	16	46
	15.73	16.32	6.53	7.42	
Heard	43	41	16	9	109
	37.27	38.68	15.47	17.58	

note. value = 17.610   df = 3   p = .001   n = 155

The 8th grade audio group exceeded expected frequencies for the 'Heard' response. The 12th grade video group was observed to exceed expected frequencies for the 'Not Heard' response. 'Heard' was the correct response.

Table 18

Significant Chi-Square Values for Statement Item C-24
(Same tempo throughout)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	33	22	18	18	91
	31.12	32.29	12.92	14.68	
Heard	20	33	4	7	64
	21.88	22.71	9.08	10.32	

note. value = 14.886 df = 3 p = .002 n = 155

The 8th grade video group exceeded expected frequencies for the 'Heard' response. In contrast, the 12th grade audio group exceeded expected frequencies for the 'Not Heard' response. 'Heard'; was the correct response.

Table 19

Significant Chi-Square Values for Statement Item D-4
(Two or more melodies at the same time)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	20	31	18	15	84
	28.72	29.81	11.92	13.55	
Heard	33	24	4	10	71
	24.28	25.19	10.08	11.45	

note. value = 12.990   df = 3   p = .005   n = 155

Both audio presentation groups contained observed frequencies that varied from the expected frequencies. The 8th grade audio group favored the 'Heard' response while the 12th grade group contained more observed responses for 'Not Heard.' 'Not Heard' was the correct response.

Table 20

Significant Chi-Square Values for Statement Item D-10
(Some change of meter)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	23	37	12	20	92
	31.46	32.65	13.06	14.84	
Heard	30	18	10	5	63
	21.54	22.35	8.94	10.16	

note. value = 11.652 df = 3 p = .009 n = 155

The 8th grade audio group failed to achieve expected frequencies in favor of the 'Heard' response. The 12th grade video group favored the 'Not Heard' category. 'Not Heard' was the correct response.

Table 21

Significant Chi-Square Values for Statement Item D-20 (Mostly strings)

	8 Audio	8 Video	12 Audio	12 Video	Totals
Not Heard	19	32	6	5	62
	21.20	22.00	8.80	10.00	
Heard	34	23	16	20	93
	31.80	33.00	13.20	15.00	

note. value = 13.608 $df = 3$ $p = .003$ $n = 155$

The 8th grade video group favored the 'Not Heard' response while the 12th grade video group favored the 'Heard' response. 'Heard' was the correct response.

Table 22 illustrates the ten statement items that were found to contain significant ($p < .01$) Chi-Square values. The table describes correct responses for 'Not Heard' as well as 'Heard' responses, according to the Correct Response Form (see Figure 2). Correct responses are illustrated with one asterisk (*), while incorrect responses are illustrated with two asterisks (**).

Table 22

Significant Chi-Square Values for Correct and Incorrect Responses

Items	(CRF)	Audio 8	Video 8	Audio 12	Video 12
A-5	(H)				NH**
B-2	(NH)	H**			NH*
B-12	(NH)		NH*		
B-20	(H)	H*	NH**		
C-1	(H)		NH**		H*
C-5	(H)	H*			NH**
C-24	(H)		H*	NH**	
D-4	(NH)	H**		NH*	
D-10	(NH)	H**			NH*
D-20	(H)		NH**		H*
Totals	Correct	2	2	1	4
	Incorrect	3	3	1	2

note. H = 'Heard' Response; NH = 'Not Heard' Response; * = Correct Significant ($p < .01$) Chi-Square Response; ** = Incorrect Significant ($p < .01$) Chi-Square Response

A comparison of total correct and incorrect responses in Table 22 revealed that the video presentation groups achieved six out of nine overall correct responses, while the audio groups accounted for the three remaining correct responses. However, the amount of incorrect responses were relatively equal for both presentation groups, with the video presentation group accounting for five of the nine incorrect responses. This finding may appear to slightly favor the videotaped presentation for eliciting correct responses, but the results are too inconclusive for generalizations.

The results of an ANOVA on student heard responses revealed a preference for video presentations to elicit more heard responses. However, the results of an ANOVA statistic on correct student responses and the Chi-Square statistic on correct statement items revealed that the heard responses were no more correct than the audio presentations.

One statement item was revealed to be significant for both Jazz style pieces, and another was significant for both Classical style pieces. Test statement item 5 (Melodies used in various ways) was a common 'Not Heard' item within the Jazz style performances (A and C) for the 12th grade video group, while test statement item 20 (Mostly strings) was a common 'Not Heard' response within the Classical style performances for the 8th grade video groups. Both sets of responses were categorized as 'Heard' responses, and therefore incorrect, according to the Correct Response Form (see Appendix B).

