

Literature Review: Pullout Lessons in Instrumental Music Education

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Abstract

This article reviews literature related to pullout instruction in instrumental music education. Pullout lessons involve withdrawing certain students from their regularly scheduled class for the purpose of instrumental study. The prevalence of pullout scheduling, attitudes towards the practice, and the effect of pullouts on academic achievement are addressed. Implications of these findings and the need for further research are also discussed. Many administrators, teachers, and parents assume that providing instruction through pullouts will cause a decline in scholastic performance due to missed class time. Research, however, has found no significant difference between the academic achievement of students who left class for instrumental study, and those who did not, regardless of school size and student background.

Introduction

Elementary and middle schools throughout the world have implemented pullout programs as a means of providing instruction in a variety of areas (Elovitz, 2002; English, 1984; Taylor, 1985). A *pullout* is defined as instruction time created by withdrawing certain students from their regularly scheduled class for the purpose of specialized study (Delzell & Doerksen, 1998a; English, 1984; Hennessey, 1984). Pullout schedules may be *fixed* or *rotating*. Students taught on a fixed schedule are excused from the same class each lesson. Those taught on a rotating basis are excused from a different class each lesson, resulting in less time out of a single subject (Fraedrich, 1997; Sanders, 2001; Wallick, 1998).

Though beneficial in meeting the needs of individual students, many challenges exist when implementing pullouts in today's schools. What follows is a review of the literature pertaining to pullout instruction in instrumental music education. The prevalence of pullout scheduling, attitudes towards the practice, and the effects of pullouts on academic achievement are addressed. Implications of these finding and the need for further research are also discussed. This information will be valuable to music educators and school officials responsible for implementing and maintaining pullout instruction, and to parents and classroom teachers concerned with the effects these programs have on scholastic performance.

Prevalence of Pullout Scheduling

Federal mandates for remedial reading instruction, the *Individuals with Disabilities Education Act* (1997), and provisions for the gifted and talented have all lead to an increase in removing students from conventional classrooms for specialized instruction. In addition to instrumental music - chorus rehearsals, computer training, speech therapy, social work, and special education are all sometimes scheduled in this manner (Cronin & Raywid, 1990; Elovitz, 2002; English, 1984; Hennessey, 1984). In fact, Rickabaugh and Kremer (1986) reported 24 different activities that resulted in students being removed from class, the number increasing from early to late elementary. As a

result, the percent of time all students were present in the instructional group declined from 93% in second grade to 77% by grade five. English found similar results, determining this time had been reduced to as little as 28% by the sixth grade.

In regard to pullouts in instrumental music, Delzell and Doerksen (1998a; see also Doerksen & Delzell, 2000) compared MENC (Music Educators National Conference) recommended practices to actual learning opportunities for beginning band and string students across the United States. Of the school districts surveyed, 63.5% of bands and 74.3% of orchestras provided beginning instruction through pullout lessons. Of this number, 68.6% of band lessons and 76.7% of orchestra lessons were held during academic classes. Results indicated that students were taken from general music, lunch, and recess less often. Data also ascertained that 97.3% of schools in the Northeast, 69.1% in the Midwest, 54.4% in the West, and 22.9% in the South used pullout scheduling in connection with the beginning band curriculum. Among first year string programs, 97.1% in the Northeast, 73.7% in the West, 62.5% in the Midwest, and 50% in the South pulled students from class for instrumental instruction.

Delzell and Doerksen (1998a) also found a relationship between the use of pullouts and the grade level students began instrumental music. As grade level increased, the number of pullouts decreased. Among beginning band programs utilizing pullouts, 94.1% offered instruction in fourth grade, 72.4% initiated study in fifth grade, and 31% began lessons in sixth grade. String programs reported similar figures. Although this survey was limited by a low return rate of 41%, Doerksen & Delzell (2000) anticipate a replication of the study, the objective being a higher rate of participation.

Additional survey research (Creech 1987) determined instrumental pullouts continued to decrease as students progressed through seventh and eighth grade. Among band programs in the southeastern region of Missouri, 56.5% provided class lessons or sectionals at the beginning level; but by junior high, only 22.2% of the schools continued this practice. This trend is likely due to the fact that in middle school, music instruction is often scheduled as a regular course as opposed to borrowing academic time from teachers in self-contained classrooms (Doerksen & Delzell, 2000).

