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Attrition of Beginning Teachers and the Factors of Collaboration and School Setting

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Abstract

The purpose of this study was to investigate beginning teacher attrition and the factors of collaboration and school setting (urban, suburban, and rural). Quantitative data were collected from present and former teachers in a Midwest state using the researcher-created Collaboration Survey. Building principals and central office staff supplied attrition data from the 1998-2002 school years. Semi-structured follow up interviews with five percent of the sample population and unsolicited written comments found on the Collaboration Survey provided qualitative data.

Aggregate computation of the four-year attrition rate revealed a substantial difference in the attrition rate by school setting. Urban schools had a much lower rate (4%) than did suburban (15%) and rural (17%) schools in the sample.

A MANOVA was utilized to examine differences in the degree of collaboration experienced by current beginning teachers and former teachers with less than five years experience. Of the six subscales measuring collaboration, current and former teachers' total responses did not differ significantly. However, a one-way MANOVA was calculated for the three items comprising two subscales, Commitment and Process. Significant differences were found in one item from each of the two subscales. First, an item concerning the effect of the collaborative group on the beginning teacher's desire to continue teaching, and second, an item concerning the collaborative group member's responsibility for a common group of students.

A Chi-Square test of independence determined that interdisciplinary teaming did not affect the attrition rate of beginning middle level teachers.

Introduction

The intent of this study was to examine beginning teacher attrition and the factors of collaboration and school setting. Research indicated that beginning teachers left the teaching profession at a much greater rate than veteran teachers (Croasmun, Hampton, & Herrmann, 1997). The literature provided some insight into differences in attrition regarding school setting with teachers more likely to leave rural than urban districts (Frantz, 1994).

School districts respond to the high attrition rate of beginning teachers in many ways, one of which is providing induction programs (Blair-Larsen & Bercik, 1992). Mentors are assigned to beginning teachers to provide personal and professional support (Batchelor, 1993). These induction programs, and the assignment of mentors, have many benefits for beginning teachers, including an increased commitment to continue teaching (Burch, 1993; Lance, 1991; Weiss & Weiss, 1999).

In some middle schools, teams of teachers work collaboratively to provide instruction for a common group of students (Alexander, Williams, Compton, Hines, Prescott, & Kealy, 1969). These teachers often share a common planning time, adjacent classrooms, and an additional personal planning period (Erb & Stevenson, 1999; McEwin, Dickinson, & Jenkins, 1996). Middle school teams provide a haven for beginning teachers with daily access to one or more mentors (Wheeler-Clouse, 1999).

Data for this investigation were gathered through the researcher-created Collaboration Survey, which measured the level of collaboration experienced by beginning teachers and former teachers. These former teachers were teachers who had, in the preceding four years, left the teaching profession with less than five years teaching experience. Survey questions were related to six subscales of collaboration found in the literature, namely balance/equity, commitment, process, support, time, and trust (Clark & Clark, 1994; Dee & Henkin, 2001; Drexler, Sibbet, & Forrester, 1998; Friend & Cook, 1996; Golden, 1991; Hewit & Whittier, 1997; Pounder, 1998; Snell & Janney, 2000; Warren & Payne, 1997; Weisbord, 1987; Wheeler-Clouse, 1999).

Attrition data were gathered from school districts by tracking hiring and attrition data from each school for the 1998-2002 school years. Attrition rates for each of these school settings were computed to compare beginning teacher attrition in urban, suburban, and rural schools.

A multivariate analysis of variance (MANOVA) detected differences in the degree of collaboration experienced by beginning teachers who left the teaching profession and those beginning teachers who remained. Follow-up ANOVAs were performed whenever a significant difference was found between the collaboration subscales (Cronk, 2002).

Cross-tabulation of type of middle school collaboration (i.e., interdisciplinary or not interdisciplinary) by teacher status (i.e., current or former), utilizing the Chi-Square test of independence, detected differences in the attrition rate of these groups. A critical value of .05 determined the statistical significance for all quantitative analysis.

Follow-up interviews of five percent of those completing the survey triangulated results from the preceding statistical analyses. All participants interviewed were current teachers. The interviews were recorded on audiotape and transcribed. Coding of transcripts related teacher statements to the six subscales of collaboration used in creating the Collaboration Survey. Included in the qualitative data were unsolicited written notes and comments found on returned Collaboration Surveys.

The foregoing data were used to address the following research questions:

1. How do the attrition rates of beginning teachers in urban, suburban, and rural school districts compare?

2. Is there a difference in the degree of collaboration experienced by beginning teachers who left the teaching profession and beginning teachers who remained?

3. Is there a difference in the attrition rate of beginning middle school teachers who are part of an interdisciplinary team and middle school teachers who are not?

