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A Study of Secondary School Science Teacher's Classroom Management Skills at District Bagh, AJK

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ABSTRACT

Aim of the Study: Classroom management skills help teachers to create an organized classroom environment that's conducive to teaching. A teacher with strong classroom management skills creates consistency for his students, moves the class forward, stops disruptions from occurring and controls the learning. This is more important in a science class room because science as a discipline of study starts from secondary level and demands best management at initial stage. It is a known fact that the quality of science education is hidden in best management of science class rooms; therefore, it created a thirst in the mind of researcher to explore Secondary School Science Teacher's Classroom Management Skills to ensure quality science education at secondary level. The objectives of the study were to investigate secondary school science teachers' concepts, awareness, current practices, difficulties, and training needs with respect to classroom management skills.

Methodology: It is a survey study in which questionnaires as instrument was used. Data was collected through postal mail and personal visits of the sample schools. Descriptive and inferential statistics i.e. chi-square and t-test were applied for data analysis, and testing of hypothesis on maximum levels of significance.

Findings: It indicated that science teachers effectively used conceptual skills, human skills and technical skills in classroom.

Conclusion: It has been concluded from this study that more or less all those secondary schools which have been selected as sample have deficiency of buildings, teaching aids, and basic facilities. Moreover, secondary school's science teachers are though proficient in many areas of classroom management skills (CMS), however they need to have clarity of concepts and understanding in some specific areas of classroom management skills (CMS).

Keywords: Science Teacher, Classroom Management Skills, Secondary Level.

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Introduction

Education is process of learning and learning is a permanent change in behavior. This change of behavior is brought through knowledge, attitude and skills. The education system is considered as the most effective change agent and it can play its role only effectively if it is managed properly. The management, administration and supervision of education can ensure its fruitfulness. It is obviously known that the basic objective of education and supervision is the promotion and improvement of knowledge, understanding and skills in leadership, administration, management and supervision (Masrur, 2011). Classrooms were used as appropriate platform for teaching learning activities. Teaching in normal classes did not cause much problem to the teachers but the large classes certainly disturb the smooth functioning of educational activities. Hence need for management of large classes arose (Gazi, 2011). Usually, class room management is understood as the pathway in which a teacher organizes for his/ her pupil proper space, specific time and required human and material resources available to them to increase their learning. It can be defined as the activities of a teacher in order to promote process of teaching and learning through organization of students, materials, time and space. The capability of teachers to effectively implement a management approach is also one of its components. Its other ingredients are instructional practices, classroom settings, and implementation of rules, adopting procedures, making routines, following curriculum and interventions of discipline (Basit, 2005). It also means to focus on helping students to become academically engaged, organizing instructions to accommodate student's strengths and needs and motivating students to be interactive during instructional activities (Palumbo & Sanacore, 2007). Thoughts and actions of teachers taken to create an environment which is conducive for learning also fall in classroom management.

To become effective teacher is a long and unique journey and a most important factor which makes this journey more successful for both teachers and students is the classroom management skills which seems to be one of lacking area in science teaching at secondary level in Pakistan (Ahmed et.al., Dec 2018). According to Emendu, (2013), science has been used as a veritable instrument to bring about socio economic development and empowerment all over the world. Studies showed that classroom management, student engagement, achievement, and attitude toward learning all go hand-in-hand in any grade level (Manuel, 2011). The recently completed National Education Assessment System (NEAS), stated there that "Reform is required in all areas: pre-service training and standardization of qualifications; professional development; teacher remuneration, career progression and status; governance and management of teaching workforce (Government of Pakistan, 2009). Researches depicted those Pakistani teachers have a lot of difficulties in managing the classes (Ahmed et.al., Dec 2018). Therefore, the most important thing for science teachers is to learn and practice all those classroom management skills necessary to make their teaching successful, effective, qualitative, interactive, and wholesome. This dream can become reality if and only if they become conceptually, humanly, and technically skilled and dedicated to utilize skillful approach in classroom.

Science Education

Science as a discipline of study is quite different than humanities, social sciences and other disciplines. It involves keen observation, sound reasoning, and experimentation. "Science is historically human truth-seeking enterprise that encompasses many features like cognitive, ethical, social, cultural, psychological, etc. All of these characteristics of science are worthy of study and investigation by the persons belonging to teaching-learning system" (Ahmed, 2016), Awan (2007) quoted that "Science education is primarily concerned with transmitting a body of inherited knowledge."