Attitudes Toward Pullouts

The number of pullouts in today's elementary and middle schools make it difficult for administrators to create a schedule that does not disrupt a large portion of the school day (Cronin & Raywid, 1990; English, 1984). According to English, "Pullouts have become almost a nightmare for many elementary principals, who view the practice as a kind of pernicious anemia that attacks whole class time". This has caused the elementary school to become "a highly complex, difficult-to-manage organization that's as complicated as anything at the secondary level" (p. 32).

Scheduling pullouts is further complicated by increased pressure for more time on task in core subjects with the simultaneous demand for instituting additional programs such as *D.A.R.E.* (Drug Abuse Resistance Education) and *G.R.E.A.T.* (Gang Resistance Education and Training) into the elementary/middle school curriculum. Furthermore, many people responsible for pullout instruction are only available at specific times since they often travel from building to building. Administrators, therefore, are not totally in control of when pullouts can occur (English, 1984). Regardless, failure to schedule instrumental lessons effectively may keep some students from beginning instruction, or cause them to drop out once they have enrolled (Creech, 1987; Delzell & Doerksen, 1998b).

Classroom teachers also express concerns regarding pullout instruction (Baxter, 1999; Circle, 1989; Corral, 1998; Dryden, 1992; Fraedrich, 1997; Kvet, 1985; Pruitt, 1969; Sanders, 1997) that may cause friction between themselves and instrumental staff (Copland, 1960; Doerksen & Delzell, 2000; Friedman, 1959; Gillespie, 1992; Taylor, 1985; Wallick, 1998). Some teachers claim that pullout lessons result in a

disruption of class time that requires them to wait for students to return before resuming instruction (Hennessey, 1984), or re-teach material to students who missed class (Cronin & Raywid, 1990; Elovitz, 2002; Taylor, 1985). Others perceive pullout lessons to mean that administrators and instrumental faculty view music as more important than the curriculum they teach (Copland, 1960; Kvet, 1985). These tensions have been further exacerbated by the greater demand for academic accountability in subjects such as math and reading imposed by the United States federal government's *No Child Left Behind* Act of 2001, most state legislatures, and local boards of education. In fact, teacher evaluations in some districts are now partially based on how well students do on standardized achievement tests. As a result, some educators may be reluctant to allow pupils to miss class for music lessons for fear students will do poorly on these tests (Dryden, 1992; Gillespie, 1992; Sanders, 2001).

Instrumental instructors may also become frustrated at the challenges of implementing pullout programs (Berlin, 1995). According to one director, "It seems like there is something difficult every week. The schedule is really wild. You really have to understand the politics of the building and the teachers in order to survive" (Conway, 1999, p. 351).

Growing tensions between classroom teachers and instrumental instructors can result in a lack of support for the instrumental program. Consequently, unsupportive teachers may hold students over from instrumental lessons for examinations, instructions related to assignments, or class discussions - resulting in a loss of music instruction time. Unfortunately for students, these circumstances could cause a decrease in both musical and academic performance (Delzell & Doerksen, 1998b; Kvet, 1985).

Pullout programs may affect students in other ways as well. Meyers, Gelzheiser, Yelich, and Gallagher (1990), in assessing teachers' views of pullout programs for remedial instruction, determined that children pulled from the regular classroom frequently displayed reactions of frustration and anxiety concerning missed work, and the additional curricular demands placed on them by teachers of pullout programs (see also Sanders, 2001). Meyers, et al. and Cronin and Raywid (1990) also claimed that students' class work might suffer if they are taken from regular academic instruction, though no research was found to support this conclusion.

Parents, like classroom teachers, may be apprehensive when permitting their child to be removed from core subjects to attend instrumental instruction. A growing number are becoming so concerned about their children not doing well in "core subjects" such as math, science, and language that they are increasingly leery of them signing up for band and orchestra (Gillespie, 1992). In spite of the fact that music is also recognized as a core subject (Music Educators National Conference, 1994), some parents automatically insist their child discontinue instrumental study if the student's grades begin to fall, regardless of the cause for decreased academic performance (Dryden, 1992; Kvet, 1985; Pruitt, 1969).