Data Analysis

Population

The population consisted of 426 teachers from 31 school districts in a 23-county region of a Midwest state. Of these 426 teachers, 350 were current teachers and 76 were former teachers. Surveys were sent to the complete sample of 426 beginning and former teachers. The return of 308 surveys yielded a return rate of 72.3%.

The return rate for current teachers was greater than for former teachers, with 271 of the 350 current teachers responding for a return rate of 77.4%. Of the 76 surveys sent to former teachers, 37 were returned for a return rate of 48.7%. The period in which the surveys were sent was concurrent with numerous school closings due to snow and flu. Of the 308 surveys returned, only 270 were usable for data analysis.

Attrition Data Charts were sent to 97 building principals requesting data from the 1998-2002 school years. Seventy-four of the 97 schools in the sample returned attrition data for a 76.3% return rate. Some charts were incomplete, providing data for less than the four school years from 1998-2002. However, these charts were included in the data analysis as they provided usable information.

Research Questions

1. How do the attrition rates of beginning teachers in urban, suburban, and rural school districts compare?

A simple computation of the aggregate attrition rates for urban, suburban, and rural schools revealed substantial differences between the school settings. The lowest attrition rate was in urban schools with 4% of the beginning teachers in the past four years leaving the teaching profession. The greatest attrition rate was in rural schools, with 17% of the beginning teachers leaving.

2. Is there a difference in the degree of collaboration experienced by beginning teachers who left the teaching profession and beginning teachers who remained?

A one-way MANOVA was calculated examining the effect of attrition on the total for each collaboration subscale. No significant effect was found (*Lambda* (6, 252) = 1.59, $p > .05$). None of the subscale totals were significantly influenced by teacher status (i.e., current or former teacher). Follow-up univariate ANOVAs were calculated along with the MANOVA. Levels of the between-subjects effects are shown in Table 1. Of interest were the two subscales, Commitment and Process, with ($p = .048$) and ($p = .020$) respectively. Although the MANOVA did not indicate significance, the follow-up ANOVAs indicated effects may exist within the subscales related to teacher attrition.

TABLE 1

Tests of Between-Subjects Effects – Collaboration (Current and Former Teachers)

Dependent variable	*df*	*F*	*p*	Mean for current teachers	Mean for former teachers
Balance/Equity	1	1.663	.198	17.4	16.3
Commitment	1	3.960	.048	14.0	10.8
Process	1	5.514	.020	16.7	13.9
Support	1	1.856	.174	16.8	15.4
Time	1	2.122	.146	15.4	13.4
Trust	1	.520	.451	16.8	15.5

Note. Means from totals of dependent variable items on Collaboration Survey; maximum of 18.

One-way MANOVAs were calculated to examine the effect of attrition on the responses given by current and former teachers on the three items within both the Commitment and Process subscales. For the Commitment subscale items a significant effect was found (*Lambda* (3,263) = .913, $p < .05$). Follow-up univariate ANOVAs indicated that responses to the Commitment subscale item, "I plan to teach next year partly because of my group" were influenced by whether the teacher was a current or former teacher (F (1,265) = 15.725, $p < .05$). Follow-up univariate ANOVAs also indicated that responses to the Process subscale item, "My group takes responsibility for a common group of students" were influenced by whether the teacher was a current or former teacher (F (1,265) = 11.441, $p < .05$).

3. Is there a difference in the attrition rate of beginning middle school teachers who are part of an interdisciplinary team and middle school teachers who are not?

A Chi-Square test of independence was calculated comparing the attrition rate of beginning middle school teachers who were part of an interdisciplinary team to the attrition rate of middle school teachers who were not part of an interdisciplinary team. No significant relationship was found (chi-square (1) = 1.76, $p > .05$).

Statement of Research Hypotheses and Findings

1. There is no substantial difference in the attrition rates of beginning teachers in urban, suburban, and rural districts.

Based on the computation of attrition rates, differences in the attrition rate of beginning teachers in urban, suburban, and rural schools did exist in the sample. The greatest difference existed between urban schools and the suburban and rural schools. Urban schools in the study had an attrition rate of 4% over the four-year period for which attrition data were collected. Suburban and rural schools had attrition rates of 15% and 17%, respectively.

2. There is no statistically significant difference in the degree of collaboration experienced by beginning teachers who left the teaching profession and beginning teachers who remained.

Based upon the analysis and the research data, this hypothesis is retained at the .05 level of significance. A significant difference was not reported in the one-way MANOVA. The follow-up univariate ANOVAs revealed possible effects in the subscale items. One-way MANOVAs were calculated for both the Commitment and Process subscale items. A significant difference was found in the responses of current and former teachers on the subscale items. Follow-up univariate ANOVAs revealed the differences to be in the teacher's responses to the item, "I plan to teach next year partly because of my group" in the Commitment subscale, and the item, "My group takes responsibility for a common group of students" in the Process subscale.

