ABSTRACT

This research study was aimed at finding the validity and reliability of a tool with 62 items assessing school effectiveness in Pakistan. Different education policies and research studies in Pakistani context have mentioned that there is lack of school effectiveness dimension in the context. This deficiency of the school effectiveness dimensions, caused ineffectiveness of secondary schools in Pakistan. The National Education Policy of 2009 of Pakistan has stated that the National Education Information Management System (NEMIS) is struggling to confirm the dimensions of school effectiveness, but mostly the dimensions are borrowed from UNESCO. Therefore, this study forwards the attempt at developing school effectiveness dimensions in Pakistan. For this purpose, the data were collected from 367 teachers of 103 schools at secondary level in Mardan district (Khyber Pukhtunkhwa). The sample teachers were male and female from urban and rural secondary schools of Mardan district. The tool was developed with three variables such as school effectiveness, school culture, and principal instructional leadership. These variables were discussed in the light of different theories, aimed at providing theoretical background. First, two experts in the field were chosen to vet the tool with 79 items to confirm face validity of the tool. They suggested changes which were followed strictly to finalize the tool. Based on the analysis for Cronbach alpha values after pilot study, the final tool with 62 items, 13 dimensions, and three variables was confirmed to assess school effectiveness in Pakistan. Thus the assessment made in this study has confirmed the suitability of the stated tool to find the levels of secondary school effectiveness.

Keywords: Assessment, School Effectiveness Tool, Secondary Schools, Education, Pakistan
INTRODUCTION

As educational changes have taken place worldwide, the term 'global context' exceptionally pressured the educational policy makers (e.g., Aziz et al., 2014). The challenges mostly studied by the researchers evolved from liberalization, information technology development, and globalization.

The state [Pakistan] is responsible to confirm the implementation of education policy, considered as the only way to answer the global challenges in education. For the purpose, an effective evaluation system is needed to improve and maintain quality education in the country. Though school effectiveness was stressed through different research studies and education policies of Pakistan, no clear standards were given for the purpose (e.g., Ministry of Education, NEP-1998-2010). In fact, thinking globally, there was a consensus problem among the researchers in developing dimensions judging school effectiveness. The same situation was faced by the researchers in Pakistan. It is evident that the current National Education Policy of 2009 has clearly articulated the deficit of organizational effectiveness dimensions (e.g., Ministry of Education, NEP-2009). In fact, the dimensions of school effectiveness are the characteristics of a school making a clear differentiation between a better school and a poor school.

For the stated reason, “....nearly six decades of research have not produced a single recipe that has been found for making a school effective [in Pakistan]” (Saleem et al., 2012, p. 249). For this stated reason, the picture of school effectiveness in Pakistan is blurred. Somehow, to mention the standards for organizational effectiveness in Pakistan, the National Education Management Information System (NEMIS) have taken some initiatives. But, most of standards were taken from UNESCO (e.g., Ministry of Education, NEP-2009). Therefore, the programmer for Education Management Information System (EMIS) was contacted to mention the school effectiveness dimensions, but no positive response was given (see AppendixA).

After that, the director of Elementary and Secondary Education (E&SE) Khyber Pukhtunkhwa province was contacted as well, asking about the standards for school effectiveness. But, this time also, the researcher found no positive response (see Appendix-B).

To find the dimensions of a school effectiveness model, we also focused on the related literature. It was found that some researchers (e.g., Coleman et al., 1966) related school effectiveness to external factors with the main theme such as: schools make no difference. While other researchers (e.g., Aggarwal-Gupta & Vohra, 2010; Bredeson, 1985; Hallinger, 2015; Hallinger & Heck, 1998; Ostroff, & Schmitt, 1993; Reynolds & Teddlie, 2000) related school effectiveness to internal factors. These factors were given as: instructional leadership, school culture, and school climate and so forth. Similarly, other researchers (e.g., Edmonds, 1979; Rutter et al., 1979) believed that, in fact the school process caused school effectiveness. Later researchers (e.g., Scheerens & Creemers, 1989) also related school effectiveness to the school inputs and outputs. In fact, measuring all these dimensions of school effectiveness was strenuous and sometimes impossible (Ostroff, & Schmitt, 1993). Therefore, Townsend (2001) suggested that "let alone others outside of the field altogether" (p.126).