Summary of the Study

The present study incorporated the Posttest Control Group Design to determine the effects of visual performance presentations on student responses to four videotaped music performances on Olson's *Part One: Music Detail* from the *Measurement of Musical Awareness* (© 1987). The experimental groups viewed and heard all four of the performances (two in Jazz style and two in Classical style) while the control groups only heard the same four performances. Participants ($\underline{n}$ = 155) were 8th and 12th grade music students drawn from a stratified random sample of school districts from North Carolina, South Carolina, and Virginia.

A two-factor ANOVA was calculated on all correct student responses to each musical excerpt. The Correct Response Form (CRF) was used as the key for the data analysis. Significant differences ($\underline{p}$ < .05) were found between grade levels for Excerpt C, with both 8th grade presentation groups containing higher correct response means than the 12th grade student groups. Another two-factor ANOVA was calculated on all heard (correct and incorrect) responses to each musical excerpt. There were significant differences in favor of the video treatment groups. Further analysis revealed that although the videotape groups contained significantly more 'Heard' responses, these responses were not necessarily correct. Even in cases where videotaped presentation groups achieved higher observed scores for correct responses than can be expected by chance, there were still as many incorrect responses as was found in the audiotaped presentation groups.

CHAPTER IV

Conclusions

A wide variety of technologies are available to the music classroom. The value of technology to the field of music education is evidenced through various conferences sponsored by the Music Educators National Conference and other professional music organizations. The video cassette recorder is a form of technology that can be applied to teaching strategies in the performing arts. Many videotaped performances featuring varied styles of choral and instrumental music in both solo and ensemble settings are currently available to students and educators. Given that the video cassette recorder can be found as standard media equipment in virtually every public school media center, it would seem appropriate for music educators to utilize visual performance presentations in their classrooms.

Studies investigating the effects of technology in music have utilized videotaped performances (McClaren 1988), videotape instruction formats, (Blackburn 1986; Brown 1978; Forsythe & Kelly 1989), film strips and overhead projection (Haack 1982; Rives 1970), pictures (Bradley 1974; Hair 1981, 1987), and CAI (Arenson & Hofstetter, 1983; Hofstetter, 1978, 1979, 1980; Turk, 1985). None of these studies specifically addressed the effects of visual performance presentations on student perceptions of the elements of music. However, McClaren's (1988) study did reveal that videotaped performances had positive effects on student preferences.

The purpose of this study was to determine the effects of visual performance presentations on student perceptions of the elements of music. The procedures for the study incorporated a Posttest Control Group Design to determine the effects of four videotaped music presentations on student responses to Olson's *Part One: Music Detail* from the *Measurement of Musical Awareness* (© 1987). The experimental groups viewed and heard the four videotaped music presentations (two in Jazz style and two in Classical style) while the control groups only heard the same four presentations. The study attempted to answer the following question:

> What is the effect of visual performance presentations on student perceptions of the elements of music?

Generalizations that can be derived from the results of the present study are limited due to the use of intact instrumental music classrooms in the research design. Given this limitation, the results of this study indicate that while the visual performance presentations enhanced students' heard responses, these presentations did not affect the accuracy of students' responses to their perceptions of the elements of music. Analyses revealed no significant differences between presentation groups in mean correct responses. However, significant differences ($p < .05$) were revealed across grade levels for correct student responses on Excerpt C (Jazz style). Both 8th grade presentation groups achieved higher correct response means than the 12th grade presentation groups. In light of these results, it appeared that performance style may have interacted with grade level. Perhaps the 8th grade students preferred Excerpt C or perhaps this excerpt was less complex than the other music excerpts.

A Chi-Square analysis of student responses on individual test statement items revealed that the groups differed significantly ($p < .01$) on 10 items. A review of cell values for observed versus expected responses revealed that both presentation groups were approximately equal in incorrect and correct responses on those test statement items.

Interestingly, two test statement items yielded the same response within each performance style and grade level to the video presentations. For example, test statement item 5 (Melodies alternate) was a common 'Not Heard' item within the Jazz style performances (excerpts A and C) for the 12th grade video group. The other example was test statement item 20 (Mostly strings) as a common 'Not Heard' response within the Classical style performances (excerpts B and D) for the 8th grade video groups. Both sets of responses were categorized as incorrect, according to the Correct Response Form. The video presentations may have sent conflicting signals for these two statement items.

Discussion of Findings

Dwyer (1978) set basic principles for audio/visual instruction through a 'realism' theory. These three points must be taken into account to provide for effective and efficient delivery of information: 1) The closer the presentation is to the real object, the more likely the learner or observer will respond accurately to that presentation. 2) A color representation of an image is a major contributing factor toward its complexity and realism, and; 3) The external image (video) must be in direct proportion to the internal (audio) image. Accurate concepts of external cues must be given in order to make the internalization of concepts effective.