Classroom Management

Niazi, (2010) quoted "that classroom management is a skill which consists of a number of aspects necessary for creating a desirable atmosphere for effective teaching and learning. There are so many aspects related to classroom which should be kept in view by teacher while teaching in the class. Taking care of seating arrangement, developing favorable atmosphere climate for learning, class cleanliness,

managing the time properly, taking care of student's movements' activities and class discipline etc. are different angles to this skill which are the basic need of teacher. A teacher can never perform better without applying such managerial skills (Niazi, 2010). The comprehensive nature of classroom management by identifying five main features: (1) an understanding of current research and theory in classroom management and students' psychological and learning needs. (2) the creation of positive teacher–student and peer relationships. (3) the use of instructional methods that facilitate optimal learning by responding to the academic needs of individual students and the classroom group. (4) the use of organizational and group management methods that maximize on-task behavior. (5) the ability to use a range of counseling and behavioral methods to assist students who demonstrate persistent or serious behavior problems (Jones, 1996).

According to DiVico (2018), "the objectives of classroom management are for students to gain behavioral, social and academic success in a structured environment that caters to tolerance, exemplary behavior and learning. Objectives included Structure & Preparedness, Rule-Based Behavior, Academic Achievement, Effective Instruction. Rules of class should support the regulations and expectations yet promote behavior for classroom settings" (Ahmed et.al., Dec 2018). Rules should be written, posted and implemented to exhibit positive discipline. "Student success means academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational outcomes, and post college performance" (Osmosu, 2018). An educator can entrust a well-managed class to follow procedure and directions while he/she attends to varying student needs and ability levels (Diviko, 2018).

Importance of Classroom Management

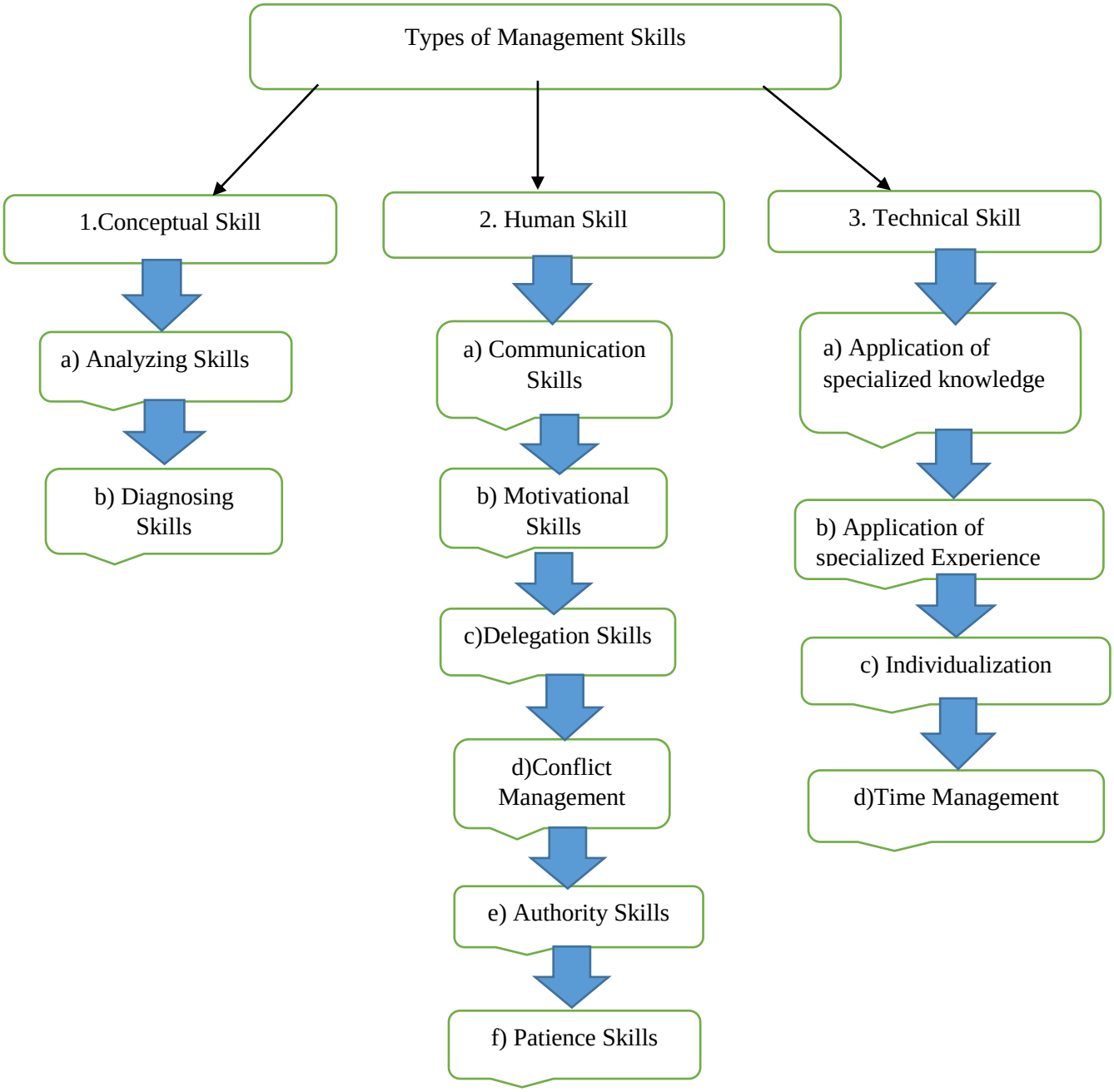
According to Ahemed, Ambreen & Hussain (Dec 2018) "The importance of classroom management is closely related to the effect on classroom management over teaching. Various research results reveal that teachers have direct effect on students' learning and effective classroom management". Effective classroom management included Effective teaching, Efficient Use of Time and Consistency throughout the school by aligning their management strategies skillfully with the school wide standards**.**

