

A comparative study of achievement of secondary school students of India, Pakistan and Zimbabwe in relation to their principal leadership style

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Abstract

This study compared the achievement of secondary school students of India, Pakistan and Zimbabwe with respect to the leadership style (authoritative & democratic) of their principals. The data related to students' achievement and principal leadership style was gathered randomly from 60 schools including 6000 students and 60 principals. The statistical tests such as ANOVA and Pearson correlation were employed and results of the study indicated that Indian students have achieved more in math and science than students of Pakistan and Zimbabwe irrespective of the leadership style of their principal. Also, Pearson correlation showed no significant relationship between students' achievement and leadership style of their principals.

Keywords: students' achievement, leadership style, comparative study

Introduction

The achievement of students whether primary, high or secondary school has always been a researchable topic which is required to get explored more and more unless we get consistently good academic achievement of students. As country's economy significantly depends upon scientific discoveries and inventions. Therefore, it becomes imperative to throw a light on education and of course achievement of students who play a major role in contributing to economy of the country. The development of country is deviously dependent on an achievement of its younger generation. For instance, Korea has risen to such a powerful economy by transforming their middle and elementary schools. They used different instructional system design for teaching their students and the performance of students who were taught using instructional system design significantly outperformed than students of the control group (Briggs, Gustafson & Tillman, 1991, p 6-7) ^[1]. In this case, instructional system design enhanced achievement of students. But who decides what to do and where to do it? Of course, it is devised by a school and personnel associated with school such as teachers, principals and also by educational researchers who experiment with different methodology. Schools positively influence achievement of their students and effective schools probably enhance it and ineffective school do not improve students' achievements. Furthermore, it is always emphasized that strong instructional leadership is one of the significant requirement of an effective school.

Principal is a leader who is responsible for the transformation of school from ineffective into effective. Principal play a major role in improving instructions and performance of students and it is necessary to improve school leadership for effective student achievement (Wallace Foundation, 2007, p.20) ^[14]. Therefore, schools should have effective leaders in the form of teachers and of course principals. Undoubtedly, teacher is a significant predictor of student achievement (Kane

& Staiger, 2008) ^[7]. On the other hand, it is said that principal is the most effective leader in an area of education and achievement of students is totally linked to the leadership of principal (The Centre for Comprehensive School Reform and Improvement, 2005) ^[12]. The leadership behavior of a principal reveals about the culture of school, its climate and finally also about the achievement of students (Bulach, C. R., Boothe, D., & Pickett, 2006) ^[3]. Therefore, leadership of principal is also important to be studied when achievement of students need to be improved.

It is evident that student learning can be improved seriously by a leadership which is rewarding (Wallace Foundation, 2004) ^[13] and the most effective leaders can be teachers, principals or superintendents. Principal can transform ineffective school into an effective one by using their leadership style and skills. Thus, good performance of students is also dependent upon good leadership shown by a principal. There are variety of ways for making an impact on school education through effective leadership. Leadership styles are classified into many types such as authoritative, democratic, transformative, etc.

It is observed that participatory type of leadership is better than authoritative for improving performance of students and for having a participatory style, a leader should have good skills and experience too. A more experienced person can adapt his/her leadership style as per situation (Fgatabu, 2012) ^[5]. Although, there are many exceptions in the area of education industry which proved that inexperienced leaders also have surmounted in their fields. Hence, it needs more recce at the moment that what significant difference is shown by an experienced leader in a school or an inexperienced one. "Experienced principals who focus on instructional leadership, give specific, informal feedback to teachers, and share the workload which can have a significant, measurable impact on student achievement" (Hull, 2012) ^[6]. The point is not merely about experienced or inexperienced principals, however, about

which type of leadership skills or style they should follow to transform school into an effective or productive one.

For the present research, following two types of leadership were explored and to determine how these types impact students' achievement:

- Authoritative leaders who do not involve others in any decision making. They merely make decision on their own and impose it on others while expecting obedience from their team members.
- Democratic leaders, on the other hand, involve others in the decision making process and themselves, they play active role too. They take responsibility for the decisions taken by him and his team together to evaluate that the decisions should accomplish desired outcomes. (Lewin, Lippit & White, 1939)^[8].