Dwyer (1978) discussed the positive potential of the added visual stimulus, provided it supplies relevant cues. What could be more relevant in a music performance than a full-color videotaped presentation of the actual performers on-stage (with the exception of the live performance)? It is true that watching and hearing someone play a musical instrument can be considered a ‘realistic’ musical experience. On the other hand, it could also be the musician who is depicted as the visual image of the music, and not the music at all. Therefore, watching the actual music performance, and not the moving and melodically notated line, might very well be a way of sending conflicting signals to the listener and viewer. Many might argue that the only true visual representation of the music is in the form of written notation, while others might insist that watching a professional performing artist is the visual link to what is heard.

Clark and Salomon (1986) warned about the general misuse of technology in researching the effects of audio/visual stimuli. Applying the videotaped music performance to investigate the effects of perceived music elements may have breached this warning, at least for those music elements that students may have perceived as being aural. Perhaps the students in this study would have perceived those aural-based elements in a more consistent fashion through the visual representation of a music score rather than through a videotaped concert performance. This would have required the notated excerpt scanning across the screen simultaneously with an aural presentation of the music; something that is now possible through CD-ROM technology.

One example of a possible conflict in signals within the present study was the finding where the 12th grade video group incorrectly responded to test statement item 5 (Melodies used in various ways) within both Jazz style performance excerpts. Could it be that the visual perception of musicians improvising on a melody does not necessarily signal aural perception of various forms of the melody? Since melody is traditionally considered to be an aural element of music, it would seem appropriate that variations on a melody would be subject to aural discrimination rather than visual. This supposition would help explain the incorrect 'Not Heard' responses of 12th grade video students. While most audio students perceived variations of the melody through the musical improvisations in the Jazz excerpts, the older video students incorrectly interpreted the solo musicians as performing melodies not based on the original melodic idea.

Another example of conflicting stimuli, involved the incorrect responses of the 8th grade video students on test statement item 20 (Mostly strings) for both of the Classical style excerpts (B, and D). While the majority of audio students answered correctly to the statement that identified the strings as dominating the performances in both excerpts, the 8th grade video students were evidently confused, possibly as a result of being presented images of wind musicians also performing within the orchestra. The 8th grade audio students responded correctly with the 'Heard' response to Excerpt B, while the 12th grade video students responded likewise. The researcher speculates that the younger audio group aurally perceived more strings than brass for Excerpt B. The older 12th grade video group students were able to handle the simultaneous stimuli and answer correctly as well. It is interesting to note that the strings were the dominant instruments in the audio recording of Excerpt B. The camera production in the video, however, depicted the two instrument families as relatively equal entities within the orchestra.

The question of conflict between video and audio perceptions now seems particularly important in music performance. For instance, what do audiences actually perceive during live performances? The present study indicates that audiences may not perceive aural elements as well as the more visual elements of music. This question warrants further research.

Related studies in audio-visual instruction and music supported the positive effects of combining visual and aural stimuli. Hedden (1980) found that visually notated themes appeared to improve music listening skills of older students, but suggested that students should have sufficient experience with music notation for it to be helpful when presented in a visual and aural presentation. Bradley (1974) also found that the addition of visual materials (music notation) to the instructional format might have contributed to improving student discrimination skills in creative tasks in music. The present study did not utilize notation. However, the video presentations did stimulate more heard responses. Perhaps this finding is related to McClaren's (1988) study which revealed that videotaped performances stimulated more preference by respondents over performances that were audiotaped.

Implications for Music Education and Recommendations for Future Research

While the present study revealed more student heard responses as a result of the videotaped performances, it also found that these responses were no more correct than the responses of the students who attended to the audio presentations. Therefore, music educators may want to utilize visual performance presentations as an initial stage for introducing new music. More in depth study of the elements of music could be presented aurally. For example, a videotaped performance of a Beethoven symphony would initially stimulate more responses than an audio presentation. For further study, particularly of the elements of melody and form, an audio presentation may be more effective. This is another aspect that needs further research.

Tone quality (timbre), tempo and rhythm may have some visual-based qualities while the factors of melody, form, harmony, and dynamics may be associated with aural perception. It is possible for a student to perceive properties of timbre, tempo, and rhythm through visually observing the musical performance of an instrumentalist, whereas properties of melody, form, and dynamics may be less, if at all, observable. Therefore, it is important that the teacher use visual performance presentations to illustrate music concepts with visual properties and understand that the videotaped format may send conflicting signals for the more aural elements.

Melody, form, texture, meter, rhythm, harmony, tone color, tempo and dynamics are common (in part or whole) to studies regarding music listening skills and musical awareness (Hedden, 1980; Olson, 1984). Hedden (1980) and Cutietta (1982) suggested that upper grade level students (junior to senior high school) were able to identify and apply these elements more effectively than the lower grade-level students, especially in terms of form, texture and harmony.