Teacher's Role in Classroom Management

Organization for Economic Co-operation and Development (OECD) identified five dimensions. Turner, & Bisset, (2001) listed them as follows: (1) Knowledge of substantive curriculum, areas and content. (2) pedagogic skills, including the acquisition of and ability to use a repertoire of teaching strategies. (3) reflection and ability to be self-critical, the hallmark of a teacher's professionalism. (4) empathy and commitment to the acknowledgement of the dignity of others. (5) managerial competence, as teachers assume a range of managerial responsibilities within and beyond the classroom". They identified following managerial roles of teacher in the classroom (1) Informational Role: It includes (a) Monitor (b) Disseminator (c) Spokesperson (2) Decisional Role: This includes (a) Entrepreneur (b) Disturbance handlers (c) Resource allocators (d) Negotiator. (3) Interpersonal Role: It includes: (a) Figurehead (b) Leadership (c) Liaison.

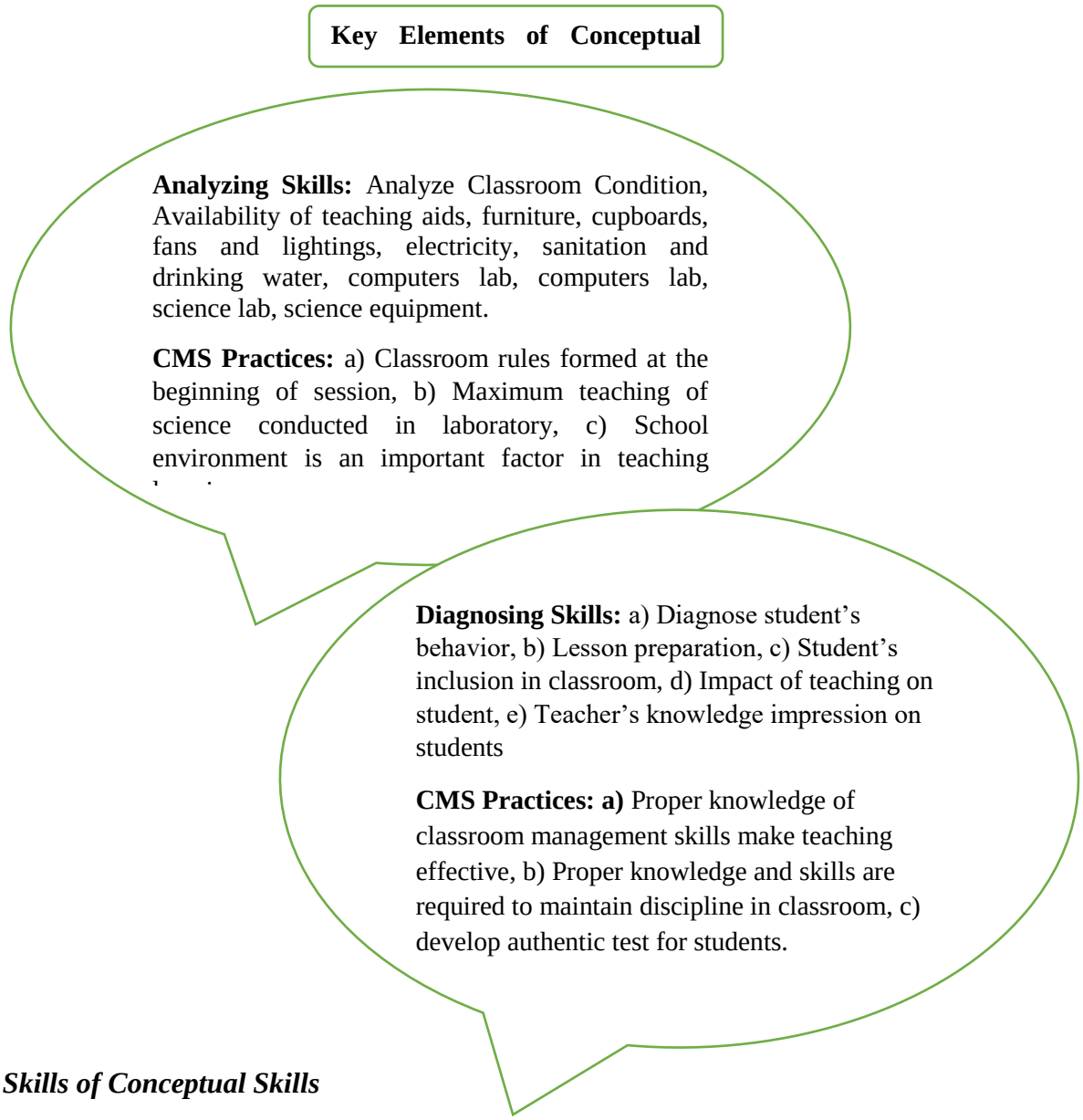
Types of Management Skills

Freeman and Gilbert who further quoted Fayal who identified three basic kinds of skills technical, human and conceptual (Chudhary, 2011)


Types of Management Skills
1.Conceptual Skill
a) Analyzing Skills
b) Diagnosing Skills
2. Human Skill
a) Communication Skills
b) Motivational Skills
c)Delegation Skills
d)Conflict Management
e) Authority Skills
f) Patience Skills
3. Technical Skill
a) Application of specialized knowledge
b) Application of specialized Experience
c) Individualization
d)Time Management

1.Conceptual Skills

