Domains of Leadership Behavior of Administrators as Determinants of Self-Efficacy of Faculty in Engineering and ICT Schools

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Abstract. The importance of teacher efficacy in the academic setting cannot be discounted. Thus, there is a need for figuring out the role of leadership behavior on the self-efficacy of teachers. The purpose of this paper is to explore the influence or the contribution of leadership behavior of administrators towards self-efficacy of teachers in Engineering and Information and Technology (ICT) schools. Data from 236 respondent teachers of the identified schools were used to realize the purpose. Purposive sampling, and statistical tools like mean and multiple regression were utilized in the study. Results specified that on the whole, the six domains of leadership behavior influenced the self-efficacy of teachers. But among the domains, the leader’s ability to provide intellectual stimulation had the highest influence on teacher self-efficacy.

Keywords: Leadership Behavior, Teacher Self-Efficacy, Determinants

1. Introduction

Students attend higher educational institutions with different basic educational background, different levels of motivation and different economic and social status. Teachers are asked to teach a classroom full of students with a wide range of learning abilities as well as a varied range of learning disabilities. The confidence to do this day after day takes commitment and a strong sense of efficacy. In the last couple of decades, the concept of teacher self-efficacy as one of the constructs for the success of a school has captured much attention. According to Ross, Cousins and Gadalla [2], teacher’s self-efficacy is one of the most influential factors on the quality of teaching, on teacher’s efforts and motivation and, ultimately as pointed out by Hoy and Woolfok [3], on their student’s outcomes.

Bandura [4] described perceived self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments.” He proposed that belief in one’s abilities was a powerful drive in influencing motivation to act, the effort put forth in the endeavor, and the persistence of coping mechanisms in the face of setbacks. According to him perceived self-efficacy determines one’s feelings, thoughts, motivations and behavior. Individuals’ self-efficacy judgments are based on their perceptions of competence rather than the actual level of competence. Therefore, it is possible for individuals to either over or under-estimate their level of ability.

The importance of teacher efficacy in the academic setting cannot be discounted. There is a need therefore to explore what contributes to self-efficacy of teachers. In 2007, Ryan [5] presented significant discussion on the connection between principal’s leadership qualities and teacher efficacy. He stated that school principals face tremendous obstacles in building an effective level of teacher efficacy. The administrator’s role as campus leader is fundamental in fulfilling the task of leading teachers to accomplish a level of student achievement beyond expectations. Fullan [6] stated that it takes a dedicated, highly competent teaching force working together for the continuous betterment of schools to produce and sustain a vital public system. One cannot get teachers working like this without leaders at all levels guiding and supporting the process. Goddard [7] noted that whereas teachers are directly in charge of student learning, administrators are in charge of creating or maintaining an organization that promotes teaching and learning.

Several studies which examined the relationship between school administrator’s behavior and teacher efficacy have shown that administrators’ leadership behavior and style influence teacher’s sense of efficacy.
Administrators’ leadership style determines the teachers’ professional growth [9], teachers’ autonomy [10], role conflict and overall satisfaction [11], all of which are strongly associated with perceived teacher efficacy. Teachers who perceive their administrators as influential, used their leadership to provide resources for them, buffered them from disruptive factors, modeled appropriate behavior, provided rewards contingent on performance and allowed them to participate in the decision making process, reported higher levels of personal teaching efficacy. These findings reinforce the notion that school administrators’ leadership style is a significant influencing factor on teachers’ self-efficacy. [12]

As the evidence mounts suggesting that teacher efficacy is directly linked to student achievement, learning about the determinants of teacher efficacy also increases. It is important for administrators to understand the relationship between what they do and its impact on teachers’ work and teacher efficacy [13]. As administrators better understand their own particular behavioral patterns, they are better able to see how it will affect their organization’s teacher efficacy levels. However, little is known if these issues are also true to tertiary schools, more so in the Philippine setting. Therefore, the purpose of this study is to determine if teacher self-efficacy is based on the perceived leadership behavior of school administrators of tertiary schools. This investigation will enable researchers and leadership developers to establish a potential relationship between leadership behavior, teacher efficacy and the different indicators affecting it. Findings from this study will be useful in assisting administrators to develop and implement leadership practices that are conducive to increasing teacher efficacy levels. In addition, information gained from this study will be beneficial to the university or college community to incorporate into their administrative training programs for future school leaders. Developing school administrators and providing them with a knowledge base of administrative leadership skills that are most desired by teaching staff will equip newly trained administrators with skills and leadership qualities they can employ into their leadership roles that will enable them to become more effective school leaders. This study is covered by the following research objectives:

1) To describe the extent of leadership behavior of administrators of engineering and ICT schools.
2) To describe the level of teacher efficacy of Engineering and ICT schools.
3) To determine whether administrator’s leadership behavior is a significant determinant for teacher self-efficacy.
4) To determine which domain of leadership behavior has the highest influence on teacher self-efficacy.