The results of this study do not support this suggestion. The lower grade level students achieved more correct responses for one of the Jazz style excerpts when compared to the older students. This finding may indicate that present instructional strategies in instrumental music do not necessarily improve student perceptions of the elements of music. Other studies (Love & Burnsed, 1988; Burnsed & Fiocca, 1990) concur with this observation. This finding warrants further investigation as well.

McClaren (1988) addressed the paucity of research dealing with the effects of visual performance presentations. The present study was undertaken in order to help create a base of research in this area. However, the results of this study reflect inherent weaknesses of visual performance presentations on student perceptions of the elements of music. Therefore, avenues other than music performances presented in the videotaped format should be investigated.

Boody (1992), stated that the technologies that are available to schools are valuable resources and should be understood and utilized by teachers more effectively. Along with the videotape recorder is a more recent form of instructional technology, the CD-ROM player. The CD-ROM player, in a multimedia format, allows the teacher to display performing musicians on a projected screen, the music score, a still photograph and other computer generated visuals, in addition to a high quality sound recording. The interactive video, in a hypermedia format, goes one step further in this regard as it also allows the viewer to interact with the computer, causing changes in the audio and visual programming based on decisions made by the student.

Any music teaching strategy can benefit from an instructional media format that heightens students' interests, perceptions and responses to music performance, regardless of grade level or musical style. An added benefit is to find a format that can enhance the perception of specific elements of music, while retaining a realistic image of how each element relates to another within the total performance. The videotaped music performance is a format that can be easily manipulated into any music teacher's strategy. The results of this study, however, reveal the inherent limitations of the videotaped music performance to illustrate all of the elements of music. The music educator must be aware of these limitations when organizing, presenting, and evaluating materials for multimedia presentations of the elements of music.

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APPENDIX A

Measurement of Musical Awareness

Ivan Olson

PART ONE: MUSICAL DETAIL

		A	B	C	D	E
I. Melody, Form, and Texture--	I.					
①	Hear one melody only.	①	①	①	①	①
②	Melodies alternate.	②	②	②	②	②
③	A melody repeated.	③	③	③	③	③
④	Two or more melodies at the same time.	④	④	④	④	④
⑤	Main melody used in various ways.	⑤	⑤	⑤	⑤	⑤
⑥	Melodies mostly step-wise.	⑥	⑥	⑥	⑥	⑥
⑦	Melodies angular or disjointed.	⑦	⑦	⑦	⑦	⑦
⑧	Solo passages.	⑧	⑧	⑧	⑧	⑧
II. Meter and Rhythm--	II.					
①	Same feeling of meter throughout.	①	①	①	①	①
②	Some change of meter.	②	②	②	②	②
③	A basic rhythm pattern repeated.	③	③	③	③	③
④	More than one pattern used.	④	④	④	④	④
⑤	Two or more patterns at the same time.	⑤	⑤	⑤	⑤	⑤
III. Harmony and Tone Color--	III.					
①	Traditional chords.	①	①	①	①	①
②	Non-traditional chords used.	②	②	②	②	②
③	Little or no change in key.	③	③	③	③	③
④	Some obvious key changes.	④	④	④	④	④
⑤	No key at all.	⑤	⑤	⑤	⑤	⑤
⑥	Uses full orchestra.	⑥	⑥	⑥	⑥	⑥
⑦	Mostly string sound.	⑦	⑦	⑦	⑦	⑦
⑧	Mostly winds.	⑧	⑧	⑧	⑧	⑧
⑨	Bright sound.	⑨	⑨	⑨	⑨	⑨
⑩	Dark sound.	⑩	⑩	⑩	⑩	⑩
IV. Tempo and Dynamics--	IV.					
①	Same tempo throughout.	①	①	①	①	①
②	Occasional changes of tempo.	②	②	②	②	②
③	Same dynamic level throughout.	③	③	③	③	③
④	Changes in dynamic levels.	④	④	④	④	④
⑤	Some slight changes from soft-to-loud, loud-to-soft, soft-to-softer, loud-to-louder, etc.	⑤	⑤	⑤	⑤	⑤

APPENDIX B

Correct Response Form (from Olson's *Part One: Musical Detail* , 1987)

	A	B	C	D
1. Hear one melody.	•		•	
2. Melodies alternate.				•
3. A melody repeated.		•		
4. Two or more melodies at the same time.				
5. Main melody used in various ways.	•		•	
6. Melodies mostly stepwise.	•	•		
7. Melodies angular or disjointed.			•	•
8. Solo passages.	•		•	•
9. Same feeling of meter throughout.	•	•	•	•
10. Some change of meter.				
11. A basic rhythm pattern repeated.	•	•	•	
12. More than one rhythm pattern used.			•	•
13. Two or more patterns at the same time.			•	•
14. Traditional chords.	•	•	•	
15. Non-traditional chords.				•
16. Little or no change in key.	•	•	•	
17. Some obvious key changes.				•
18. No key at all.				
19. Uses full orchestra.	•	•	•	•
20. Mostly strings.		•		•
21. Mostly winds.	•		•	
22. Bright sound.			•	
23. Dark sound.	•	•		•
24. Same tempo throughout.	•		•	
25. Occasional changes in tempo.		•		•
26. Same dynamic level throughout.	•			
27. Changes in dynamic level.		•	•	•
28. Some slight changes of dynamics.		•		•

