

Association of School Circumstance and Student Achievement in Gamo Gofa Zone Primary Schools in Ethiopia

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Abstract: *Students' achievement in the schools within the study area was impoverished. The purpose of this study was, thus, examining the association of school circumstance with students' achievement. Thus, quantitative method and sample survey technique were employed. The subjects were selected by simple random sampling technique. The data were analyzed using independent samples t-test and regression models. The findings indicated that school circumstance had high association with student achievement. Thus, it was recommended that partners need to involve in ensuring favorable school circumstance in the study area. The education office needs to take the responsibility of coordinating other stakeholders. In addition, thorough studies are required for more investigation of solutions to the problem under consideration.*

Keywords: Association; School Circumstance; Student Achievement; Primary School

I. INTRODUCTION

Education is considered as a master key for development and hence for optimum human life (Phipps, 2003). Studies indicated that education reduces mortality and increases life expectancy by contributing to the improvement of nutrition and health (Hallack, 1990); without education there can be no economic development (Clayson, 1993); many studies on human capital development concur that it is the human resources of a nation and not its capital or natural resources that ultimately determine the pace of its economic and social development (Nsubuga, 2008). Unless the graduates of each level of education could develop the desired level of behavior, the confidence that society and government had on education to enhance development and to gain from it would be in vain (MoE, 1994b). Unfortunately, the education system in the study area was suffering from low students' achievement. The proportion of primary school students achieved the passing score (typically average raw score of 36% and above) in grade 8 regional examinations of the Southern Nations' Nationalities' and Peoples' Regional State was 55.4%, 61.5%, and 54% in 2007/08, 2008/09 and 2009/10 respectively (SNNPREB, 2010).

However, no study was attempted on the problem at hand in the study area. Scholars contended that school circumstance – level of favourable social and physical conditions - had some association with student achievement; for the purpose of this study, school circumstance involved school conditions, classroom conditions, student-family background, and teacher professional behavior (Leithwood, Louis, Anderson, & Wahlstrom, 2004a). Thus, this study was designed for the purpose of investigating the association between school circumstance and students' achievement in Gamo Gofa Zone. Hence, the study is significant in that it contributes to the enhancement of students' academic achievement; it also serves as a springboard for further in-depth study related to the students' achievement. As a result, the students, their parents, the school community, the researchers, the government, and the community at large may benefit from this study.

II. STATEMENT OF THE PROBLEM

The students' academic achievement in the schools within the study area was below the standard. The proportion of students who achieved the passing score in grade 8 regional examinations of the Southern Nations' Nationalities' and Peoples' Region of Ethiopia (SNNPR) was 54%, and it was 36.7% in Banda Primary School in Oyda District of Gamo Gofa Zone (GGZED, 2010a; SNNPREB, 2010). In this regard, Banda Primary School was the lowest and Zada was the highest performer in Gamo Gofa Zone. However, the problem was never addressed by relevant research work. Hence, this research was conducted in order to investigate the level of significance of the association of school circumstance with student achievement in the study area.

III. OBJECTIVE OF THE STUDY

As it was designed to examine the level of significance of association of school circumstance with student achievement, the objective of this study was to discover how favourable the school circumstance was, and to distinguish the level of its association with student achievement.

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IV. REVIEW OF RELATED LITERATURE

School and classroom conditions, student-family background and teacher professional behavior are considered as components of school circumstance in this study. School-wide-sense of community, teachers' time allocation, teachers' working conditions, school size, and co-curricular activities are among school conditions; School-wide-sense of community - widely shared sense of community among the stakeholders - served as the emotive bonds, for example, between students and teachers which were crucial in motivating students and in succeeding academic achievement (Leithwood et al., 2004). In relation to teachers' time allocation, (Hargreaves, 1990) states that those teachers who were assigned more responsibilities as curriculum developers, mentors, etc used to experience reduced continuity of instruction with their students. As to (Leithwood, Louis, Anderson, & Wahlstrom, 2004b), teachers' working condition including feedback about teacher efforts, lesser student misbehavior, higher perceived school administrators' support, teacher incentive structures, high levels of classroom autonomy, and opportunities for professional development contributed in enhancing teachers' working condition and student achievement. Lee, Ready, & Johnson, (2001) indicated that schools of smaller size had increased chances for students to be monitored and to have close ongoing association with adults which enhanced their achievement. Leithwood et al. (2004) stated that extracurricular activities contributed to better academic grades, higher educational aspirations, greater feelings of control over one's life and reduced incidences of delinquency. This implies that school-wide-sense of community, teachers' time allocation, teachers' working conditions, school size, and co-curricular activities, as components of school condition, might have certain association with the students' achievement in the study area too.