These objectives are translated into the following null hypotheses:

- Ho 1: Leadership behavior is not a significant determinant of teacher self-efficacy.
- Ho 2: No domains of leadership behavior significantly influence teacher self-efficacy.

2. Methodology

The study utilized non-experimental quantitative research method. Johnson and Christensen [14] explained that non-experimental research is a systematic empirical investigation where the researcher does not have direct control of independent variables because they cannot be manipulated. The subjects of this study were the deans or program heads of engineering and technology departments of 15 tertiary schools in Davao Region, one of the 17 regions in the Philippines. Only schools with both the engineering and information and technology (ICT) programs were included in the study and there were only 15 schools in the region with both programs. The respondents were the teachers of these schools who evaluated their deans and their own self-efficacy. There were a total of 236 teachers who participated in the study. Purposive sampling was utilized in selecting the respondents for the study. Seven to eight teachers per program or between 15 to 16 teacher respondents per school were involved in the study. The researcher adapted the questionnaire from two sources. For leadership behavior, the source was Jantzi & Leithwood [15]. For teacher self-efficacy, the researcher patterned it from Tschannen-Moran and Woolfolk [16]. A 5 point Likert scale was utilized in determining the descriptive level of each variable. In the analysis of the data, the following statistical tools were utilized: mean, standard deviation, and regression.

3. Results
3.1. Leadership behavior of administrators

Table 1: Extent of Leadership Behavior of Administrators of Engineering and ICT Schools

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Standard Deviation</th>
<th>Mean</th>
<th>Descriptive Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying and articulating a vision</td>
<td>.584</td>
<td>3.79</td>
<td>Extensive</td>
</tr>
<tr>
<td>Providing an appropriate model</td>
<td>.646</td>
<td>3.88</td>
<td>Extensive</td>
</tr>
<tr>
<td>Fostering the acceptance of group goals</td>
<td>.591</td>
<td>3.85</td>
<td>Extensive</td>
</tr>
<tr>
<td>Providing individualized support</td>
<td>.589</td>
<td>3.80</td>
<td>Extensive</td>
</tr>
<tr>
<td>Providing intellectual stimulation</td>
<td>.632</td>
<td>3.84</td>
<td>Extensive</td>
</tr>
<tr>
<td>Holding high performance expectations</td>
<td>.615</td>
<td>3.63</td>
<td>Extensive</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.526</td>
<td>3.80</td>
<td>Extensive</td>
</tr>
</tbody>
</table>

Shown in Table 1 is the extent of leadership behavior of administrators of Engineering and ICT schools in Davao Region. As can be gleaned from the table, there are six indicators of leadership behavior: identifying and articulating a vision, providing an appropriate model, fostering the acceptance of group goals, providing individualized support, providing intellectual stimulation, and holding performance expectations. The overall mean score of leadership behavior of administrators as evaluated by their teachers is 3.80 or extensive. This means that the leadership behaviors of administrators of the respondent schools are oftentimes manifested. Consistently, the mean ratings of the six indicators are also extensive ranging from 3.61 to 3.90. The result on the extensive rating of administrators in leadership behavior as evaluated by the teachers is comparable to the studies made in Hongkong and Toronto [17]; in Israel [18] and in the U.S.A. Lashway [19] where the leaders of organizations were appreciated by their workforce.

3.2. Teacher self-efficacy

Presented in Table 2 is the level of teacher efficacy of Engineering and ICT schools in Davao Region. Self-efficacy is the individual’s judgment about his or her ability to accomplish a given task or activity [20]. In this study, self-efficacy can be manifested through its three indicators namely student engagement, instructional strategies and classroom management. The overall mean score of teacher efficacy of the respondents is 3.95. This means that the teachers perceived their level of self-efficacy as high. Efficacy in student engagement is marked by the support of the teacher given to their students for them to think critically which motivates them to learn more. Efficacy in instructional strategies is demonstrated in the ability of the teacher to implement differentiated teaching strategies. Classroom management is exhibited by the teacher in being able to keep class activities running smoothly.