APPENDIX C

Correct Response Data for Excerpts A, B, C, and D

Student ID #	Grade	Presentation	A	B	C	D
1	8	Audio	10	13	7	6
2	8	Audio	15	11	13	10
3	8	Audio	11	8	19	14
4	8	Audio	13	13	9	9
5	8	Audio	10	12	10	8
6	8	Audio	11	9	6	8
7	8	Audio	9	10	12	12
8	8	Audio	12	14	9	14
9	8	Audio	9	10	12	10
10	8	Audio	14	7	10	11
11	8	Audio	9	12	13	7
12	8	Audio	11	8	9	12
13	8	Audio	16	10	11	10
14	8	Audio	11	6	7	11
15	8	Audio	8	8	7	9
16	8	Audio	13	6	14	8
17	8	Video	11	15	11	13
18	8	Video	20	8	13	6
19	8	Video	13	7	10	9
20	8	Video	11	11	10	15

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
21	8	Video	10	9	12	12
22	8	Video	10	11	11	15
23	8	Video	15	8	9	14
24	8	Video	15	19	15	16
25	8	Video	12	8	6	12
26	8	Video	14	14	13	8
27	8	Video	15	10	13	11
28	8	Video	16	10	15	8
29	8	Video	11	14	12	7
30	8	Video	15	18	16	14
31	8	Video	13	9	16	10
32	8	Video	14	10	10	11
33	8	Video	17	16	19	19
34	12	Audio	9	11	9	11
35	12	Audio	12	6	9	10
36	12	Audio	7	6	11	13
37	12	Audio	11	10	14	11
38	12	Audio	11	5	14	10
39	12	Audio	8	6	8	8
40	12	Audio	11	13	10	11
41	12	Audio	8	12	11	6
42	12	Audio	13	12	10	14

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
43	12	Video	15	15	15	18
44	12	Video	14	18	15	15
45	12	Video	18	17	11	16
46	12	Video	12	13	9	10
47	12	Video	11	7	8	8
48	12	Video	7	12	10	8
49	12	Video	5	6	7	7
50	12	Video	8	9	9	8
51	12	Video	7	10	11	11
52	8	Audio	8	13	18	10
53	8	Audio	10	5	8	12
54	8	Audio	11	9	7	12
55	8	Audio	13	6	11	10
56	8	Audio	5	5	4	10
57	8	Audio	11	11	12	8
58	8	Audio	8	14	12	7
59	8	Audio	7	13	12	12
60	8	Audio	9	14	15	11
61	8	Audio	12	11	14	9
62	8	Audio	9	5	14	12
63	8	Video	14	10	10	7
64	8	Video	7	13	12	9

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
65	8	Video	11	13	15	15
66	8	Video	15	9	12	11
67	8	Video	8	10	11	10
68	8	Video	10	7	10	12
69	8	Video	15	17	12	17
70	8	Video	13	16	12	13
71	8	Video	12	14	8	7
72	8	Video	9	13	10	7
73	8	Video	16	11	14	9
74	8	Video	12	14	15	11
75	12	Audio	7	9	6	7
76	12	Audio	8	9	12	14
77	12	Audio	10	8	8	8
78	12	Audio	10	9	10	14
79	12	Audio	6	7	6	10
80	12	Audio	9	11	12	16
81	12	Video	11	11	14	11
82	12	Video	12	9	11	9
83	12	Video	11	12	11	15
84	12	Video	15	13	10	12
85	12	Video	8	10	10	11
86	12	Video	10	5	11	11

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
87	12	Video	6	10	8	11
88	8	Audio	13	14	14	13
89	8	Audio	8	12	8	5
90	8	Audio	14	17	15	12
91	8	Audio	13	6	8	11
92	8	Audio	13	12	11	9
93	8	Audio	8	5	6	10
94	8	Audio	13	12	10	14
95	8	Audio	6	12	9	11
96	8	Audio	12	8	12	12
97	8	Audio	11	12	8	12
98	8	Audio	7	11	8	8
99	8	Audio	12	16	13	12
100	8	Audio	18	13	16	13
101	8	Audio	15	12	14	13
102	8	Audio	7	11	13	9
103	8	Audio	12	9	12	9
104	8	Audio	6	9	7	10
105	8	Audio	13	16	16	8
106	8	Audio	12	13	14	10
107	8	Audio	14	14	14	8
108	8	Audio	6	9	10	7

