DEVELOPMENT OF A VALID AND RELIABLE QUESTIONNAIRE FOR MEASURING ACADEMIC MANAGEMENT PRACTICES OF SECONDARY SCHOOL HEADS

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Abstract

The purpose of this study is the development of a valid and reliable questionnaire for measuring secondary heads academic management practices. The present article focuses on the process of a self developed questionnaire for measuring the heads academic management practices at secondary level. The population of the study consisted of all heads of Govt secondary schools in Southern districts of Kyber Pakhtunkhwa. The instrument was validated in views of five experts in education discipline. For the purpose of reliability, 20 respondents were randomly selected from the population. Cronbach alpha .858 was obtained from the whole scale. After validation and reliability, a questionnaire consisted of 31 items was finalized for measuring academic management practices of school heads at secondary level.

Key Words: - Questionnaire, Validity, Reliability, Academic Management Practices, Secondary School Head.

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Introduction

The heads of secondary schools manage administrative and academic affairs of the schools in order to improve the quality and expand the quantity of education. Therefore, academic management is the prime responsibility of secondary school heads. Academic management practices lead the secondary school heads to enhance the performance of students as well as teaching staff.[1]

Academic management is the base of an institutional process. It consists of planning and management of admissions, curriculum, instruction, conduct of internal and external examinations, and management of co-curricular activities.[2]

Academic management is a process which totally deals with academic affairs such as development and implementation of curriculum, conduct of examination, monitoring class room activities, appreciating teachers, providing feed back to teachers, and creating pleasant teaching learning environment to improve the quality of education in schools.[3]

It is a process of planning, organizing, leading and controlling all the activities in schools which are related with academic matters. The academic affairs include curriculum implementation, instruction to proper planning of curricular and co-curricular activities. The heads of secondary schools are considered to be the academic leader of high school because he has to manage all the academic affairs of the school.[4]

The supervision of teachers as well as students and curriculum management is the responsibility of the head of secondary schools.[5] Secondary school head as a manager do planning; give directions and control in order to utilize the resources to great extent. In practice such matters fall under the umbrella of academic management. The domains of academic management are defined as under:

(i) Supervision of instruction (ii) maintenance of students record (iii) Guidance of demonstration of lessons and experiments (iv) Orientation of teaching staff through in service training, courses, seminars, staff meetings, conferences, refresher courses etc.(v) Assessment of students achievements (iv) Verifying the proper maintenance of school records which includes cumulative records, examination registers, progress records etc.(vii) Preparation of instructional materials like hand books, guide books, lesson notes, scheme of lessons etc. viii) Supervising the arrangement and organization of curricular and co-curricular activities. (xi) Coordinating the affairs of the board of secondary education, state institute of education with those of schools, follow up and feedback activities.[6]

The questionnaire of academic management practices of heads at secondary level consists of these three domains (i) Teachers Supervision ii) Student supervision iii) Management of curricular and Co-curricular activities. These are as under.

Teachers Supervision

The word supervision is composed of two words i.e. "Super" and Vision which means "to look forward" or a broad outlook, for the professional development of teachers. Through supervision the heads guides the activities of teachers in order to improve their output in teaching learning process.[7]

The word "Supervisor" refers to one's immediate supervisor in the working environment i.e. the person whom to report directly in the organization.[8] Secondary school head is considered to be the supervisor of all teaching and non-teaching staff as well as of students. In fact supervision is an act of looking the work of others. The stake holders of the school that is teaching and non-teaching staff, students and parents of the students are very important. Secondary school heads are supposed to work

with all these stake holders. Among all these stake holders teachers are very important for the smooth functioning of school which completely depends upon the performance of teachers. For this purpose, the head maintains good relations with teachers, so that pleasant working environment can be established in school.[9] Secondary school heads have to work with the teaching staff to enhance their skills and co-ordinate with students, teachers, parents, community members in order to improve students' academic performance.[10]

The head of secondary school has to develop strong rapport among the teachers to provide better working environment in the school. School head work as a facilitator and support teachers to ensure co-operation among them. In fact supervision is an act of looking the tasks of others."[11] Secondary head supervises the teachers of the school. The main supervision tasks of head relating to teachers are as under.