Effects on Achievement

Many circumstances factor into attitudes toward pullout programs. The primary reason parents, teachers, and administrators often oppose them; however, is the belief that missing class time will adversely affect academic achievement (e.g., Cronin & Raywid, 1990; Gillespie, 1992). Several studies (Circle, 1989; Dryden, 1992; Groff, 1963; Holmes, 1997; Kvet, 1985; Robitaille & O' Neal, 1981; Corral, 1998; Wallick, 1998), however, contradicted this assertion, comparing achievement test scores of instrumental students (IS) and non-instrumental students (NIS) to determine if pullout lessons negatively impacted scholastic performance.

Groff (1963) investigated the effect of pullout lessons on the academic achievement of sixth grade IS excused from class once or twice a week for a 30-minute music

lesson. Two groups of sixth grade IS ($n=230$) and NIS ($n=230$) from 15 elementary schools were matched on the basis of gender, intelligence quotients, and teacher ratings of student characteristics. Scores on the Iowa Tests of Basic Skills given the following year indicated no significant difference ($p = <.05$) between the means of IS and NIS. Groff tentatively concluded that withdrawing students from classroom instruction for limited amounts of time for instrumental lessons was not detrimental to academic achievement (see also Pruitt, 1969).

Robitaille and O'Neal (1981) compared scores on the Comprehensive Tests of Basic Skills (CTBS) of fifth grade IS ($n=1205$) regularly pulled out of class for instruction with those of the entire student population ($N=5,154$). Data indicated IS scored higher as a group than did the total sample. In a follow-up study conducted the next school year (1980), a randomly selected sample of IS ($n=129$) was paired with NIS ($n=129$) from the same school who had matching scores on the Short Form Test of Academic Aptitude. Comparison of mean scores between the two groups indicated no significant difference, the instrumental group scoring one point higher than the non-instrumental group. A replication of the study in 1986 yielded similar results (Gillespie, 1992). Robitaille and O'Neal concluded that instrumental students excused from other subjects for music instruction did not suffer any loss in academic skills as measured by standardized tests.

Kvet (1985) investigated the effect of pullout lessons on academic performance in relation to school district size, location, socioeconomic status, and racial balance. Matched pairs of sixth grade IS ($n=175$) and NIS ($n=175$) from four metropolitan school districts were compared using scores of standardized achievement tests for reading, language, and mathematics. Pairs were matched within school districts to test the effects of demographic variables between localities.

Kvet found no significant difference ($p = <.05$) between achievement scores of IS and NIS. Furthermore, no significant difference was found between any of the four school districts. Kvet determined that excusing students from regular classroom activities for the study of instrumental music did not negatively impact achievement in reading, language, or math for students in a variety of educational settings. He therefore stated that parents, teachers, and school administrators should reevaluate their beliefs regarding pullout lessons and academic achievement.

Circle (1989) analyzed sixth grade test scores in reading and math to determine if excusing students for music lessons was detrimental to achievement in these areas. Results indicated that mean scores of IS ($n=554$) were higher than those of the population as a whole ($N=1608$). Circle noted that had the 554 instrumental music scores been extracted from the 1608 when calculating the mean for the general population, the difference would have been even greater. Circle therefore concluded that pullout lessons at the elementary level were not harmful to students' academic growth, even if students were removed from classes considered basic.

Dryden (1992) and Holmes (1997), like Robitaille and O'Neal (1981), compared scores on the CTBS of fifth grade IS involved in pullout instruction with those of NIS. Dryden found no significant difference ($p = <.05$) in results of the CTBS for IS ($n=164$) vs. NIS ($n=106$) with one exception. Band students ($n=120$) scored significantly higher than orchestra students ($n=44$) and NIS on reading vocabulary, and significantly higher than NIS on reading total comprehension. Dryden therefore concluded that "excusing elementary students from regular classroom activities to study instrumental music [did] not negatively affect achievement in math or reading" (p. 72). Holmes found similar results. Data collected over a three-year period from nine different buildings in three separate school districts indicated no significant difference in scores on the CTBS for IS ($n=189$) vs. NIS.