"This is an ability to critically analyze, diagnose a situation and forward a feasible solution. It requires creative thinking, generating options and choosing the best from the options available".



Sub Skills of Conceptual Skills

(A) Analyzing Skills: These skills require following abilities in personality (a) Analytical Ability (b) Lateral Thinking (c) Initiative (d) Logical Reasoning (e) Persistence (kent.ac.uk**)**.

(B) Diagnosing Skills: Diagnostic skills are used to find a way to effectively solve the problem.

2. Human Skills

As the job of managers is to get things or tasks done through other people so, they may have human skills of communication, motivation and delegation Alfred, (1998) is of the view that, "The manager must have the ability to work with and through people, including an understanding of motivation and an application of effective leadership." He has given following two purposes in this regard. (1)

getting the best out of each individual which involves in different tasks, (2) keeping high group morale to accomplish tasks.

Sub Skills of Human Skills

(A). ***Communication Skills*****.** Communication may be in upward, downward, horizontal and diagonal directions and varies in the formality" (Begum, 2012). Communication means the process of passing information or ideas or thoughts to someone else. The elements of communication process are as: (1) source (2) receiver (3) message (4) channels (5) feedback (6) encoding and (7) decoding. Types of communication are**:** (1) Formal communications (2) informal communication (3) Communication between the groups (4) Interpersonal communication (5) Upward communication (6) Downward communication.