Assigning courses to teachers according to their professional skills. Provide guidance to teachers in selecting material. Provide guidance in solving teachers identified problems. Evaluating and supervising the teaching methodologies of teachers. Providing and creating pleasant environment for teaching learning process. Boosting the morale of school staff.[12]

Students Supervision

Student supervision is the second major area of academic management in a school. The facets of students supervision are as under. Giving academic guidance and counseling to students. Organizing and co-coordinating (Internal and external) examinations of school. Ways and means to address the grievances of students. Developing skill, interest and aptitudes among students. Monitoring and supervising students activities as per curriculum requirements.[13]

Curriculum Management

Curriculum management is the third major area of academic management. It involves preparation of detailed calendar of curricular and co-curricular activities, preparation of class time table, involvement of teachers in developing a planned approach to curriculum implementation, conducting students evaluation and review of progress made in various activities from time to time in a school.[14]

Validity and Reliability

Validity and reliability are the two most important characteristics of good measuring tool. Both these characteristics are essential for each other. Validity means effectiveness or soundness.[15] Content validity has been defined as follows. "The degree to which an instrument has an appropriate sample of items for the construct being measured".[16] "Whether or not the items sampled for inclusion on the instrument adequately represent the domain of content addressed by the tool".[17] There is general agreement in these definitions that content validity concerns the degree to which a sample of items, taken as a whole, constitute an adequate operational definition of a construct.[18]

Reliability

Reliability refers to the consistency of measurement.[19] In other words it is the stability of measurement over a variety of conditions in which basically the same results should be obtained.[20]

Purpose of the Study

The purpose of the study was to develop a valid and reliable questionnaire for measuring academic management practices of secondary school heads. The scale was developed, discussed with experts in education, and used to collect data for further validation process.

Instrument Development

To compose a valid measure of an underlying construct or issue is the major objective of a scale.[21] Heads academic management practices scale in this research. Scale development process can be divided in to three major steps.[22] In the first step the construct or issue is defined and explained. In the second step items are developed. In the third step, the construct validity is examined and revised if necessary.[23]

Firstly, the researcher following the first step operationally defined the heads academic management construct or issue. At the second stage of instrument development, a 44 items scale was initially developed it consists of the three major areas of academic management practices, viz; students supervision, teachers supervision and management of curricular and co-curricular activities. Thirdly, content validity was get done by experts in education discipline.

Process for the questionnaire content validity

The researcher studied relevant literature for the development of a questionnaire. He studied school based management concepts at secondary level. The researcher specially explored the Academic Management practices of heads at secondary level. The researcher initially developed a questionnaire consisting of 44 items. The researcher personally gave the questionnaire to experts in education for content validation. These instructions were given to the experts regarding the validity of the questionnaire.

- To rate each item in terms of its relevance to the underlying construct.
- Check the statement if it best fit to the Pakistani School context.
- Identify the statement which repeats the concept.
- Suggest any changes in the items of the instrument.

For content validation the items were rated into relevant and not relevant.[24] Seven items were dropped from the instrument in the process of validation which consists of 44 items.

It is recommended that with a panel of "five or fewer experts "all must agree on the content validity for their rating to be considered a reasonable representation of the universe of possible rating.[25] In other words, the individual content validity index should be 1.00 when there are five or fewer judges. When these are six or more judges, the standard can be relaxed, but Lynn recommended individual content validity index not lower than .78. For example, with six raters, there could be one "not relevant "rating (I.CVI= .83) and nine raters there could be two not relevant ratings (I-CVI= .78).[26] The seven items were dropped from the instrument following the above criteria. Five items were rewritten in the light of the suggestions of the experts in education. After content validation the number of items retained in the questionnaire was 37.

These statements were composed on five point Likert type scale from "Strongly Agree" "Agree" "Undecided" "Disagree" "Strongly Disagree".

Demographic information, viz academic qualification, professional qualification, age, work experience, gender, school location (Urban/Rural) were made part of the questionnaire.

Procedure for Reliability

For the purpose of reliability of the questionnaire, the researcher randomly selected the heads of 20 secondary schools as respondents, (10 male heads and 10 female heads) from the population. The population of the study consisted of all secondary school heads of southern districts at secondary level. These numbers were excluded from the research sample. The researcher personally administered the questionnaire to the

respondents. The respondents response rate was 100 percent. The data obtained through survey was then put into SPSS version 16 mean, standard deviation, item total co-relation and cronbach alpha were computed to measure the reliability of the scale.