Corral (1998) compared mean scores on the California Test of Basic Skills (CaTBS) of fourth, fifth, and sixth grade IS ($n=46$) and NIS ($n=177$) from two elementary schools. IS were excused for music instruction on a rotating basis twice per week for

30 minutes. Scores from five areas of the CaTBS were analyzed including reading, language comprehension, mathematics comprehension, science, and social studies. No significant difference ($p < .05$) existed between scores of IS and NIS, regardless of school attended or years of instrumental study. Corral acknowledged, however, that small sample size might have created a possible threat to validity.

Wallick (1998) compared achievement scores of non-string students to those of string students excused twice a week for 30 minutes of music instruction. Fourth grade string students ($n=148$) and non-string students ($n=148$) were ability-matched according to their performance on the verbal section of the Cognitive Abilities Test, an assessment significantly correlated with overall success in school. Scores on the writing, reading, mathematics, and citizenship sections of the Ohio Proficiency Test (OPT) were then recorded and compared.

Wallick found a significant difference ($p < .05$) between the two groups in favor of string students on the reading and citizenship portions of the OPT. No significant difference existed on the writing and mathematics sections. Wallace found compelling evidence that string students pulled from regular academic instruction for music lessons did not suffer negative effects in their academic performance as measured by the OPT.

One researcher examined the combined effects of all pullout programs on scholastic performance. English (1984) found that among six elementary buildings, the one with the least amount of time lost to pullouts earned the highest scores on the sixth grade reading portion of the CTBS. A similar relationship did not exist, however, between test scores and total pullout time among the other schools. In fact, the two buildings earning the lowest scores on the CTBS actually lost less time to pullouts than three of the schools that scored higher. In addition to pullouts, English attributed variations in test scores to the amount of instruction time spent on reading, type of reading program utilized, congruence of reading program to the CTBS, and socio-economic level of students. Despite this assertion, no statistical correlation was demonstrated between scores on the CTBS and any of these factors.

Research from general education indicated pullout instruction can lead to higher levels of achievement within the content area studied for both remedial (Begoray, 2001) and gifted (Rogers, 1991; Vaughn, Feldhusen, & Asher, 1991) individuals. Additional studies (Goldberg, 1996; Holmes, 1997) determined small-group instruction could have positive effects on musical achievement as well. Goldberg (1996) compared band performances in two equivalent high school programs with and without the benefit of sectional rehearsals. Both ensembles were tape-recorded in a controlled setting at the beginning stage of repertoire preparation, and again after several weeks of instruction. Independent evaluators rated the pre and posttest performances to determine the achievement level of each group. Based on the amount of improvement in performance quality, Goldberg concluded that adding sectional rehearsals to the instrumental music schedule led to higher levels of musical achievement.

Holmes (1997) utilized Colwell's Music Achievement Test, Level 1 to compare musical progress of IS after one year of pullout lessons with that of NIS. Results indicated IS attained a higher level of musical achievement than NIS. While these results are not surprising, they do provide objective evidence that small-group lessons are an effective means of instruction.

Classroom Implications

Some educators, in spite of evidence that pullouts do not affect achievement, still might be reluctant to release pupils for instrumental instruction due to the inconvenience of them leaving the classroom. Wallick (1998) reminded teachers that when students are dismissed for instrumental music, they are not leaving instruction, but rather moving to a different classroom in another area of the building. Copland (1960)

recognized that music educators themselves may be able to alleviate concerns by asking classroom teachers for input before creating the schedule, ending instruction on time, and being flexible when lessons interfere with special activities (see also Meyers et al., 1990).

Copland (1960), Fraedrich (1997), and Meyers, et al. (1990) advocated scheduling pullouts so classrooms would be interrupted as seldom as possible. This might mean instrumental instructors wishing to take homogenous groupings should compromise, scheduling students by classroom rather than instrument. In Abington, Pennsylvania, for example, a team of instructors pulled all IS from the same grade level at one time in order to avoid multiple classroom interruptions. Under this model, all band and string students left the room together twice per week, once for a small group lesson, the other for full ensemble rehearsal (Baxter, 1999).

Fraedrich (1997) further recommended lessons be scheduled on a rotating basis throughout the school day to prevent students from missing the same class every week. Rotating the lesson *days*, however, was not recommended since problems might arise with students forgetting which day to bring their instruments. Also, because the combine effects of all pullout programs within the school may have a negative impact on scholastic performance (English, 1984), music educators should work with other teachers in specialized areas to schedule instruction in the least intrusive way possible. Furthermore, instrumental instructors should avoid placing excessive demands on students, being mindful of pupils other responsibilities in the regular classroom (e.g., Meyers et al., 1990).