(B). Motivational skills. It is the state of mind, which emerges within a person and directs him towards the goal or the achievement of the desired results (Ahmed, 2016).It involves the processes that energize, direct and sustain (santrock, 2004). Basic component for motivation are: (1) Need (2) Drive (3) Incentives and (4) Goal-directed behavior. Motivation is to be established based on the needs of the students" (Basit A. .., 2005). Motivation has following three main types (1) Intrinsic Motivation, (2) Extrinsic Motivation, (3) Achievement Drive.

(C). Delegation Skills. The individuals that are capable of carrying out the task, delegating the work with accurate instructions and providing enough moral support." (Merrett & Wheldall, 2006).

(D). Authority Skills. "When you're sure of yourself and adopt a positive attitude, it becomes easy to command authority just by the way you look" (Rn.wikipedia.org/wiki/classroom management).

(E). Patience Skills. Being not only a good characteristic of human beings, patience helps a teacher get success in class management" (http://vkool.com/classroom-management-skills/).

Key Elements of Human Skills

Communication Skills: a) Convey student's tests results to their parents via Communication, b) Listen and understand student's point of view by Communication.

CMS Practices: a) Communication should be flawless, effective and successful, b) Student's lack of understanding clear via explanation and Communication.

Motivational skills: a) Conduct group competition, b) Motivate students to participate in science activities, c) Encourage pupils by praising them

CMS Practices: a) Creating competition enhances students interest in the relevant subjects, b) Teaching aids are effective motivating agents in science teaching

Delegation skills: a) Provide students a variety of seat work activities, b) Help students to make their self-plans of actions.

CMS Practices: a) Make classroom rules with participation of pupils, b) Students physical involvement in lesson boosts up their self esteem

Conflict Management Skills: a) Identify source of conflict, b) Address conflict at initial stage

CMS Practices: a) Corporal punishment of any kind may never be used in classroom, b) Particular management skills are needed to resolve/manage group work issues, c) Dividing students into small groups solves their communication problems.

Authority Skills: a) Handle discipline issues by using authority, b) Clearly know about what to do in classroom.

CMS Practices: a) To resolve problems in classrooms teacher is ultimate decision maker, b) Exercise authority positively where needed, c) Teachers are responsible to resolve discipline problems.

Patience Skills: a) Welcome student's opinions**, b)** listen student's questions carefully

CMS Practices: a) Patience makes it easy to control any situation in classroom, b) Teachers listen student's responses carefully and attentively.

3.Technical Skills

These include ability to apply specialized knowledge or experience (Khan, 2010). These also involve process or techniques, knowledge and proficiency. The managers use the process, techniques and tools of specific area.