In fact, school effectiveness depends on internal factors, external factors, and school process as well. Similarly, school effectiveness involves school inputs, process, and outputs. Keeping in view these stated factors, the leadership theories for school effectiveness and improvement were consulted. The aim was to provide a better theoretical background to this study. The first known Trait theories of leadership (e.g., The Charismatic Leadership Theory of House, 1977; McClelland, 2015) have stressed the leadership traits in achieving goals or effectiveness. But, as evident from the literature, these theories mostly ignored the behaviors of leadership. Therefore, the Behavioral theories of leadership (e.g., The Leadership Grid theory of Blake & Mouton, 1964; The Four-Factor Theory of Bowers & Seashore, 1966; The Skill Mix theory of Mann, 1962) have filled the stated gap by focusing on leaders’ behavior. But this time, these theories ignored the situational stress on the leadership. Therefore, to fill this gap, the Situational and Contingency theory of leadership such as The Path-Goal Theory of House (1971) was evolved. This “Path-Goal theory” incorporates the traits, behaviors, skills, attitudes, and the situational response of the leaders through transformational leadership.
The revised Model-B of Hallinger and Heck (1998) suggests that instructional leadership is indirectly related to the school effectiveness. This stated model was adopted from Pitner (1988, pp. 105-108) which relates school leaders indirectly to school goals. The stated school goals are mentioned in the school vision. The Path-Goal Theory (House, 1971) of leadership supported this stated Model-B of Hallinger and Heck (1998). This theory supported the indirect relation of leaders and goals through a medium (school culture).

Considering the Model-B of Hallinger and Heck (1998) and the stated path-goal theory, the three variables such as Instructional leadership (as leadership), school culture (as path to goals), and school effectiveness (as goals) were selected for the tool. The stated indirect relationship was also supported by other researchers (e.g., Alig-Mielcarek, 2003; Mees, 2008; Niqab et al., 2015).

Based on the preceding discussion, the clearly articulated standards to check the school effectiveness remained always as a deficit in the Pakistani context. Therefore, this article seeks to confirm the standards to assess the school effectiveness at secondary level in Mardan district of Khyber Pukhtunkhwa province (Pakistan). The main aim of the study was to assess and validate the tool for school effectiveness model at the secondary schools.

**School Effectiveness**

In fact, school effectiveness is defined in many ways with no harmony among the researchers. Scheerens (2013) narrated that “school effectiveness refers to the level of goal attainment of a school” in a general sense (p. 4). School effectiveness is the combination of conditions/dimension contributing to enhance effectiveness (Scheerens, 2004, 2013) for example, circumstantial variables including teaching, learning, community involvement, student and teacher motivation, and administration and so forth (Saleem et al., 2012).

The reactions to the work by some researchers (e.g., Coleman et al., 1966; Jencks et al., 1972) have given cause to study on school effectiveness. The stated studies emerged with a focus on psychological and quantitative sociological backgrounds, and the variance between them was explained through educational factors. One of the stated approaches was narrated by as “school effectiveness research has its roots in quantitative sociological input-output studies and economic research on educational production functions” (Scheerens & Creemers, 1989, p. 691). In the same way, the approach regarding school effectiveness research such as “production function approach” has supported strongly the “resource input of school approach” including tangible and intangible resources (Scheerens, 2013). Among the researchers, some supported tangible inputs (e.g., Glewwe et al., 2011; Iqbal, 2012), while others have supported the intangible as well as tangible resources (e.g., Awan & Saeed, 2014; Khan, 2004, Khan, 2013a).

The intangible resource such as psychological approach has focused on school processes, while tangible input were aimed at school output (e.g., Lynch, Madden, & Doe, 2015; Rutter et al., 1979; Scheerens & Creemers, 1989; Sell, Lynch, & Doe, 2016). Some theories for example the decision process theory (Vroom & Yetton, 1973), the path-goal theory (House, 1971; House & Mitchell, 1974), the life cycle theory (Hersey & Blanchard, 1969), and the cognitive resource theory (Fiedler & Garcia, 1987) have contributed to situational contingency theories with a focus on process for the sake of output (Kristic, 2012).
To provide a strong theoretical base for school effectiveness dimensions, the three waves approach to school effectiveness was considered. The first wave approach was named as the “internal-effectiveness” which has improved the process through an external intervention or inputs (e.g., Ayeni & Adelabu, 2011; Day et al., 2010; Hallinger, 2011; Khan, 2013b; Leithwood et al., 2010; Saleem et al., 2012). The second approach was termed as the “interface-effectiveness” which has ensured some qualities of a school such as: stakeholders’ satisfaction, management, and accountability (Niqab, 2015; Shahnaz & Burki, 2013). The third approach was named the “future-effectiveness” which has focused broadly on the future effectiveness of schools (Ali, 2017; Scheerens, 2015). This future effectiveness was explained in terms of localized, globalized, and individualized schooling (Cheng, 2003).