Studies indicate that student learning was related most directly with classroom conditions such as class size, teaching loads, teachers preparation, classroom-student grouping practices, and curriculum and instruction (Leithwood et al., 2004). Smaller class size is characterized by more time spent by teachers on individual instruction, and less time on classroom management. The reduction of class size significantly increases student achievement, and its effect in the primary grades appear to be maintained three to four years later - Finn cited in Leithwood (Leithwood et al., 2004b). Effective instruction depends on a deep understanding of the cognitive resources brought to class by individual students, along with opportunities to assess and monitor their learning progress. But in practice this was affected by teaching overload which included the number of periods taught and different preparations required. For better success, the number of students taught by senior teachers in a semester need be reduced from a typical 125 to 200 to fewer than 90 (Leithwood et al., 2004). Assigning teachers to areas of the curriculum in which they have formal certification is essential.

In this regard, (Leithwood et al., 2004) stated that the proportion of a teacher's classes that he/she feels competent to teach determines the students' achievement. According to Yonezawa, Wells, & Serna(2002), students those who were disadvantaged by their socioeconomic backgrounds learned more when they were working in heterogeneous rather than in homogeneous ability groups. Brophy cited in (Leithwood et al., 2004) stated that a "rich" curriculum which is beneficial for most students involved such features as the instructional strategies, learning activities and assessment practices clearly aligned; they are also aimed at accomplishing the full array of knowledge, skills, attitudes and dispositions valued by the society; and the content of such a curriculum is required to be organized in relation to a set of ideas which are internally coherent and well-connected to other meaningful learning. Thus, it could be deduced that class size, teaching loads, teachers' preparation, classroom-student grouping practices, and curriculum and instruction might have significant association with the students' academic achievement in the schools encompassed in the study area.

Studies also indicated that learning had significant relation with student-family background; According to Dargie (2002), students' academic behavior had direct and their social behavior had indirect association with their academic achievement. In connection with the students' academic behavior, Asgedom (2000) emphasized the students' role stressing that learning was dependent on the learner's investment of mental effort, and it was not the activities of their instructors that resulted in learning. Family socio-economic status was related to the students' behavior and their learning. Families' of impoverished socio-economic status suffered from malnutrition, health problems, and living in high density housing which gave rise to such family risk factors as erratic parenting skills, poor parental supervision, family violence, and isolation. With respect to parenting, Zeleke (2000) stated that child rearing practices played a significant role in shaping the behavior of children, and families of low socio-economic status were likely to have low expectations for their children's student achievement. Walberg (1984) contended that family educational culture included academic guidance, occupational aspirations, expectations for their children, the provision of adequate health, nutritional conditions and physical settings in the home favourable to academic work. As most of the studies discussed in this section were within the circumstance of the country, the students' academic and social behaviors, and the parents' socio-economic status might also have certain association with the students' achievement.

According to Louis & Kruse (1995), what teachers did together outside of the classroom - teachers' professional community - was as important as what they did inside in affecting student learning.

Kruse, Louis and Bryk cited in Leithwood et al. (2004) indicated that one of the variables that were characterizing genuine professional communities included a focus on student learning. As to this evidence, teachers' professional community might have significant contribution to issues of teaching and learning in the study area as well.

V. METHODOLOGY

Because of the large size of the target population, sample survey design and quantitative research method were employed for this study (Nietschmann, 2001). Data were gathered from both primary and secondary sources in order to establish proper ground to the study. A total of 316 participants composed of 66 teachers and 250 students were included. The study involved 2 upper primary schools which were selected by maximum variation sampling technique on the basis of the students' achievement: Banda Primary School the zonal lowest performer from Oyda District, and Zada Primary School the zonal highest performer from Dita district. As to the selection of participants, teachers were considered

entirely as their size was limited, and simple random sampling technique was employed for selecting among students. Primary data were secured using survey questionnaire. Pilot test was conducted in order to check the appropriateness of the items and Cronbach's alpha reliability measure (value of .89) confirmed that the items were reliable. For the data analysis, the participants' perceptions and the scores of the students' achievement were computed using SPSS version 15. Independent samples t-test and linear regression analysis were employed to investigate the participants' perception on the learning circumstance, and the association of student's learning environment with the students' achievement. Alpha value of .05 was used for testing significance level.

VI. ANALYSIS

A total of 316 copies of questionnaire were distributed to the participants among which 301 were collected. The analysis of the data presented in tables 1, 2 and 3 led to the following findings.