2. Objectives

1. To study and compare achievement of students in mathematics studying in schools of India, Pakistan and Zimbabwe where principal leadership style is authoritative.
2. To study and compare achievement of students in mathematics studying in schools of India, Pakistan and Zimbabwe where principal leadership style is democratic.
3. To study and compare achievement of students in science studying in schools of India, Pakistan and Zimbabwe where principal leadership style is authoritative.
4. To study and compare achievement of students in science studying in schools of India, Pakistan and Zimbabwe where principal leadership style is democratic.
5. To study the relationship of Indian students' achievement in mathematics with authoritative principal leadership style.
6. To study the relationship of Pakistan students' achievement in mathematics with authoritative principal leadership style.
7. To study the relationship of Zimbabwe students' achievement in mathematics with authoritative principal leadership style.
8. To study the relationship of Indian students' achievement in mathematics with democratic principal leadership style.
9. To study the relationship of Pakistan students' achievement in mathematics with democratic principal leadership style.
10. To study the relationship of Zimbabwe students' achievement in mathematics with democratic principal leadership style.
11. To study the relationship of Indian students' achievement in science with authoritative principal leadership style.
12. To study the relationship of Pakistan students' achievement in science with authoritative principal leadership style.
13. To study the relationship of Zimbabwe students' achievement in science with authoritative principal leadership style.
14. To study the relationship of Indian students' achievement in science with democratic principal leadership style.
15. To study the relationship of Pakistan students' achievement in science with democratic principal leadership style.
16. To study the relationship of Zimbabwe students' achievement in science with democratic principal leadership style.

3. Review of the Literature

3.1 Leadership Style and Students' achievement

In 2002, no significant relationship was found between leadership styles and student achievement (Schulman, 2002). However, the significant predictor of a students' achievement was found to be a demographic variable such as number of year teacher has spent in the profession. Similarly, Neidermeyer (2003)^[10] conducted his research in 160 low socio-economic schools and no relationship was found between leadership styles and improved student achievement.

Fgatabu (2012)^[5] concluded that democratic type of leadership style is necessary to adopt for improving performance of students. The study depicts significant relationship between leadership style and students' achievement which favored democratic style of leadership.

Melton, Mallory and Chance (2013)^[9] examined the relationship of Global leadership with students' achievement across societal cultures and findings of the study indicated charismatic leadership, participative, autonomous and self-protective leadership were significant in predicting achievement of students.

Budohi and Afandi (2014)^[2] found that no significant relationship between leadership style of principals and academic achievement of students in public secondary schools.

Feyisa, Ferede and Amsale (2016)^[4] indicated no significant correlation between leadership effectiveness of school principal and achievement of students and later no direct association was observed between students' achievement and school leadership.

The reviewed studies done in the area of leadership and achievement of students showed no significant relationship between principal leadership and students' achievement, however, few studies did show significant relationship between leadership style of principals and students' achievement. The mix results triggered to examine the relationship of secondary school's principal leadership style specifically authoritative, democratic and students' academic achievement in mathematics and science.

3.2 Problem and Significance of the Study

The conclusion of the findings above revealed the necessity of doing more research into the area of leadership and student achievement. Besides, there is a lack of research done on the comparison of leadership style and achievement of students simultaneously from many countries particularly from India, Pakistan and Zimbabwe. So far, no previous research has examined these three countries such as India, Pakistan and Zimbabwe. Therefore, researchers of the present study decided to investigate the assumption of the relationship between principal leadership and students' achievement among three countries.

The findings of the study would contribute to the knowledge of how achievement of students are related to the leadership style of principals. The study would also unearth the differences in achievement of students in the significant subjects such as Science and Math among India, Pakistan and Zimbabwe and which type of leadership style affects achievement of students.

4. Hypotheses

1. There is no significant difference in mathematics

achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is authoritative.