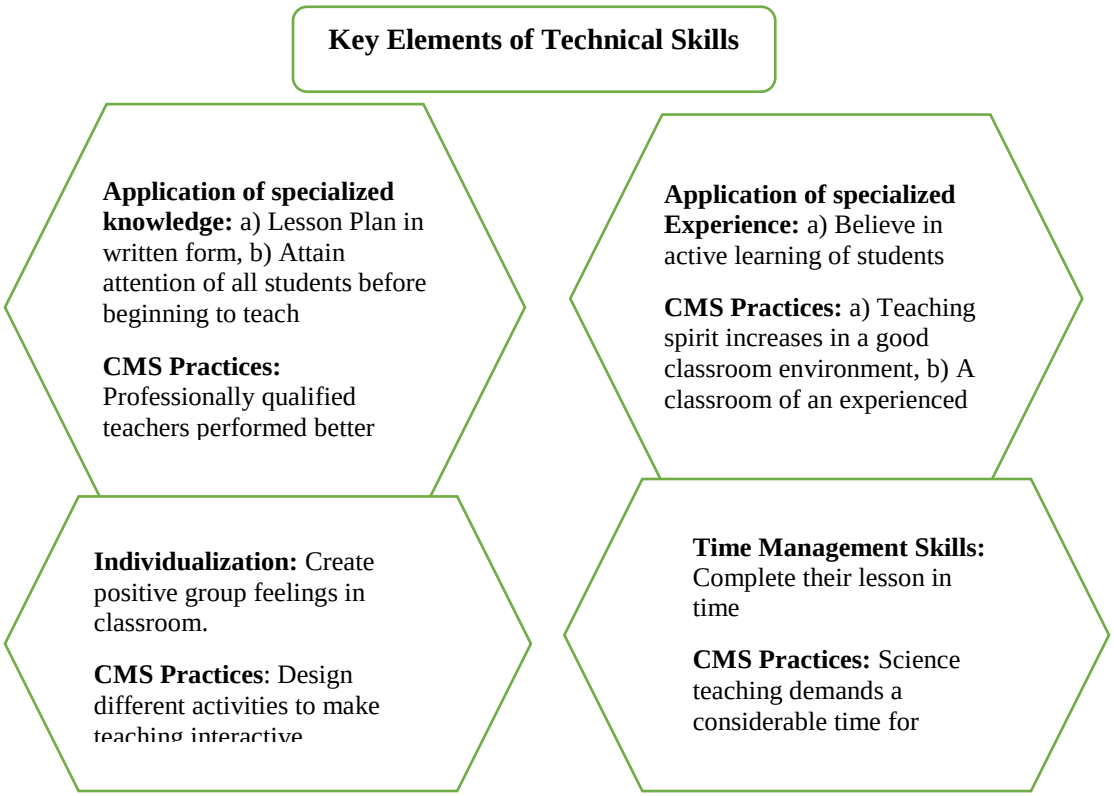
Sub Skills of Technical Skills

(A). Application of Specialized Knowledge. According to Khan (2010) these things are important for a manager. **(**1) To form a clear and well-defined policies to achieve the task. **(**2) Developing a plan how to accomplish the required task.

(B). Application of Specialized Experience. Important things for a manager in this area (Khan, 2010) are as follows:1- Filling of the gaps in the abilities of group by sufficient training and development. 2- Possessing a pro-active or a causative approach rather than to react things. 3- Constantly evaluating results and monitoring progress towards the goals by using analytical, problem solving and decision-making skills.

(C). Individualization. People with the strength of Individualization see each person as one of a kind they are intrigued by the unique qualities of each person (Khan, 2010). They tend to have a natural ability to discover uniqueness or hidden talents without the need for an assessment or other tool. People with the strength of Individualization are attentive to people's individual style, attitudes, and interests. They notice how others think or are motivated (http://www.leadershipvisionconsulting.com/what-is-the-strengthsfinder-theme-of-individualization/)

(D). Time Management. Time management skills make a teacher to have grip on syllabi. According to Merrett, & Wheldall, (2006). "Assuming responsibility to manage the time is important so that you could become the first to roll the die which will soon become a chain reaction within the organization." (Merrett & Wheldall, 2006). It involves :(1) Calculation of working hours, (2) Planning of events in particular time units, (3) To ensure punctuality and getting things done in fixed time frame (Khan, 2010).



Factors influencing Classroom Management Practices

According to Deaton, (2012), "two factors influence teacher's classroom management approach. First one was labeled as axial responsibilities, and second one as peripheral responsibilities. There are four categories of axial responsibilities: (1) planning; (2) seeing students as individuals; (3) establishing a comfortable environment; and (4) eliciting authority. These peripheral responsibilities end up taking need away from their effective implementation of their science lessons and time they need to appropriately support their students in learning science. For better management of a classroom a teacher should be aware of some important factors that affect classroom practices. Following are main factors: Environment, Teacher's Approach, Disabilities and Home Life.

Objectives of Study

1-To study secondary school science teacher's concepts regarding conceptual, human and technical classroom management skills.

2-To check the awareness of science teachers about conceptual, human and technical classroom management skills

3-To evaluate science teacher's current practices regarding conceptual, human and technical classroom management skills

4-To identify problems faced by secondary school science teachers with respect to conceptual, human and technical classroom management skills

5-To elaborate training needs of secondary school science teachers with respect to conceptual, human and technical classroom management skills

Hypotheses

The following null hypotheses have been tested for levels of significance.

Ho1 There is no significant difference in concepts of conceptual, human and technical classroom management skills between male and female secondary schools' science teachers.

Ho2 There is no significant difference in awareness of conceptual, human and technical classroom management skills between male and female secondary schools' science teachers

Ho3 There is no significant difference in existing conceptual, human and technical classroom management skills practices between male and female science teachers.

Ho4 There is no significant difference in problems faced regarding conceptual, human and technical Classroom Management Skills between secondary schools' male and female science teachers.