Results

The following table shows scale items mean, variance, corrected item total correlation and Cronbach's alpha for the whole scale.

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.858	37

Item-Total Statistics				
Items No.	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
1	157.8000	67.289	-.077	.864
2	158.0000	62.444	.567	.854
3	158.0000	63.778	.631	.860
4	157.7000	67.122	.732	.863
5	158.1000	69.878	.250	.882
6	158.2000	67.733	.876	.884
7	157.9000	68.100	-.172	.867
8	158.0000	66.222	.020	.863
9	158.1000	66.989	-.047	.865
10	158.8000	57.067	.531	.833
11	157.7000	67.122	.653	.863

12	158.3000	63.344	.178	.858
13	158.6000	58.711	.435	.840
14	157.5000	64.500	.328	.851
15	157.5000	66.500	.543	.860
16	157.8000	64.178	.289	.851
17	157.9000	64.767	.452	.857
18	158.3000	63.567	.272	.852
19	157.8000	64.400	.263	.852
20	157.7000	67.789	-.136	.866
21	157.7000	63.789	.345	.850
22	158.0000	66.222	.543	.859
23	157.6000	60.711	.791	.835
24	157.6000	62.044	.414	.845
25	157.7000	63.567	.355	.852
26	158.0000	58.667	.752	.829
27	158.2000	58.178	.596	.832
28	158.0000	65.556	.342	.860
29	157.8000	63.289	.397	.848
30	157.8000	59.733	.610	.835
31	157.9000	64.989	.401	.855
32	157.9000	64.544	.452	.853
33	157.8000	61.733	.590	.841
34	158.0000	58.444	.775	.827
35	158.0000	58.000	.821	.825
36	157.6000	63.378	.428	.847
37	157.5000	64.722	.295	.852

The above table shows item statistical values for the whole scale. Those items were dropped out from the scale whose item total co-relation was .25 or less than .25.

As Nunnally, suggested a cut off of .40 to determine the number of items to retain in a specific Factor.[27] Items 1, 7, 8, 9, 12, 20 were deleted from the whole scale because item total correlation of these items were 0.25 or less than 0.25, i.e.: 077, - .172, .020, - .047, .021, - .0136. The following retaining 31 items of the scale possess item total correlation more than 0.25 as the table shows. These 31 items compose the questionnaire item mean, variance, corrected item total correlation and cronbach's alpha for the selected items of scale.

RELIABILITY RESULTS (Retained items)

Table 2

Reliability Statistics	
Cronbach's Alpha	No of retained items
.858	37

Item-Total Statistics				
Items No.	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1.	158.0000	62.444	.567	.854
2.	158.0000	63.778	.631	.860
3.	157.7000	67.122	.732	.863
4.	158.1000	69.878	.350	.882
5.	158.2000	67.733	.876	.884
6.	158.8000	57.067	.531	.833
7.	157.7000	67.122	.653	.863
8.	158.6000	58.711	.435	.840

9.	157.5000	64.500	.328	.851
10.	157.5000	66.500	.541	.860
11.	157.8000	64.178	.289	.851
12.	157.9000	64.767	.452	.857
13.	158.3000	63.567	.272	.852
14.	157.8000	64.400	.263	.852
15.	157.7000	63.789	.345	.850
16.	158.0000	66.222	.543	.859
17.	157.6000	60.711	.791	.835
18.	157.6000	62.044	.414	.845
19.	157.7000	63.567	.255	.852
20.	158.0000	58.667	.752	.829
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25.	157.9000	64.989	.401	.855
26.	157.9000	64.544	.452	.853
27.	157.8000	61.733	.590	.841
28.	158.0000	58.444	.775	.827
29.	158.0000	58.000	.821	.825
30.	157.6000	63.378	.428	.847
31.	157.5000	64.722	.295	.852

Decision was made on item total correlation. Those items were dropped whose item total correlation values were .25 or less than .25. The remaining 31 items were retained in the scale.

The above items in the table 2 constitute a reliable scale for data collection. The total cronbach's alpha of the questionnaire is .858.

Questionnaire for Measuring Academic Management Practices of Secondary School Heads.

Demographic Information

Part-I

Academic Qualification: _____ Professional Qualification: _____

Age: _____Years Work Experience: _____Gender: Male / Female

School Location: _____ Rural/Urban.