Similarly, different models and theories cited in Scheerens (2015) were consulted aimed at setting dimensions for school effectiveness such as: Quinn and Rohrbaugh model, Micro-economic theory, Parson’s social systems’ theory, Coleman’s functional community theory, Schools as high reliability organizations model, Creamers’ comprehensive model, Carroll model, and Dynamic model. Each of these stated models and theories attained its popularity for the ability in relating instruction to student characteristics. Besides, the three concepts such as time, quantity of instruction, and quality of instruction were considered as important. A five factors model was developed by Edmonds (1979) describing safe and orderly climate, strong educational leadership, achievement, frequent evaluation of pupil progress, high expectations of students and emphasis on basic skills. Some other school effectiveness characteristics were described by Mortimore et al. (1988) such as: leadership with purpose, deputy head’s involvement, teachers’ involvement, consistency among teachers, a planned day, intellectually challenging teaching, an environment with focus on work, a limited focus within sessions, parental involvement, maximized communication, record-keeping, and a positive climate and so forth. The Creemers (2002) comprehensive model was adapted from the Carroll (1963) model, describing the four levels such as: school level, student level, classroom level, and context level.

Among all the discussed models, the effectiveness model of Mortimore (1988) and comprehensive model of Creemers (2002) were considered preferable by us. Based on the literature review, the dimensions selected for this study are given as: Teacher Efficacy, Community Involvement, High Expectations of Stakeholders, Student Academic Achievement, Quality Assurance, and Material and Non-Material Resources. The effectiveness model of Mortimore (1988) has eleven dimensions and this model of school effectiveness mostly relies on that model. Similarly, the model of this study also relies on the comprehensive model of Creemers (2002) for its quality to involve internal and external factors, with a focus on inputs, outputs, and process. The four levels (school level, student level, classroom level, and context level) of the Creemers (2002) comprehensive model have supported the dimensions of school effectiveness variable in this study. Relating the dimensions to the theories or model was aimed at generalizability of the findings, as it is clear that, “without an evidence-based theory of educational processes and mechanisms, pragmatic evidence of effectiveness may not be generalizable to a new settings or different populations” (Scheerens, 2015, p. 10).

**Instructional Leadership**

The instructional leadership concept was evolved from the struggle for “instructionally effective elementary schools” by the researchers (Edmonds, 1979; Kraft et al., 2015). At the moment, we need to explore the new dimensions for instructional leadership evolved since 1967. The main theme of instructional leadership revolved always around effectiveness of the school. At the very beginning, instructional leadership was conceptualized as the role of principal for the sake of school improvement and effectiveness. After that, in the 1980s, an organized struggle was started to find out the *instrumentally-effective schools*. Generally, the efforts exploring instructional leadership were started by two researchers (e.g., Bridges, 1982; Bossert, 1982). Therefore, the period from 1998 to 2008 was considered as the period of instructional leadership (Hallinger, 2008). Though there was a break in instructional leadership studies from 1992 to 2002 as the researchers concentrated on transformational leadership and distributive leadership, but at the beginning of the new millennium, instructional leadership was focused again.
Different researchers have developed different models exploring the principal instructional leadership role. Since the 1980s the instructional leadership model has changed continuously. The selection and significance of the dimensions of instructional leadership depended on the aims and context of the research. The instructional leadership model of Hallinger and Heck (1998) has three dimensions such as creating school learning climate, defining school mission, and managing instructional programs. The instructional leadership model of Smith and Andrews (1989) explored the principals' qualities such as a visible presence, resource provider, and communicator as the dimensions for instructional leadership. Similarly, DuFour (1998) discussed some factors such as vision, collective inquiry, collaborative teams, actions and experimentations, continued improvement, and good results as the dimensions for instructional leadership. These stated dimensions were supported by Eaker and DuFour (2015) as well. Glatthorn (2000) discussed the instructional leaders with focus on “standards based curricula; performance evaluation; assessment-driven instruction; and authentic learning” (p. 3). Therefore, the principals were named as the curriculum leaders (Boudreaux, Martin, & McNeal, 2016). McGuire (2001) found the dimensions for instructional leadership such as: leadership knowledge of the principal, preservation or long view, collaboration, professional development, accountability, cooperation, skill achievement, lifelong learning, and responsiveness; this received support from others as well (e.g., DuFour & Marzano, 2015; Eaker & DuFour, 2015). Based on the literature review, the dimensions of instructional leadership for this study rely on the theories and models of instructional leadership.