Gillespie (1992) suggested a proactive approach for responding to concerns about pullout instruction. First, band and orchestra directors should present research findings to parents, teachers, administrators, and school board members before initiating the program. Second, they should work with parents when an instrumentalist is doing poorly in classroom subjects by changing the lesson time or recommending an outside tutor to help with the class(es) the student is having difficulty in. Finally, music educators should become an active part of the school community as principals and fellow teachers are often more willing to negotiate student time if they believe the instrumental instructor is truly interested in students' welfare. If a classroom teacher is still reluctant to release students for lessons, the instrumental instructor should meet with the teacher to discuss the conflict and seek a resolution. Research on pullout lessons can be presented and, if possible, alternative scheduling suggested. If a solution cannot be found, the music educator may need to ask the building principal to intervene.

Some research on instrumental pullout lessons (Circle, 1989; Dryden, 1992; Robitaille & O' Neal, 1981; Wallick, 1998) suggested this type of instruction might enhance achievement in other subjects. Circle, Gillespie (1992), and Wallick, however, were quick to point out this conclusion is not supported by the data since many other variables may be responsible for superior academic performance. Holmes (1997), for example, found that students with higher achievement test scores in fourth grade were the students who elected to participate in instrumental music in fifth grade, suggesting self selection could have been responsible for increased scholastic performance (see also Robitaille & O' Neal, 1981). Band and orchestra teachers, therefore, should not use this literature as evidence music instruction causes higher levels of achievement. They can, nevertheless, point to these studies when answering concerns regarding the perceived negative effects of pullout programs (e.g., Doerksen & Delzell, 2000).

It is very important for instrumental teachers to be involved when scheduling problems arise (Gillespie, 1992). Otherwise, those outside the profession may recommend solutions not conducive to effective music instruction. Beck (1998), Rickabaugh and Kremer (1986), and Taylor (1985) suggested scheduling instrumental music outside the school day to avoid conflicts with regular classroom activities. Sanders (2001), however, found that bands and orchestras scheduled exclusively outside the school day experienced a higher drop out rate between the first and second year of instruction

compared to programs incorporating pullouts. According to Sanders, this phenomenon may be due to conflicts between instrumental rehearsals and after-school activities, or students' unwillingness to attend music lessons early in the morning.

Several authors (Beck, 1998; Casserly, 1987; Cronin & Raywid, 1990; Elovitz, 2002; English, 1984; Taylor, 1985) proposed clustering pullouts so all students involved in these programs would leave the classroom at once. Under this model, some students may not be able to participate in instrumental music if pullout schedules conflicted. Furthermore, the limited instruction time such a plan would provide may make small-group lessons difficult if a large number of students were involved in the instrumental program.

Hennessey (1984) recommended students only be allowed to select one pullout to participate in and that a certain academic standard should be attained before a student is permitted to take band, chorus, or other electives. These policies would obviously result in many children not having access to instrumental music and may also cause specialist teachers to compete for students. Hennessey furthermore encouraged teachers to "return to the notion that academic performance comes first" (p. 18), reiterating the belief among some members of the educational community that music is a frill, undeserving of the same status afforded other subjects (see also Dryden, 1992; Pruitt, 1969). Implications of these statements reemphasize the need for music educators to be involved when scheduling procedures are established and problems regarding pullouts arise.

Need for Further Research

Literature on pullouts, though helpful, is generally narrow; focusing mainly on the effects these programs have on academic achievement as measured by standardized tests. Further research is needed to answer other questions regarding this type of instruction. Additional studies should continue at the local level to determine if differences in achievement between IS and NIS exist in all geographic regions and educational settings. In addition, the effects of pullouts among different age groups should be investigated to find out if results remain consistent across grade levels (Circle, 1989; Dryden, 1992; Gillespie, 1992; Kvet, 1985). Furthermore, individuals with various educational needs involved in pullout instruction should be examined to determine if high achieving students are affected differently than those requiring a greater amount of academic support.