2. There is no significant difference in mathematics achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is democratic.
3. There is no significant difference in science achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is authoritative.
4. There is no significant difference in science achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is democratic.
5. There is no significant relationship between Indian students' achievement in mathematics with authoritative principal leadership style.
6. There is no significant relationship between Pakistan students' achievement in mathematics with authoritative principal leadership style.
7. There is no significant relationship Zimbabwe students' achievement in mathematics with authoritative principal leadership style.
8. There is no significant relationship Indian students' achievement in mathematics with democratic principal leadership style.
9. There is no significant relationship Pakistan students' achievement in mathematics with democratic principal leadership style.
10. There is no significant relationship Zimbabwe students' achievement in mathematics with democratic principal leadership style.
11. There is no significant relationship Indian students' achievement in science with authoritative principal leadership style.
12. There is no significant relationship Pakistan students' achievement in science with authoritative principal leadership style.
13. There is no significant relationship Zimbabwe students' achievement in science with authoritative principal leadership style.
14. There is no significant relationship Indian students' achievement in science with democratic principal leadership style.
15. There is no significant relationship Pakistan students' achievement in science with democratic principal leadership style.
16. There is no significant relationship Zimbabwe students' achievement in science with democratic principal leadership style.

5. Method and Procedure

5.1 Research Design

The descriptive survey design was used for carrying out the study.

5.2 Sample

The sample of the study was collected country wise by employing stratified random sampling technique. Data was collected from three countries including India, Pakistan and Zimbabwe. A total of 60 principals from 60 schools and 6000

students of 9th and 10th class participated in the study from all the countries where a sample of 20 principals from 20 schools and 2000 students were collected from each country.

5.3 Location

The data was collected from Chandigarh, a union territory of India from twenty schools. Similar data was collected from Mashonaland West Province of Zimbabwe. Likewise, information was gathered from total 20 schools of Faisalabad district of Pakistan.

5.4 Instruments

1. Leadership preference scale by L. I Bhushan was employed for assessing two types of leadership styles of principals such as Authoritative and Democratic. The reliability of the scale was determined by Spearman Brown formula and it was 0.74.
2. Achievement data of students in the subject of science and mathematics was gathered from the respective schools after the final exams conducted by the national school boards for the session 2012 to 2013 of India, Pakistan and Zimbabwe.

6. Discussion of Results

The results of the study were discussed as per the objectives and hypotheses of the study.

The first objective of the study was accomplished and analysis of variance was applied which indicated significant difference in mathematics achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is authoritative [F= 186.810, $\alpha=.000 < .05$ level of significance, (Table1)]. Therefore, null hypothesis was rejected and it was seen after post hoc analysis that mathematics achievement of students where principal leadership style was authoritative were highest for students of India than students of Pakistan and Zimbabwe.

Table 1: Depicts descriptive statistics and F-value of India, Pakistan and Zimbabwe on students' mathematics achievement where principal leadership style is authoritative

Math Achievement	N	Mean	Standard Deviation	F-value Sig.
India	700	63.02	14.331	186.810 .000
Pakistan	900	57.49	14.376	
Zimbabwe	1000	47.04	21.505	
Total	2600			

Besides, students of Pakistan achieved more in mathematics than students of Zimbabwe but not more than students of India. Likewise, second objective of the study was achieved and significant difference was found in mathematics achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is democratic [F= 220.808, $\alpha=.000 < .05$ level of significance, (Table 2)]. It rejects null hypothesis and post hoc analysis reveals that mathematics achievement of students of India where principal leadership style was democratic were highest than students of Pakistan and Zimbabwe. While students of Pakistan achieved more than students of Zimbabwe in mathematics where leadership style of principal was democratic.

Table 2: Descriptive statistics and F-value of India, Pakistan and Zimbabwe on students’ mathematics achievement where principal leadership style is democratic

Math Achievement	N	Mean	Standard Deviation	F-value Sig.
India	1300	64.54	14.048	220.808 .000
Pakistan	1100	60.53	16.501	
Zimbabwe	996	48.87	23.562	
Total	2600			

The third objective of the study was fulfilled and analysis of variance signified significant difference in science achievement of students studying in schools of India, Pakistan and Zimbabwe where principal leadership style is autocratic [F= 232.967, $\alpha=.000 < .05$ level of significance (Table 3)]. The null hypothesis was rejected and post hoc analysis revealed

that science achievement of students where principal leadership style was authoritative were highest for students of India than students of Pakistan and Zimbabwe. Furthermore, students of Pakistan achieved more in mathematics than students of Zimbabwe but not more than students of India.