**School Culture**

The principal’s role as an instructional leader is not a solo fight. It involves different factors such as attitudes of the organization members and interaction system among them in a school context. This interaction system creates the school culture. School culture acts as medium for the instructional leader to achieve school effectiveness. Donahoe (1997) has cited that “If [school] culture changes, everything changes” (Recepoglu, 2013, p. 44). The statement clarifies that the school culture acts as medium, which was supported strongly by the “Path-Goal theory of leadership”. The Path-Goal theory recommends the achievement of goals by a leader through a path or medium. In fact, “the concept of school culture has evolved from the studies of organizational culture and school climate in the disciplines of organizational management and school administration” (Cavanaugh & Dellar, 1997a, p. 2). The school culture concept is based on the organizational management and school climate under the theories of social-system. The school’s social system develops norms which in turn develops school culture. The elements of the school culture found in the literature review were discussed as vision and values, history and stories, rituals and ceremonies, and architecture and artifacts. The types of school culture were discussed as welfares, survivalist, and formal school culture. The welfares school culture indicated a low control and a high cohesion, the survivalist indicated toward low control and a low cohesion, while formal school culture was conceptualized as a high control and a low cohesion.

The school culture developed by Cavanaugh and Dellar (1997) has the dimensions such as shared planning, professional values, collegiality, and collaboration (Ali, 2016). These stated dimensions supported the school culture variable of this study.

**METHODOLOGY**

**Research Design**

This study is non-experimental study with survey tool using a quantitative approach. The use of this approach was aimed at generalization purpose (e.g., Hair et al., 2009). A statistical tool such as SPSS was used to analyze the collected data. With the help of a close ended tool having three variables such as school effectiveness, school culture, and instructional leadership ;the data were collected from the sample teachers of the secondary schools in Mardan district of Khyber Pukhtunkhwa province.
Population and Sampling

There are 138 secondary schools for both genders in Mardan district of Khyber Pukhtunkhwa province of Pakistan. From these schools a total of 1755 teachers were considered as the population for this study. For the determination of sample size, the table of Krejcie and Morgan (1970) was considered. The stated table showed a sample size of 317 teachers out of 1755 teachers. But, given that SEM and SPSS used in this study were sensitive to the sample size, therefore, the sample was increased gradually to 367 to run the model (e.g., Ali et al., 2016; Ali et al., 2017; Hair et al., 2009). It was claimed that the sample size may be increased in two cases (1) if the data deviates from normality, and (2) if a sample intensive estimation technique is used (e.g., Hair et al., 2009). Therefore, using SPSS the sample size was considered as 367 teachers from the secondary schools. The sample teachers were selected randomly through stratified random sampling technique.

Instrumentation

A closed ended questionnaire was used to collect data for this research. The questionnaire was constructed in three parts: Part-A as instructional leadership, Part-B as school culture, and Part-C as school effectiveness variable. The first part (part-A) included 22 items from three dimensions (managing instructional programs, defining school mission, & creating school learning climate). While, Part-B (school culture) was constructed with four dimensions (professional value, shared planning, collegiality, & collaboration) having a total of 17 items. The last part or Part-C (school effectiveness) included six dimensions (i.e., material and non-material resources, student academic achievement, community involvement, high stakeholder expectations, teachers’ efficacy, and quality assurance) comprised 23 items. The questionnaire had a Likert-type scale with the choices such as 0-never, 1-almost never, 2-seldom, 3-sometimes, 4-frequently, 5-almost always, and 6-always. According to Preston and Colman (2000) the Likert scale with seven choices has greater significance.

Pilot Study

For the data collection of pilot study, a total of 100 teachers from the secondary schools in Mardan (Pakistan) were visited. This data collection was aimed at confirming the reliability and validity of the school effectiveness assessment tool. A pilot study remained always as an essential step to confirm the feasibility and worth of a research study (e.g., Ary et al., 2010; Aziz et al., 2014). Therefore, the pilot study results have confirmed the three variables and their respected 62 items. The study has also proved that all the items of the stated tool were interrelated, which has fulfilled the rule of thumb for Cronbach alpha values.