3. There is no statistically significant difference in the attrition rates of beginning middle school teachers who are part of an interdisciplinary team and middle school teachers who are not.

Based upon the calculation of the Chi-Square test of independence, this hypothesis is retained at the .05 level of significance. No significant relationship existed between teacher attrition and the type of middle school collaboration (interdisciplinary teaming or other).

Discussion of the Findings

There was no difference in the degree of collaboration experienced by current beginning teachers and former beginning teachers, as measured by the subscale totals in the Collaborative Survey. Differences were found in one item from the Commitment subscale as well as one item from the Process subscale. These items related to the following elements of collaboration; the influence of the collaborative group on the beginning teacher's desire to continue teaching, and the level of responsibility the collaborative group had for a common group of students. The latter finding affirms the literature that reported the importance of this element in the successful

functioning of a group (Dee & Henkin, 2001; Drexler, Sibbet, & Forrester, 1988; Garner, 1993; Hewit & Whittier, 1997; Pounder, 1999). Teachers who had a common group of students for which they took responsibility, and who were positively influenced by their collaborative group to remain in the profession, were more likely to continue teaching. Simply stated, beginning teachers were more likely to stay in the teaching profession when these collaborative elements were present to a greater degree in the teachers' collaborative group.

A substantial difference in the attrition rates of urban, suburban, and rural schools in the sample was also found. This finding, though not established statistically, affirms and extends Frantz's (1994) research. Frantz reported rural districts losing teachers at a much higher rate than urban schools. In this present study, teachers were leaving suburban schools at a rate slightly less than teachers in rural schools, but at a much greater rate than teachers in urban schools.

The data on middle school teacher attrition were analyzed for possible differences in attrition between beginning middle school teachers on interdisciplinary teams and beginning middle school teachers who were not. This present study's sample did not result in a significant difference, although the reported attrition rates for the two groups were what could have been expected, based on the literature. The work of Clark and Clark (1994), Dee and Henkin (2001), Johnson and Kardos (2002), Merenbloom (1986), and Pounder (1999), delineate benefits of teams and collaborative groups that could lead to initial success in and increased commitment to teaching.

Implications for Practice

These results have implications for school districts and beginning teachers, to the extent that generalizations can be made. Beginning teachers would do well to work with other teachers in a collaborative environment, seeking fellow professionals with whom to collaborate if no such assignment was made. This collaborative work becomes stronger when teachers take responsibility for a common group of students, as typically happens with interdisciplinary teaming at the middle school level. Building level administrators should consider providing such a collaborative environment for beginning teachers, to the extent possible.

The effect of the collaborative group upon the beginning teacher's desire to continue teaching coincides with the literature. Heimsoth (1993) reported that beginning teachers ranked assistance from colleagues first from among 40 induction activities. Burch (1993) identified such support from mentors and experienced teachers as having the strongest effect on the beginning teacher's decision to remain in teaching. Additionally, beginning teachers in collaborative school district environments expressed a stronger commitment to remain in the classroom than beginning teachers in non-collaborative environments (Golden, 1991).

Recommendations for Future Research

The difference in attrition between urban and other schools invites further investigation. What factors are present in an urban school district that result in retention of beginning teachers? How are urban schools quantitatively and qualitatively different from suburban and rural schools, and how do those differences influence beginning teacher attrition?

Although not found to be significant in this study, further investigation into the effect of interdisciplinary teaming on the attrition of beginning middle school teachers is justified. In such an investigation, predetermination of what constitutes interdisciplinary teaming should be made by researcher and applied to beginning teacher data. This predetermination of interdisciplinary teaming would minimize the likelihood of marginal interdisciplinary teams receiving the same statistical weight during analysis as exemplary interdisciplinary teams.

Summary

Analyses of the data collected from the Collaboration Survey, Attrition Data Chart, and the follow-up interview of 5% of the respondents, provided findings for the research questions. From the data, it was concluded that there was not a significant difference in the degree of collaboration experienced by beginning teachers who remained in the profession and beginning teachers who had left the teaching profession, according to the totals of each individual subscale. Significant differences were found in the responses of current and former teachers to one of the three items that comprised the Commitment subscale and the Process subscale. The Commitment item required a response concerning the influence the collaborative group had on the teacher's desire to stay in the teaching profession. The Process item required a response as to the responsibility the collaborative group had for a common group of students.

Differences in attrition rates were found between urban, suburban, and rural schools in the sample. However, no significant difference in attrition rates was found for beginning middle school teachers on interdisciplinary teams and beginning middle school teachers who were not on interdisciplinary teams. Qualitative data supported many of the findings and provided a glimpse of the collaborative life of a beginning teacher.