Longitudinal research should also be conducted to 1) determine if effects of pullouts change as academic standards and expectations rise (Wallick, 1998), and 2) identify trends regarding grade starts and lesson scheduling (Delzell & Doerksen, 1998). It may be that due to changes in school philosophy, staffing, and financial status, these trends will change in the future. In addition, pullout programs may eventually be found to have a negative impact on academic achievement as student attitudes, school organization, educational standards, and classroom teaching practices evolve.

All literature thus far has relied on test scores to show no difference in achievement between IS and NIS. While this approach provides objective data, it may not answer the question foremost in the minds of most parents, teachers, and administrators. That is, do pullout lessons negatively impact grades? Although results of a study examining grades may be difficult to generalize across school districts due to inconsistency of curricula, grading procedures, and standards, this data would address another primary concern of those involved in pullout instruction.

No statistically significant difference was found between achievement test scores of matched pairs of IS and NIS (Groff, 1963; Kvet, 1985; Robitaille & O'Neal, 1981; Wallick, 1998). It is possible, however, that IS would do even better on measures of academic achievement if they were not excused from class for music instruction. Although no research supports this conclusion, additional studies could establish

whether or not test scores and grades of IS rise if students discontinue participation in instrumental music.

The combined effects of all pullouts on student achievement and classroom environment also warrant further investigation. Even though instrumental lessons alone have been shown to have no effect on scholastic performance (Gillespie, 1998), the growing number of pullout programs in a variety of areas may be detrimental to achievement under some conditions (e.g., English, 1984). Research into the cumulative effect of all pullouts within school buildings (e.g., English 1984; Rickabaugh & Kremer, 1986) may lead to new methods of scheduling that would answer concerns regarding missed class time and maintain the flexibility needed to implement effective individualized instruction (e.g., Baxter, 1999).

Investigating specific attitudes teachers (e.g., Meyer et al., 1990), parents, administrators, and students hold toward pullouts in instrumental music would also provide useful information to school officials looking to reorganized pullout instruction. It might be that some members of the educational community could offer viable alternatives if asked to do so. Data gained from such a study may also reveal attitudes music educators should proactively address in order to prevent problems before they occur.

In summery, no significant difference was found between the academic achievement of students who left class for instrumental study, and those who did not, regardless of school size and student background (e.g., Kvet, 1985). Although instrumental music educators must consider the impact pullouts have on students and classroom teachers (e.g. Copland, 1960; Fraedrich, 1997; Meyer, et al., 1990; Taylor, 1985), these findings should help alleviate concerns that achievement is negatively impacted when students are excused from class for instrumental instruction.

References

- Baxter, H. J. (1999). Team teaching at seven schools. *Instrumentalist*, 53(9), 95.
- Beck, T. (1998). The music of deliberation. *Educational Leadership*, 55(7), 37-40.
- Begoray, D. L. (2001). The literacy groups project: Investigating the use of reading recovery techniques with small-groups of grade 2 students. *Alberta Journal of Educational Research*, 47(2), 141-155.
- Berlin, B. (1995). Strike up the elementary school band. *Principal*, 75(2), 35-37.
- Cassery, M. A. (1987). Guiding the middle school schedule: Avoiding the pitfalls of pullouts during the school day. *NASSP Bulletin*, 71(501), 51-52.
- Circle, D. (1989). *Hard data*. Unpublished manuscript, Shawnee Mission School District 512.
- Conway, C. M. (1999). The development of teaching cases for instrumental music methods courses. *Journal of Research in Music Education*, 47(4), 343-356.
- Copland, C. (1960). Instrumental programs in the elementary school. *Instrumentalist*, 14(7), 32,36.
- Corral, S. J. (1998). *A comparison study of the California Test of Basic Skills between fourth and fifth grade instrumental music pullout students and students not involved in the instrumental music program*. (Report No. TM02976). MD. (ERIC Document Reproduction Service No. ED430013)
- Creech, M. (1987). A survey of instrumental music scheduling status in public schools of southeast Missouri. *Missouri Journal of Music Education Research*, 5(4), 21-49.
- Cronin, B. W., & Raywid, M. A. (1990). Fractured days. *American School Board Journal*, 177(3), 26, 39.
- Delzell, J. K., & Doerksen, P. F. (1998a, April). *Beginning band and orchestra programs in the United States: Actual versus recommended opportunities to learn by regions, grade levels, and population densities*. Paper presented at the 56th National Biennial In-Service Conference of Music Educators National Conference, Phoenix, AZ.