Reliability of the Tool

To confirm the tool reliability, an analysis for Cronbach alpha values was carried out based on the collected data. The following Table 1 shows the Cronbach alpha values for the tool.
Table 1
Cronbach Alpha Values for Dimensions and Variables of School Effectiveness Model Tool (n=367)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dimensions</th>
<th>Cronbach alpha Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Leadership</td>
<td>Creating School Learning Climate (CSLC)</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>Defining School Mission (DSM)</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Managing Instructional Programme (MIP)</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Overall IL</td>
<td>.95</td>
</tr>
<tr>
<td>School Culture</td>
<td>Collegiality (COL)</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>Professional Values (PV)</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Shared Planning (SP)</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>Collaboration (COB)</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>Overall SC</td>
<td>.94</td>
</tr>
<tr>
<td>School Effectiveness</td>
<td>Quality Assurance (QA)</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>High Expectations of Stakeholders (HES)</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>Material and Non-Material Resources (RES)</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>Student Academic Achievement (SAA)</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>Community Involvement (CI)</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>Teachers’ Efficacy (TE)</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>Overall tool for school effectiveness model</td>
<td>.95</td>
</tr>
</tbody>
</table>

The values for Cronbach alpha are acceptable if greater than .70 (e.g., Hair et al., 2009). Therefore, based on the extracted values for Cronbach alpha, the reliability of the tool was confirmed. This reliability confirmation of the tool permits us to go for further analysis.

Data Collection Process

Mardan district (Khyber Pukhtunkhwa) has a total 138 government secondary schools of which 103 (including male & female) schools were visited for data collection from 367 sample teachers. The researcher visited these schools himself; therefore, the response rate remained 100%.

FINDINGS

Demographic Information of the Respondents

Table 2 displays the demographic characteristics of the respondents.
Table 2  
**Demography of the Sample (n=367)**

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Division</td>
<td>Rural Schools</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Urban School</td>
<td>19</td>
</tr>
<tr>
<td>School Type</td>
<td>Boys</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>46</td>
</tr>
<tr>
<td>Respondents</td>
<td>from Rural Secondary Schools</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td>from Urban Secondary Schools</td>
<td>97</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>235</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>132</td>
</tr>
<tr>
<td>Age</td>
<td>Up to 25 Years</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td>26-30 Years</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>31-35 Years</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>36-40 Years</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>More than 40 years</td>
<td>67</td>
</tr>
<tr>
<td>Experience</td>
<td>1 Year</td>
<td>06</td>
</tr>
<tr>
<td></td>
<td>2-4 Years</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>5-9 Years</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>10-15 Years</td>
<td>194</td>
</tr>
<tr>
<td></td>
<td>More than 15 Years</td>
<td>74</td>
</tr>
<tr>
<td>Academic Qualification</td>
<td>Undergraduate</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>337</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>12</td>
</tr>
<tr>
<td>Professional Qualification</td>
<td>C.T</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>B.Ed</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>M.Ed</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>08</td>
</tr>
</tbody>
</table>

**Sampling Adequacy**

The following Table 3 shows adequacy for sampling in this study.

Table 3  
**Sampling Adequacy for the Study (n=367)**

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. Chi-Square</td>
<td>5280.9</td>
</tr>
<tr>
<td>Df</td>
<td>78</td>
</tr>
<tr>
<td>Sig.</td>
<td>.00</td>
</tr>
</tbody>
</table>
The “Kaiser-Meyer-Olkin measure” technique was used for sampling adequacy (Ali et al., 2016; Ali et al., 2017). The value between 0.9 and 1.0 was considered as acceptable as per threshold values under the rule of thumb. Therefore, sampling adequacy was confirmed. Furthermore, the correlation between the variables was checked through CR values and AVE values. Table 5 displays the CR and AVE values for the model of school effectiveness.

**Validity of the instrument**

(1) **Face validity (Experts opinion)**

Before, to start data collection process the tool was validated by the two experts in the field of instructional leadership and school effectiveness from a local university in the Pakistani context. At the beginning, as the tool was developed, it had 79 items. But, considering the theoretical background, some changes were suggested by the experts, which were strictly followed. The detail of the changes was given as, some items should be removed and some needed structural changes (see Appendix-C). Similarly, some items were suggested to be kept in its original form. After that, the tool was translated into Urdu, the national language of Pakistan, aimed at better comprehension of the respondents. The translation was also validated by the expert (see Appendix-D).