Table 3: Descriptive statistics and F-value of India, Pakistan and Zimbabwe on students’ science achievement where principal leadership style is autocratic

Science Achievement	N	Mean	Standard Deviation	F-value Sig.
India	700	63.79	12.718	232.967 .000
Pakistan	900	55.02	13.978	
Zimbabwe	1000	46.99	19.051	
Total	2600			

The fourth objective along with the fourth null hypothesis was tested and it was observed after analysis of variance that significant differences exist in science achievement of students of India, Pakistan and Zimbabwe where principal leadership style is democratic which rejects null hypothesis and accept alternative hypothesis which states that there are significant differences in the science achievement of students [F=

280.531, $\alpha=.000 < .05$ level of significance (Table 4)]. The post hoc analysis revealed that science achievement of students where principal leadership style was democratic were highest for students of India than students of Pakistan and Zimbabwe and students of Pakistan achieved more in mathematics than students of Zimbabwe but not more than students of India.

Table 4: Descriptive statistics and F-value of India, Pakistan and Zimbabwe on students’ science achievement where principal leadership style is democratic

Science Achievement	N	Mean	Standard Deviation	F-value Sig.
India	1300	63.87	12.811	280.531 .000
Pakistan	1100	59.45	15.590	
Zimbabwe	996	47.23	22.420	
Total	3396			

Further objectives and hypotheses (5-16) were examined by applying Pearson correlation. Hypothesis 5 was rejected as no significant relationship was found between Indian students’ achievement in mathematics and their principal’s authoritative leadership style (0.220, $p= 0.35 > 0.05$ alpha level of significance). Likewise, no significant relationship was observed between Pakistan students’ achievement in mathematics and authoritative leadership style of their principal (-0.044, $p= 0.855 > 0.05$). The association of Zimbabwe students’ achievement in mathematics with principal’s authoritative leadership style was not significant (-0.273, $p= 0.244 > 0.05$).

Besides, no significant association was found between Indian students’ mathematics achievement and democratic style of principal’s leadership (-0.401, $p= 0.08 > 0.05$). On the contrary, significant negative correlation was observed between Pakistan students’ achievement in mathematics and their principal’s democratic style of leadership (-0.742, $p= 0.00 < 0.05$). Besides, the relationship between Zimbabwe students’ achievement in mathematics and their principal’s democratic leadership style was not significant (-0.056, $p= 0.814 > 0.05$).

In terms of the subject science, Indian students’ achievement was not significantly related with their principal’s authoritative leadership style (0.249, $p= 0.289 > 0.05$). Pakistan students’

achievement in science was also not significantly associated with authoritative style of their principal leadership (-0.016, $p= 0.948 > 0.05$). Moreover, Zimbabwe students’ achievement was not significantly related with principal’s authoritative style of leadership (-0.226, $p= 0.339 > 0.05$).

Indian students’ achievement in science does not have significant relationship with democratic leadership style of their principal (-0.329, $p= 0.156 > 0.05$). On the other hand, significant negative correlation was found between Pakistan students’ achievement in science with principal’s democratic leadership style (-0.726, $p= 0.00 < 0.05$). Zimbabwe students’ achievement was not significantly correlated with democratic principal leadership style (0.073, $p= 0.759 > 0.05$).

7. Conclusion and Suggestions

In regard to the comparison of countries, Indian students have achieved more in both science and math than their counterparts of Pakistan and Zimbabwe irrespective of their principal leadership style because students of both authoritative and democratic principal leadership style achieved better in science and math. Besides, no association was found between students’ achievement of India, Pakistan and Zimbabwe in both science and math and their principal’s authoritative leadership style. Also, no relationship was observed between students’

achievement of India and Zimbabwe and their principal's democratic leadership style and significant negative correlation was seen between students' achievement of Pakistan in both science and math and their principal's democratic leadership style. In a nutshell, this study has not found any significant relationship between students' achievement and principal leadership style which supports findings given by Sculman, 2002; Neidermeyer, 2003^[10]; Budohi and Afandi, 2014^[2]; Feyisa, Ferede and Amsale, 2016^[4].

The achievement differences can be examined for further research in public and private schools of these countries. School climate and teachers' teaching style can also be explored for the participated countries to draw out more information on higher achievement of Indian students than their counterparts. Similarly, relationship between students' achievement and principal leadership style can be determined specifically for private and public schools.

8. References

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