Table 2: Level of Teacher Efficacy of Engineering and ICT Schools in Davao Region

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Standard Deviation</th>
<th>Mean</th>
<th>Descriptive Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Engagement</td>
<td>.707</td>
<td>3.91</td>
<td>High</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>.621</td>
<td>3.98</td>
<td>High</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>.667</td>
<td>3.94</td>
<td>High</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.645</td>
<td>3.95</td>
<td>High</td>
</tr>
</tbody>
</table>
3.3. Influence of leadership behavior on teacher self-efficacy

Table 3: Regression Analysis on the Domains of Leadership and Self-Efficacy

<table>
<thead>
<tr>
<th>Domains of Leadership Behavior</th>
<th>Beta Coefficient</th>
<th>t stat</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying and articulating a vision</td>
<td>.092</td>
<td>.923</td>
<td>.35</td>
</tr>
<tr>
<td>Providing an appropriate model</td>
<td>.032</td>
<td>.308</td>
<td>.75</td>
</tr>
<tr>
<td>Fostering the acceptance of group goals</td>
<td>.238*</td>
<td>1.928</td>
<td>.05</td>
</tr>
<tr>
<td>Providing individualized support</td>
<td>.074</td>
<td>.602</td>
<td>.54</td>
</tr>
<tr>
<td>Providing intellectual stimulation</td>
<td>.289*</td>
<td>2.773</td>
<td>.00</td>
</tr>
<tr>
<td>Holding high performance expectations</td>
<td>.027</td>
<td>.282</td>
<td>.77</td>
</tr>
</tbody>
</table>

R square = .185, F=8.635, p < .01
Decision on Ho = Reject

*Significant p < .05

As shown in Table 3, there are six domains of leadership behavior. The data reveal that the six domains of leadership behavior jointly influence self-efficacy (F=8.635) with probability value (p < .01) less than .01, which is very much lesser than .05 significance level set in this study. This resulted to the rejection of the null hypothesis. It could be stated, therefore, that the leadership behavior of school administrators significantly influences self-efficacy of teachers in the respondent schools. However only two domains have significant independent influence on teacher self-efficacy: fostering the acceptance of group goals with beta coefficient of .238 significant at p < .05 and providing intellectual stimulation with beta coefficient of .289 significant at p < .01. This implies that the six domains if taken as one complement each other in influencing the self-efficacy of teachers. If taken singularly, only the two as mentioned can influence self-efficacy.

The significant influence of leadership behavior supports the social cognitive theory (Bandura, 1989) which is the anchor of this study. It explains that people learn by watching what others do and will not do; that learning will most likely occur if there is a close identification between the observer and the model and if the observer also has a good deal of self-efficacy. The findings of this study are aligned with the research of Williams [21] on leadership that leadership behaviors are effective on determining teachers’ perceptions of self-efficacy.

4. Discussion and Conclusion

The findings support the anchor theory espoused in this study, the social cognitive learning theory by Bandura [12]. The results also provide congruence with the leadership theory [22] which accentuates the influence of leadership on teacher’s sense of self-efficacy. In this study, the combined influence of the six domains of leadership on self-efficacy is evidenced by the probability value, p < .01, which is far below the significance level of p < .05 set in this study.

Among the six domains of leadership behavior, provision of intellectual stimulation to the teaching force appears to be the best indicator that intensifies teacher self-efficacy. It is the ability of a leader to keep those following him or her thinking about the task at hand, asking questions, and solving problems. However, in its entirety all the six domains making up the leadership behavior of the school administrator, influence teacher self-efficacy. Only when treated singularly that intellectual stimulation appears to be the top indicator. The findings, therefore, give credence to other studies on leadership [23], [24] exhibiting strong positive
influence on self-efficacy of teachers. This research strengthened those studies by finding similar result on the influence of leadership behavior on teacher’s self-efficacy. In the light of the findings, the school administrator, as a leader, should influence teachers by modeling the desirable behaviors, empowering them through the development of self-efficacy. This can be made possible by coming up with a comprehensive human resource program covering the salient findings of this study on the aforementioned variables.

5. Acknowledgement

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6. References