(2) **Changes in the Tool**

As per experts’ opinion, changes were made to the tool of this study. After making changes, the number of the items was reduced to 63 only from a total of 79 items. And thus, the face validity was confirmed. To confirm the reliability and validity of the tool, more analysis was carried out as well.

**Outer Loading of the Factors into Variables**

To check the outer loading of the factors into the variable, an analysis was carried out as shown in the following Table 4.
Table 4
The Outer Loading of Dimension into the School Effectiveness Variable (n=367)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School effectiveness variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher efficacy (TE)</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Expectations of Stakeholders (HE)</td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Involvement (CI)</td>
<td>.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Academic Achievement (SA)</td>
<td>.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources (RES)</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Assurance (QA)</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Instructional Leadership Variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating School Learning Climate (CSLC)</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defining School Mission (SM)</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing Instructional Programs (MIP)</td>
<td>.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School Culture Variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration (COB)</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Planning (SP)</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Values (PV)</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collegiality (COL)</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. MIP=Managing Instructional Programs, CSLC=Creating School Learning Climate, SM=School Mission, COB=Collaboration, PV=Professional Values, SP=Shared Planning, COL=Collaboration, RES=Resources, CI=Community involvement, SAA=Student Academic Achievement, TE=Teacher Efficacy, HE=High Expectations of stakeholders, QA=Quality Assurance.

Table 4 shows that the dimensions were combined into their specific variables. Therefore, the tool was declared as suitable for data collection in the context of Pakistan.

Factor Loading

Table 5
Showing CR and AVE Values (n=367)

<table>
<thead>
<tr>
<th>Construct</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Effectiveness (SE)</td>
<td>.90</td>
<td>.61</td>
</tr>
<tr>
<td>Instructional Leadership (IL)</td>
<td>.92</td>
<td>.73</td>
</tr>
<tr>
<td>School Culture (SC)</td>
<td>.89</td>
<td>.85</td>
</tr>
</tbody>
</table>

All the CR values [.90, .92, .89] are greater than .60, which has confirmed a high correlation between the variables (e.g., Hair et al., 2009). Similarly, the AVE values [.61, .73, .85] were noted as greater than .50, which confirmed the average variance extracted (e.g., Hair et al., 2009). Thus by finding these values the validity of the model was confirmed.
Discriminant Validity

Next to find the Discriminant validity, the following analysis was carried as shown in the Table 6.

Table 6
Fornell-Larker Criterion for Discriminant Validity (n=367)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Instructional Leadership</th>
<th>School Effectiveness</th>
<th>School Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Leadership</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Effectiveness</td>
<td>(.53)</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>School Culture</td>
<td>(.37)</td>
<td>(.85)</td>
<td>(.72)</td>
</tr>
</tbody>
</table>

In Table 6 the R-Square values [.53, .37, and .72] are less than the AVE values [.73, .61, and .85] therefore, Discriminant validity was also confirmed for the tool of this study.

Analysis for dimensions of the three variables

The following Figure 1 is showing that all the dimensions are strongly correlated with instructional leadership variable.

![Figure 1: Amos output confirming the dimensions of Instructional Leadership](image)

**Note:** SM = school mission, MIP = Managing instructional programs, CSLC = creating school learning climate & IL = instructional leadership variable
Figure 2: Amos output confirming the dimensions of school culture

Note: SP= shared planning, COB= collaboration, COL= collegiality, PV= professional values & SC= school culture variable

Figure 3 is showing that all the dimensions are strongly correlated with the school culture variable.

Figure 3: AMOS output confirming the dimensions of school effectiveness

Note: HE= high expectations of stakeholders, RES= resources, CI= community involvement, SAA= student academic achievement, TE= teachers’ efficacy, QA= quality assurance, & SE= school effectiveness variable.
Preparing the Actual Instrument

At this stage the final tool was confirmed with three variables composed of 13 dimensions and 62 items. As shown in Table 1, the instructional leadership variable evolved with the overall Cronbach coefficient value of .95, the school culture with .94, and the school effectiveness with .95. Similarly, the Cronbach alpha values as shown in Table 1 for each of the dimensions were noted within the threshold values suggested by Hair et al. (2009). Thus finally, the instrument was validated for further studies.