Table . 1 The result of independent samples t-test analysis on respondents' perceptions

| School | Variables | Respondents | | | | WM | T | sig | df |
|--------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|------------|
| | | Teachers | | Students | | | | | |
| | | X | SD | X | SD | | | | |
| Banda | School conditions | 3.87 | .715 | 3.902 | .495 | 3.89 | .280 | .780 | 139 |
| | Classroom conditions | 3.88 | .735 | 4.02 | .550 | 3.99 | 1.140 | .256 | 139 |
| | Student-family background | 4.121 | .721 | 4.206 | .478 | 4.18 | .781 | .436 | 139 |
| | Teacher behavior | 3.959 | .496 | 3.134 | .613 | 3.31 | 6.875 | .000 | 139 |
| | Average learning circumstance | 3.95 | .448 | 3.81 | .322 | 3.84 | 1.985 | .049 | 139 |
| Zada | School conditions | 3.64 | .425 | 3.80 | .613 | 3.77 | 1.468 | .144 | 156 |
| | Classroom conditions | 3.68 | .653 | 3.43 | .738 | 3.48 | 1.796 | .074 | 156 |
| | Student-family background | 3.03 | .618 | 3.09 | .616 | 3.08 | .557 | .579 | 156 |
| | Teacher behavior | 3.92 | .407 | 3.98 | .601 | 3.97 | .484 | .629 | 156 |
| | Average learning circumstance | 3.57 | .396 | 3.58 | .390 | 3.58 | .151 | .880 | 156 |

Note: The data source is the survey made by the author; t-critical (table) value = 1.96. LC is low if $x < 2.60$, moderate if $x = 2.61 - 3.40$, high if $x > 3.41$ (He, 2012).

Key: X – mean, SD - standard deviation, WM – weighted mean, df – degree of freedom.

As portrayed in table 1 above, the overall weighted mean of the respondents' perceptions showed that school circumstance was favourable in both of the schools Banda being more favourable than that of Zada Primary School. When the component variables were considered independently, school circumstance was moderate in terms of teacher behavior in Banda, and in terms of student-family background in Zada. Zada primary School had more favourable school circumstance in terms of teacher behavior than Banda which had more favourable school circumstance in terms of all other mentioned variables except for teacher behavior.

The association between the students' achievement with that of school circumstance was examined in Table 2.

Table . 2 Result of linear regression analysis of variance in the dependent variable

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Df | F |
|----------------------|------|----------|-------------------|----------------------------|----------|-----------|
| Learning Environment | .783 | .613 | .608 | .313 | (4, 298) | 116.376** |

Source: Computed from survey data, Note: ** P < .001.

The result displayed in the linear regression model showed that there was significantly strong association ($P < .001$) between the dependent variable and the predictor variable as could be estimated from the regression coefficient of $R = .783$, and from ANOVA F-ratio of 116.376**. The goodness of fit of the model also showed that the adjusted R square (unbiased estimate of the variance) was 0.608. This implies that an improvement of school circumstance by 0.6 units leads to a unit increase in the student achievement. Hence, school circumstance has strong positive association with students' achievement in the study area.

Table . 3 Summary of the result of stepwise regression analysis

| Variables | No. of variables included | Variables entered | Multiple correlation and related values | | | Std. Error of the Estimate |
|----------------------|---------------------------|---------------------------|---|----------------|-----------------|----------------------------|
| | | | R | R ² | ▲R ² | |
| Learning Environment | 1 | Teacher behavior | .689 | .475 | .475 | .363 |
| | 2 | Student-family background | .763 | .583 | .108 | .324 |
| | All variables | X1 up to X4 | .781 | .613 | .030 | .314 |

Source: computed from survey data; Note: R=coefficient of correlation, R² = coefficient of determination, ▲R² = Change in R²

The stepwise regression analysis shown in table 3 depicted that the proportion of variance accounted for by teacher behavior was 47.5%, by the sum of the proportion of teacher behavior and student-family background was 58.3%, whereas by the sum of all others was 13.8%. Therefore, teacher behavior had the greatest association with students' achievement followed by student-family background. The assumption that other variables may have been suppressed by teacher behavior by virtue of its position being first step in entering the model was disproved through successive stepwise regression analysis.

VII. CONCLUSION

The following conclusions were drawn from the discussion made above:

- ✚ School circumstance was favorable in both of the schools Banda being more favourable than that of Zada Primary School;
- ✚ School circumstance had positive association with students' achievement in the primary schools of Gamo Gofa Zone;

- ✚ Among the mentioned component variables of school circumstance, teacher behavior had the highest positive association with students' achievement.

Therefore, it was recommended that all school partners are required to involve in order to maintain favourable school circumstance of schools. The education offices need to take the responsibility of coordinating all other stakeholders. In addition, thorough studies are required for more investigation of solutions to the problem under consideration.

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