Look at each practice and please tick (   ) the most appropriate option given against each statement. The questionnaire is developed on five point Likert scale i.e. **strongly Agree, Agree, Un decided, Disagree Strongly Disagree.**

Part-II

Supervision of Students

Items No	Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	I do arrangements for the conduct of Internal Examinations.					
2	I make arrangement for the conduct of external examinations.					
3	I keep close eye that classes are regularly held.					
4	I punish those students who violate school rules.					
5	I give first preference to					

	attendance and punctuality of students.				
6	In case of any problem to students I directly solve it.				
7	I enforce and ensure discipline among students.				
8	I make arrangement for latest A.V. Aids in the classroom and Labs.				
9	I ensure timely provision of free text books to students.				
Teachers Supervision					
10	I assign subjects to teachers according to their professional skills and interests.				
11	I motivate teachers for giving quality education to student.				
12	I consult teachers in decision making process for school.				
13	I co-ordinate teachers as colleagues for fruitful performance.				
14	I provide guidance to teachers in selecting				

	relevant materials and equipments.				
15	I equally distribute teaching work load among teachers.				
16	I check teachers for their presence in classroom sessions.				
17	I keep check and balance on Teachers attendance.				
18	I emphasis teachers to follow academic calendar.				
19	I appreciate teachers on showing good performance.				
20	I conduct in service seminars and trainings for teachers.				
21	I encourage teachers to follow latest and modern methodology.				
Supervision of Curricular and Co-Curricular activities					
22	I develop yearly academic calendar for curricular and co-curricular activities of school.				
23	I review overall academic performance of school.				
24	I develop an effective time				

		table for classes.					
25		I make arrangements to know about the performance of students.					
26		I involve teachers in co-curricular activities.					
27		I follow time table for co-curricular activities given by the department.					
28		I arrange *Natt* competition and quizzes during special occasions.					
29		I arrange celebrations on special occasions in school.					
30		I make arrangements for games.					
31		I ensure regularity of academic activities.					

The above questionnaire consisted of 31 items is a valid and reliable one. The part-I of the scale consisted of seven demographic variables i.e. name of the school, academic qualification, professional qualification, age, work experience, gender, and school location. Part-II of the questionnaire consisted of 31 Likert type items, responded on a point scale from "strongly agree" "Agree" "Undecided" "Disagree", "Strongly disagree" ", carrying a value of 5 to 1 respectively. The items in the scale reflects

amount of involvement of secondary school heads in the process of academic management.

Discussion

Recently, the management of secondary school academic matters is an uphill task for the heads. Academic management practices are used by heads of secondary schools for their smooth functioning.

The study is an attempt by the researcher to develop an instrument to measure the academic management practices of secondary school heads. Before the development of the instrument vast related literature was reviewed. From the literature review academic management at secondary school was divided in to three major areas viz: supervision of students, supervision of teachers and management of curricular and co-curricular activities. These areas of academic management have been reviewed and discussed in detail. The researcher initially developed 44 items scale. The language and content in the instrument was also validated by the experts. During the development of instrument, the researcher kept in mind the local environment of the government secondary schools of southern districts in Khyber Pakhtunkhwa. For pilot testing of the instrument 20 secondary schools were randomly selected. In these 20 schools, 10 male and 10 female schools were included. The data was collected from 20 secondary school heads of district Bannu. Cronbach Alpha formula was used in estimating the internal consistency of the scale. Cronbach Alpha .857 was obtained for the scale.

In general, the reliabilities less than 0.6 are considered to be poor, those in the 0.70 value are acceptable and those over 0.8 considered good.[28] A questionnaire is well organized and written setup questions/statements about the related area or domain of research. This tool consists of a statement which is in expensive and efficient method of data collection.[29]

A questionnaire for data collection is the most popular research instrument in descriptive research.[30]

The instrument was developed by the researcher himself 31 items of the questionnaire were the academic management practices of heads of secondary schools which make his/her role as an academic manager in the school. The questionnaire was personally administrated by the researcher to determine the perceived role of heads of secondary schools in the area of academic management. The scale was developed by the researcher himself, so its Cronbach's Alpha could not be compared to any other scale in the literature. In short, the instrument is good enough to measure the academic management practices of secondary school heads.

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