DISCUSSION AND CONCLUSION

This study aimed at finding reliability and validity of the tool. To confirm validity and reliability, a tool needed to follow five stages, such as: (1) expert/s opinion (2) modification of tool (3) a pilot study (4) reliability analysis and (5) preparation of final instrument (Abdul et al., 2010; Aziz et al., 2014). All of these stated stages were confirmed through this study. Based on the theories, the three variables namely school effectiveness, school culture, and instructional leadership was selected for the school effectiveness model in the Pakistani context. The instructional leadership variable was defined in three dimensions, the school culture in four dimensions, and the school effectiveness in six dimensions as shown in Table 1.

First, the instrument had 79 items, but during the validation process some changes were suggested by the experts. These stated suggestions were aimed at confirming face validity of the tool. All of the suggestions made were followed strictly; as a result, the total number of items was reduced to 62 only. The next step was to translate the tool into the Urdu language, which is the national language of Pakistan, to assure better comprehension by the respondents. Before data collection, the translation of the tool was also validated by the experts. With the developed tool a study was carried out in the Mardan district (Pakistan).

Based on the data collected, an analysis was carried out using SPSS, and the values extracted such as factor loading, outer loading, Cronbach alpha, and expert opinion confirmed the reliability and validity of the tool. Based on the analysis, a final tool with three variables (instructional leadership, school culture, and school effectiveness) and 62 items was developed in Pakistan.

Thus the study has filled the gap as articulated in the education policy of Pakistan (NEP-2009) that Pakistan has no clearly articulated standards/dimensions to assess the school effectiveness. This study has achieved the stated aim.

REFERENCES


http://mojem.um.edu.my


http://mojem.um.edu.my


Appendix-A
Litter to Programmer EMIS for School Effectiveness Dimensions

Niaz Ali <niazyousafzai2000@gmail.com>  Apr 21, 2015

Respected Sir
I am research scholar and to develop a study on school effectiveness with the impacts of instructional leadership in Pakistani context. But sir, unfortunately I did not find any indicators for school effectiveness by ministry of education in Pakistan. Sir if could help me to find out these indicators for school efficiency, for the development of my study tool, I will be very thankful to you. Thanks

Bilal Kakli <bilalkakli@hotmail.com>

Dear Mr. Niaz,
Regards,
Muhammad Bilal Kakli,
Programmer (EMIS), AEPAM,
M/o Federal Education and Professional Training, Islamabad.
Ph: 051-9260675, 0321-5252154
It is glad to know regarding your research. Can you please exactly state the standard terminology of indicators, which will enable us to guide you further in this regard?

Date: Tue, 21 Apr 2015 14:07:14 +0800
Subject: Standards for School Effectiveness
From: niazystaizaz2000@gmail.com
To: webinfo@aepam.edu.pk

Niaz Ali <niazyousafzai2000@gmail.com>  21 Apr 2015

Thank you sir! for quick response. In fact I am studying instructional leadership skill on school effectiveness by mediating school culture. For this purpose the dimensions for instructional leadership of principal are developed by Prof. Hallinger as:
1. Dimension of Defining School Mission,
2. Dimension of Managing Instructional Programme
3. Dimension of creating school learning climate
so in the above dimensions the role of the principal as instructional leader will be studies similarly for school culture the dimension are given by Prof. Cavanaugh & Deller as: 1. Professional Values 2. Emphases on Learning,
3. Collegiality, so in these dimensions the school culture will be studied.

But my supervisors told me you should take the dimensions for school effectiveness only from Pakistan that may check the effectiveness of school in Pakistan and you must not take the above as they are from developed countries. Sir in nutshell the question is that what things we check in schools that show the effectiveness of schools in Pakistan as education policy 2009 of Pakistan says "A key deficit is absence of clearly articulated minimum standards for most educational interventions and their outcomes. Even where these are established, there is no measurement or structured follow up. As a result, impact of the interventions remains subject to anecdotes or speculation and the true picture never emerges. Since standardization has not been part of the governance culture, relevant indicators have not been developed. Only recently the National Education Management Information System (NEMIS) has begun the process of computing indicators. Though even these indicators are those that have been internationally identified and developed by UNESCO or some of the donors for cross-cutting international programmes like Dak Framework of Action for EFA and Fast Track Initiative (FTI) for EFA, indigenous requirements on a scale have not been assessed" (NEP 2009: P 12).