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
109	8	Audio	16	14	15	9
110	8	Audio	9	10	12	6
111	8	Audio	12	10	10	11
112	8	Audio	9	12	11	8
113	8	Audio	8	9	7	6
114	8	Video	12	13	15	10
115	8	Video	12	6	13	11
116	8	Video	8	6	16	6
117	8	Video	11	15	16	7
118	8	Video	12	16	15	7
119	8	Video	4	10	11	9
120	8	Video	12	8	15	16
121	8	Video	14	10	8	5
122	8	Video	16	11	16	14
123	8	Video	8	5	10	8
124	8	Video	9	15	12	5
125	8	Video	13	10	13	8
126	8	Video	8	11	11	11
127	8	Video	12	11	15	10
128	8	Video	16	14	18	11
129	8	Video	10	10	19	13
130	8	Video	10	10	14	8

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
131	8	Video	13	11	14	5
132	8	Video	14	15	9	14
133	8	Video	8	13	10	12
134	8	Video	10	13	14	8
135	8	Video	9	11	14	9
136	8	Video	13	10	13	13
137	8	Video	6	7	6	5
138	8	Video	10	10	13	12
139	8	Video	8	10	9	9
140	12	Audio	4	5	7	6
141	12	Audio	7	8	8	10
142	12	Audio	9	12	6	12
143	12	Audio	8	9	7	6
144	12	Audio	10	8	11	7
145	12	Audio	11	13	13	12
146	12	Audio	5	10	5	8
147	12	Video	7	9	5	10
148	12	Video	11	7	12	6
149	12	Video	9	12	15	9
150	12	Video	8	8	13	8
151	12	Video	9	8	4	7
152	12	Video	15	13	12	6

Correct Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
153	12	Video	11	8	16	7
154	12	Video	13	5	9	15
155	12	Video	13	18	9	13

APPENDIX D

Heard Response Data for Excerpts A, B, C, and D

Student ID #	Grade	Presentation	A	B	C	D
1	8	Audio	16	13	14	14
2	8	Audio	8	7	8	14
3	8	Audio	9	8	8	8
4	8	Audio	8	11	8	11
5	8	Audio	7	8	9	12
6	8	Audio	15	13	13	14
7	8	Audio	4	5	5	4
8	8	Audio	9	8	10	8
9	8	Audio	8	8	9	10
10	8	Audio	13	11	11	11
11	8	Audio	6	8	8	9
12	8	Audio	13	14	12	12
13	8	Audio	13	10	10	10
14	8	Audio	16	14	10	15
15	8	Audio	8	6	7	6
16	8	Audio	12	12	11	11
17	8	Video	13	14	14	15
18	8	Video	15	14	15	15
19	8	Video	12	13	11	15
20	8	Video	9	8	11	9

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
21	8	Video	11	11	8	10
22	8	Video	12	11	10	13
23	8	Video	8	10	6	6
24	8	Video	12	9	11	14
25	8	Video	10	7	9	9
26	8	Video	15	12	10	10
27	8	Video	13	12	12	12
28	8	Video	14	12	12	13
29	8	Video	16	12	17	14
30	8	Video	12	12	15	15
31	8	Video	10	11	13	14
32	8	Video	12	12	14	13
33	8	Video	12	12	12	11
34	12	Audio	10	9	12	11
35	12	Audio	13	13	14	12
36	12	Audio	12	14	14	14
37	12	Audio	12	10	11	12
38	12	Audio	13	15	17	14
39	12	Audio	10	15	12	20
40	12	Audio	11	12	12	11
41	12	Audio	10	11	13	11
42	12	Audio	10	11	14	8

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
43	12	Video	12	9	10	8
44	12	Video	13	10	9	10
45	12	Video	13	14	13	12
46	12	Video	11	11	12	10
47	12	Video	12	9	10	8
48	12	Video	20	17	19	18
49	12	Video	11	10	12	9
50	12	Video	10	12	9	10
51	12	Video	17	19	20	20
52	8	Audio	8	10	10	7
53	8	Audio	9	7	11	10
54	8	Audio	7	9	9	10
55	8	Audio	12	14	16	12
56	8	Audio	16	15	15	16
57	8	Audio	11	8	9	6
58	8	Audio	9	10	7	9
59	8	Audio	8	7	5	6
60	8	Audio	10	10	10	9
61	8	Audio	11	11	10	10
62	8	Audio	9	11	7	10
63	8	Video	13	10	12	9
64	8	Video	12	11	11	11