References

Alexander, W. M., Williams, E. L., Compton , M., Hines, V., Prescott, D., & Kealy, R. (1969). *The emergent middle school.* New York: Holt, Rinehart & Winston.

Batchelor, J. L. (1993). *A status study of teacher induction programs as reported by school superintendents in selected Pennsylvania school districts.* Unpublished doctoral dissertation, Temple University.

Blair-Larsen, S. M., & Bercik, J. T. (1992). A collaborative model for teacher induction. *Education*, 113(1), 25.

Burch, C. R. (1993). *The early years of teaching: A study of the conditions affecting beginning teacher retention.* Unpublished doctoral dissertation, University of La Verne.

Clark, S. N. & Clark, D. C. (1994). *Restructuring the middle level school: Implications for school leaders.* Albany, New York: State University of New York Press.

Croasmun, J., Hampton, D., & Herrmann, S. (1997). *Teacher attrition: Is time running out?* Retrieved August 24, 2001, from the University of North Carolina Web site: http://horizon.unc.edu/projects/issues/papers/Hampton.asp.

Cronk, B. (2002). *How to use SPSS: A step-by-step guide to analysis and interpretation* (2nd ed.). Los Angeles: Pyrczak.

Dee, J. R., & Henkin, A. B. (2001). *Smart school teams: Strengthening skills for collaboration.* New York: University Press of America.

Drexler, A. B., Sibbet, D., & Forrester, R. H. (1988). The team performance model. In W. B. Reddy & K. Jamison (Eds.), *Team building: Blueprints for productivity and satisfaction* (pp. 45-61). Alexandria, VA & San Diego: National Institute for Applied Behavioral Science & Pfeiffer.

Erb, T. O., & Stevenson, C. (1999). What difference does teaming make? *From faith to facts: "Turning Points" in action.* Middle School Journal, 30(3), 47-50.

Frantz, C. D. (1994). New teacher attrition: The case of Louisiana (doctoral dissertation, Louisiana State University and A & M, 1994). *Dissertation Abstracts International,* 55, 2658A.

Friend, M., & Cook, L. (1996). *Interactions: Collaboration skills for school professionals* (2nd ed.). White Plains, NY: Longman.

Garner, H. G. (Ed.). (1993). *Teamwork models and experience*. Boston: Allyn & Bacon.

Golden, M. H. (1991). *Organizational norms governing support for new teachers in California.* Unpublished doctoral dissertation, University of California, Berkely.

Heimsoth, J. F. (1993). *Missouri first and second-year teachers' perceptions of induction year activities.* Unpublished doctoral dissertation, University of Missouri-Columbia.

Hewit, J. S., & Whittier, K. S. (1997). *Teaching methods for today's schools: Collaboration and inclusion.* Boston: Allyn & Bacon.

Johnson, S. M., & Kardos, S. M. (2002). Keeping new teachers in mind. *Educational Leadership*, 59(6), 12-16.

Lance, A., Jr. (1991). Support and induction programs and beginning teacher attrition in South Carolina. Doctoral dissertation, South Carolina State University, 1991. *Dissertation Abstracts International,* 53, 3065A.

McEwin, C. K., Dickinson, T. S., & Jenkins, D. M. (1996). *America's middle schools: Practices and progress a 25 year perspective.* Columbus, Ohio: National Middle School Association.

Merenbloom, E. Y. (1986). *The team process in the middle school: A handbook for teachers* (2nd ed.). Columbus, OH: National Middle School Association.

Pounder, D. G. (Ed.). (1998). *Restructuring schools for collaboration: Promises and pitfalls*. Albany, NY: State University of New York Press.

Pounder, D. G. (1999). Teacher teams: Exploring job characteristics and work-related outcomes of work group enhancement. *Educational Administration Quarterly*, 35, 317-348.

Snell, M. E., & Janney, R. (2000). *Teachers' guides to inclusive practices: Collaborative teaming.* Baltimore: Paul H. Brookes Publishing Co.

Warren, L. L., & Payne, B. D. (1997). Impact of middle grades' organization on teacher efficacy and environmental perceptions. *Journal of Educational Research*, 90, 301-308.

Weisbord, M. R. (1987). Team work: Building productive relationships. In W. B. Reddy & K. Jamison (Eds.), *Team building: Blueprints for productivity and satisfaction* (pp. 35-44). Alexandria, VA & San Diego: National Institute for Applied Behavioral Science & Pfeiffer.

Weiss, E. M., & Weiss, S. G. (1999). *Beginning teacher induction.* (ERIC Document Reproduction Service No. ED436487)

Wheeler-Clouse, S. (1999). *Influence of middle school teaming on teachers' efficacy and job satisfaction.* Unpublished doctoral dissertation, University of Colorado at Denver Graduate School of Public Affairs.