So therefore I request you to provide me the stated dimension to evaluate school effectiveness. Thanks sir and I will wait for your kind reply.
Appendix-B
Letter to Director E&SE for School Effectiveness Dimensions
Niaz Ali <niazyousafzai2000@gmail.com>

Jun 23, 2015

to rafiq_kk851
R: Sir
I am PhD research scholar and conducting study for school effectiveness in Pakistani context. Sir please help me in finding what are school effectiveness indicators OR dimensions in Pakistan that I may take to find school effectiveness during data collection. In other words, what main things we judge to stand a school an effective school.
Thanks Sir
Niaz Ali Yousafzai
PhD Scholar IEL UM Malaysia
Lecturer Edu. Dept: SBBU KP
Pakistan
Ph: 0060-142380134

RafiqKhattak <rafiq_kk851@yahoo.com>
to Deputy Salihuddin Khan
Deputy Director EMIS <roemis@yahoo.com>
roemis@yahoo.com / me
Please guide
Director, E&SE Department
Muhammad RafiqKhattak
091-9210389
rafiq_kk851@yahoo.com
Appendix-C

Letter of Expert-I

Dear Mr. Niaz Ali!

Regarding your application for getting face validity for your research tool developed to study instructional leadership, school culture and school effectiveness, please read the following.

After reviewing your research tool developed in four parts i.e. Part-A (demographic variables) Part-B (instructional leadership of principal), Part-C (school culture) and Part-D (school effectiveness) to study the stated variables in secondary schools of district Mardan Khyber Pukhtunkhwa (KP) province of Pakistan, the following suggestions were made.

1. Part-B (instructional leadership) with all the three dimensions and their respective items (1-22) should be accepted without making any change. As these items and dimensions are suitable in the context.
2. Part-C (school culture) should be accepted with few changes like the two dimensions namely “Emphases on Learning”, and “transformational leadership” should be deleted. As these dimensions have common aspects with independent variable. The items like 27, 28, 29, 34, 35, 38, 40, 41, 45, 47 and 49 are also suggested to be deleted from school culture tool (Part-B), as these items are not clear or confusing due to common aspects. While the items like 23, 24, 25, 32, 33, 36, 37, 43, 44, 46 and 50 might be rephrased, others might be accepted.
3. Part-D (School effectiveness) also needs some changes, like item 54, 63, 65, 66, 67 and 70 should be removed as these items are not relevant and/or having no standard, and the items like 51, 52, 53, 62, and 64 should be rephrased.
4. Rests of the dimensions and items should be remained unchanged including Part-A. The total number of items should be reduced to 62 only. Generally the tool is quite better to assess the conceptual model of the study.

Dr Amir Zaman
Chairperson
Department of Education
Abdul Wali Khan University Mardan, Pakistan
HEC Approved Supervisor
Email: amirzaman69@yahoo.com
Cell No. 0092-3009309669

Dated: 15/7/15
AppendixD
Letter of Expert-II

Dr. Abdul Ghaffar
Asst: Professor
Department of Education
Abdul Wali Khan University Mardan, Pakistan
HEC Approved Supervisor
Email: ghaffar75@yahoo.com
Cell No. 0092-3339645156

Dated: 20 07 15

Face Validity for Research Tool Assessing School Effectiveness

Dear Mr. Niaz Ali

The translation of your tool into URDU (as per suggestion) was found correct. Regarding your research tool the following suggestions were made.

1. Part-B should be accepted without making any change as all the three dimensions and related items are suitable in the context.
2. Par-C should be accepted with some changes like items 27, 28, 29, 34, 35, 38, 40, 41, 45, 47 and 49 might be deleted due to repeated and confused nature. The items like 23, 24, 25, 32, 33, 36, 37, 43, 44, 46 and 50 might be rephrased, and the remaining items should be accepted without making changes.
3. Part-D also needs a few changes, like item 54, 63, 65, 66, 67 and 70 should be removed as these items are not suitable and the items like 51, 52, 53, 62, and 64 might be rephrased.

Note: All the remaining dimensions and items should be included in the tool. Following the changes mentioned, the tool will prove suitable to assess school effectiveness, instructional leadership, and school culture in the secondary schools of district Mardan, KP province of Pakistan.

Dr. Abdul Ghaffar