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
65	8	Video	14	13	12	13
66	8	Video	10	7	5	11
67	8	Video	13	12	12	12
68	8	Video	9	9	10	9
69	8	Video	13	12	13	9
70	8	Video	12	11	11	9
71	8	Video	17	14	13	12
72	8	Video	12	11	9	15
73	8	Video	12	7	9	8
74	8	Video	17	13	17	14
75	12	Audio	13	13	7	9
76	12	Audio	11	10	12	10
77	12	Audio	9	5	7	8
78	12	Audio	5	5	4	7
79	12	Audio	10	7	9	8
80	12	Audio	6	4	6	5
81	12	Video	16	15	15	13
82	12	Video	15	15	10	11
83	12	Video	8	9	7	7
84	12	Video	14	11	11	13
85	12	Video	11	13	12	15
86	12	Video	14	13	18	13

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
87	12	Video	14	12	13	11
88	8	Audio	12	11	10	11
89	8	Audio	11	12	11	11
90	8	Audio	12	12	10	9
91	8	Audio	10	10	8	11
92	8	Audio	12	13	11	12
93	8	Audio	12	10	6	6
94	8	Audio	14	11	10	10
95	8	Audio	11	12	12	11
96	8	Audio	13	14	12	12
97	8	Audio	14	11	12	13
98	8	Audio	7	8	5	7
99	8	Audio	9	9	7	9
100	8	Audio	8	8	8	6
101	8	Audio	11	11	12	9
102	8	Audio	13	11	14	15
103	8	Audio	10	5	9	8
104	8	Audio	14	10	8	10
105	8	Audio	11	13	13	10
106	8	Audio	8	10	9	8
107	8	Audio	11	11	10	9
108	8	Audio	9	8	7	6

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
109	8	Audio	8	8	9	10
110	8	Audio	12	7	13	7
111	8	Audio	12	12	14	13
112	8	Audio	13	11	14	11
113	8	Audio	10	9	10	9
114	8	Video	13	14	12	11
115	8	Video	13	11	14	12
116	8	Video	14	11	11	10
117	8	Video	8	13	11	9
118	8	Video	13	11	9	10
119	8	Video	13	10	16	15
120	8	Video	14	14	16	12
121	8	Video	15	12	12	12
122	8	Video	14	14	15	12
123	8	Video	12	14	12	14
124	8	Video	15	11	16	11
125	8	Video	18	14	19	14
126	8	Video	14	11	14	10
127	8	Video	15	12	13	11
128	8	Video	13	10	13	10
129	8	Video	12	13	12	10
130	8	Video	9	11	12	6

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
131	8	Video	13	11	14	10
132	8	Video	13	11	15	10
133	8	Video	11	9	11	8
134	8	Video	10	11	12	10
135	8	Video	9	11	11	9
136	8	Video	15	14	10	11
137	8	Video	9	10	11	8
138	8	Video	7	7	6	7
139	8	Video	12	11	13	10
140	12	Audio	11	9	9	10
141	12	Audio	8	7	9	8
142	12	Audio	8	8	11	10
143	12	Audio	11	11	9	8
144	12	Audio	11	14	10	10
145	12	Audio	6	5	6	4
146	12	Audio	6	8	10	6
147	12	Video	12	11	12	10
148	12	Video	14	15	13	16
149	12	Video	10	12	10	11
150	12	Video	11	12	12	10
151	12	Video	12	12	13	11
152	12	Video	13	13	13	12

Heard Response Data (continued)

Student ID #	Grade	Presentation	A	B	C	D
153	12	Video	14	11	13	14
154	12	Video	12	13	12	14
155	12	Video	12	13	12	11

STEPHEN CAMPBELL ETTERS

CURRICULUM VITAE

ADDRESS: Box 807, Wingate, NC 28174 **TELEPHONE:** (704) 753-1914
BIRTH DATE AND PLACE: December 6, 1955 - Greensboro, NC

EDUCATION:

University of South Carolina, Columbia, SC

1982	Bachelor of Music Education
1986	Master of Education (Education Administration)

Virginia Polytechnic Institute and State University, Blacksburg, VA

1994	Doctorate of Education - Music Education

PROFESSIONAL EMPLOYMENT:

1982-83 — Richland School District I, Columbia, SC
Band Director - Hopkins Junior High School;
Band Director - Lower Richland High School;
Jazz Band Director - Lower Richland High School.

1983-86 — Lexington School District V, Chapin, SC
Band Director - Chapin Elementary School Bands;
Band Director - Chapin Intermediate Band;
Assistant Band Director - Chapin High School Band.

1986-1989 — Virginia Polytechnic Institute and State University
Graduate teaching assistant for music education;
Assistant to the director - university bands;
Assistant - music education supervision (K-12);
Assistant - secondary music education methods.

1989-present — Wingate College, Wingate, NC
Assistant professor of music;
Director of instrumental music;
Instructor of brass methods and brass applied studio;
Instructor of orchestration and conducting courses;
Supervisor of instrumental music education program;
Advisor for Wingate College C.M.E.N.C. chapter #900;
Instructor of Elementary Music Education Methods;
Instructor of Secondary Music Education Methods.