- Delzell, J. K., & Doerksen, P. F. (1998b). Reconsidering the grade level for beginning instrumental music. *Update: Applications of Research in Music Education*, 16(2), 17-22.
- Doerksen, P. F., & Delzell, J. K. (2000). Grade starts and scheduling practices: Recommended vs. actual opportunities in beginning string programs. *American String Teacher*, 50(2), 58-63.
- Dryden, S. (1992). *The impact of instrumental music on the academic achievement of fifth grade students*. Unpublished master's thesis, Fort Hayes State University, Kansas.
- Elovitz, L. H. (2002). Let's cut out all those classroom interruptions. *Principal*, 81(5), 57-58.
- English, F. (1984). Pullouts: How much do they erode whole-class teaching?. *Principal*, 63(5), 32-36.
- Fraedrich, E. (1997). *Art of elementary band directing*. Galesville, MD: Meredith Music.
- Friedman, B. (1959). An evaluation of the achievement in reading and arithmetic of pupils in elementary school instrumental music classes. (Doctoral dissertation, New York University, 1959). *Dissertation Abstracts International*, 20(9), 3662. (UMI No. AAI5906219)
- Gillespie, R. (1992). The elementary pull-out crisis: Using research effectively. *American String Teacher Journal*, 42(2), 79-81.
- Goldberg, K. (1996, February). *Effects of sectional rehearsals on the achievement of high school bands*. Poster session presented at the annual convention of the Illinois Music Educators Association.
- Groff, F. H. (1963). Effect on academic achievement of excusing elementary school pupils from classes to study instrumental music. (Doctoral dissertation, University of Connecticut, 1963). *Dissertation Abstracts International*, 25(9), 5014. (UMI No. AAI6403536)
- Hennessey, G. S. (1984). Pull-outs disrupt class teaching. *Instructor*, 94(2), 18.
- Holmes, D. M. (1997). An examination of fifth-grade instrumental music programs and their relationships with music and academic achievement (Doctoral dissertation, University of Washington, 1997). *Dissertation Abstracts International*, 58, 2126. (UMI No. AAT 9736294)
- Kvet, E. J. (1985). Excusing elementary school students from regular classroom activities for the study of instrumental music: The effect on sixth-grade reading, language, and mathematics achievement. *Journal of Research in Music Education*, 32, 45-54.
- Meyers, J., Gelzheiser, L., Yelich, G., & Gallagher, M. (1990). Classroom, remedial, and resource teachers' views of pullout programs. *Elementary School Journal*, 90(5), 533-545.
- Music Educators National Conference. (1994). *National standards for arts education*. Reston, VA: Author.
- Pruitt, J. (1969). [Review of the dissertation *Effect on academic achievement of excusing elementary school pupils from classes to study instrumental music*]. *Bulletin of the Council for Research in Music Education*, 15, 57-59.
- Rickabaugh J. R., & Kremer, M. L. (1986). Pullouts: How do they affect instructional time in an i.g.e. setting? *ERS Spectrum*, 4(2), 32-37.
- Robitaille, J. P., & O'Neal, S. (1981, November). Why instrumental music in elementary schools?. *Phi Delta Kappan*, 63, 21.
- Rogers, K. B. (1991). *The relationship of grouping practices to the education of the gifted and talented learner: research-based decision making series* (Report No. R206R00001). Storrs, CT: National Research Center on the Gifted and Talented. (ERIC Document Reproduction Service No. ED3433292)

- Sanders, A. E. (2001). *Alternatives to elementary instrumental pull-out programs: A description of three programs*. Unpublished master's thesis, University of Massachusetts, Lowell.
- Taylor, B. (1985). Let's pull out of the pullout programs. *Principal*, 65(1), 52-54.
- Vaughn, V. L., Feldhusen, J. F., & Asher, W. J. (1991). Meta-analyses and review of research on pull-out programs in gifted education. *Gifted Child Quarterly*, 35(2), 92-98.
- Wallick, M. D. (1998). A comparison study of the Ohio Proficiency Test results between fourth-grade string pullout students and those of matched ability. *Journal of Research in Music Education*, 46, 239-247.