AWARDS, HONORS AND SPECIAL COMMITTEES:

1985	Certificate for Outstanding Teaching, Lexington District #5, SC.
1986	Honorary Member, Kappa Kappa Psi (Eta Beta Chapter), VPI&SU.
1986-89	Graduate Teaching Assistant Scholarships in Music Education.
1987	Recipient, The Liberace Fine Arts Scholarship Award, VPI&SU.
1987-89	Graduate Student Assembly (Fine Arts Representative).
1987-89	Member, Graduate Honors Court (Investigative and Judicial).
1988-89	Assistant Editor, Virginia Music Educators Association *Notes* (the official state music educator's journal for Virginia).
1989	Recipient, Outstanding College Students of America.
1989	Recipient, Graduate Assembly Research Scholarship, VPI&SU.
1990	Recipient, First Annual Burris Foundation Grant for Faculty Development (attended Stetson University - Apple MAC Clinic).
1993	Recipient, Summer Faculty Grant (Stetson - Apple MAC Clinic).

PROFESSIONAL ORGANIZATIONS AND ACTIVITIES:

1978-present	Music Educators National Conference.
1980-81	Vice-President, Kappa Kappa Psi, Band Fraternity, University of South Carolina (Zeta Chi Chapter).
1981-82	President, Kappa Kappa Psi, Band Fraternity, University of South Carolina (Zeta Chi Chapter).
1982-86	South Carolina Band Directors Association.
1986-present	Life Member, Kappa Kappa Psi Honorary Band Fraternity.
1986-89	Member, Virginia Music Educators Association.
1989-present	Member, College Band Directors National Association.
1989-present	Member, North Carolina Music Educators Association.
1989-present	Member, South Central (NC) Band Directors Association.
1990-present	Member, Association for Technology in Music Instruction.

PAPERS AND PRESENTATIONS:

Burnsed, Vernon and Steve Etters. "Descriptive Factors Which Influence Popular Music Preferences of Young People," paper presented, 1988 Music Educators National Conference - National Convention, Indianapolis, IN.

Etters, Steve and Vernon Burnsed. "The Effects of the Music Video on Student Perceptions of Popular Music," paper presented, 1989 Music Educators National Conference - "Music and Technology" Convention, Nashville, TN.

CURRENT RESEARCH ACTIVITIES:

Etters, Steve. "The Effects of Videoptaped Music Performances on Student Perceptions of the Elements of Music." Dissertation for the Education Doctorate - Music Curriculum & Instruction, 1994.

Published Abstracts

Etters, Steve and Vernon Burnsed. "The Effects of the Music Video on Student Perceptions of Popular Music," *Affective Response SRIG Newsletter*. Music Educators National Conference, April, 1989.

Etters, Steve and Vernon Burnsed. "The Effects of the Music Video on Student Perceptions of Popular Music," *The North Carolina Music Educator*. Vol. 39 September), no. 1, 1989.

GUEST CLINICIAN, ADMINISTRATION AND ADJUDICATION:

Administrator/Clinician - VPI&SU Middle School Music Camp, 1987-93.
Adjudicator - South Central NC Solo & Ensemble Festival, 1989-93.
Clinician/Administrator - WC Invitational Bands Clinic, 1989-present.
Clinician - Stanly All-County Honors Band, Albemarle, NC, 1992-93.
Clinician - Lancaster All-County Honors Band, Lancaster, SC, 1992-93.
Instructor - Southern Piedmont Education Consortium - Summer Camp Instrumental Performance (Grades 9-11), Wingate, 1990-93.
Adjudicator - District VII Concert Festival, Abingdon, VA, 1993.
Administrator/Clinician - Wingate Summer Band Front Camp, 1991-93.
Adjudicator - Richmond County Marching Contest, Rockingham, NC, 1993.
Adjudicator - Trojan Marching Contest, Rock Hill, SC, 1993.
Adjudicator - Olympic Contest of Champions, Charlotte, NC, 1993.
Adjudicator - Trinity H.S. Marching Band Festival, Trinity, NC, 1993.
Adjudicator - District VIII Concert Festival, Abingdon, VA, 1994.

PARTICIPATION IN MUSICAL PERFORMANCE GROUPS:

1986-90, Bass-trombone, Lynchburg Symphony, Lynchburg, VA.
1986-90, Trombone, New River Valley Symphony, Blacksburg, VA.
1988-89, Trombone, Roanoke Opera Society, Roanoke, VA.
1988-89, Director, Blacksburg Baptist Church Wind Ensemble.
1989-present, Director / Trombone, Union Brass Ensemble, Monroe, NC.
1989-present, Principle Trombone, "Reflections" Big Band, Monroe, NC.
1990-present, Music Director, Mill Creek Baptist, Monroe, NC.
1990-present, Principal Trombone, Charlotte Philharmonic, Charlotte, NC.