Ho5 There is no significant difference in training needs concerning to conceptual, human and technical Classroom Management Skills between male and female science teachers.

Methodology of the Study

Research Design

The study was descriptive in nature and researcher used survey design to investigate the research problem. Questionnaires were used as tool to collect information. A self-developed questionnaire based on five-point rating scale (Likert Scale) as instrument used to collect data from science teachers in order to study their concepts, awareness, current practices, problems and training needs with respect to classroom management skills. Same set of questionnaires was used to collect data from headmasters and principals of the same schools for the triangulation of data.

Population

The population of study was comprised as follows

(a) All male and female science teachers of secondary & higher schools in district Bagh AJK

(b) All male and headmasters/principals of secondary& higher schools in district Bagh AJK

There were fifty-one male high and higher secondary schools and forty-six female secondary& higher schools in district Bagh. The total no of male science teachers was one hundred and two. On the other hand, the total no of female science teachers was ninety-two, whereas fifty-two males and forty-six female heads of schools were also the part of population.

Sample of the Study

Table 1: *Sample of the study*

	Male	Female	Total
Number of Head Teachers	51	46	97
Number of Science Teachers	102	92	194

Descriptive Analysis of Responses of Science Teachers and Check CMS in the light of Pedagogy and Teaching Theories

Table 2 *Descriptive Analysis of Science Teachers' Conceptual Skills*

Conceptual Skills	Responses of Science Teachers			CMS Practices of Science Teachers		
	Chi Square	Df	Sig	Chi Square	Df	Sig
Analyzing skills	54.4	3	.000	230.98	3	.000
Diagnosing skills	133.47	3	.000	337.78	3	.000

Table 2 showed the Responses of Science Teachers and CMS in the light of Pedagogy and Teaching theories related to conceptual skills including (Analyzing Skills and Diagnosing Skills). It is revealed from Table 2 regarding Analyzing Skills that Responses of Science Teachers' Chi Square value are 54.4 while the CMS practices of Science Teachers showed more chi square value are 230 and as Significance value .000 represented that "while managing the classroom majority of Science Teachers applying the Analyzing Skills". It is represented in Table 2 regarding Diagnosing Skills that Responses of Science Teachers' Chi Square value are 133 while the CMS practice of Science Teachers showed more chi square value are 230 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Science Teachers applying the Analyzing Skills and Diagnosing Skills".

Table 3 *Descriptive Analysis of Science Teachers' Human Skills*

Human Skills	Responses of Science Teachers			CMS Practices of Science Teachers		
	Chi Square	Df	Sig	Chi Square	Df	Sig
Communication skills	59.62	3	.000	201.8	3	.000
Motivational skills	82.9	3	.000	342.5	3	.000
Delegation skills	48.08	3	.000	228.54	3	.000
Conflict Management skills	76.52	3	.000	198.82	3	.000
Authority skills	122.7	3	.000	212.04	3	.000
Patience skills	140.2	3	.000	136.8	3	.000

Table 3 showed the Responses of Science Teachers and CMS in the light of Pedagogy and Teaching theories related to Human skills including (Communication Skills, Motivational Skills, Delegation Skills, Conflict Management Skills, Authority Skills and Patience Skills). It is depicted from Table 3 regarding Communication Skills that Responses of Science Teachers' Chi Square value are 59.6 while the CMS practices of Science Teachers showed more chi square value are 201 and as Significance value .000 represented that "while managing the classroom majority of Science Teachers applying the Communication Skills". It is reflected from Table 3 regarding Motivational Skills that Responses of Science Teachers' Chi Square value are 82.9 while the CMS practice of Science Teachers showed more chi square value are 342 and as significance value 0.00 represented that "while managing the classroom more of Science Teachers practices the Motivational Skills". Table 3 represented that regarding Delegation Skills the Responses of Science Teachers' Chi Square value are 48 while the CMS practices of Science Teachers showed more chi square value are 228 and as Significance value .000 represented that "while managing the classroom majority of Science Teachers Practices Delegation Skills in the light of pedagogy and Teaching Theories.

Responses of Science Teachers regarding Conflict Management Skills value are 76 while the CMS practice of Science Teachers showed more chi square value are 198 and as P value 0.00 represented that "while managing the classroom majority of Science Teachers practices the Conflict Management Skills". It is indicated in Table 3 that Responses of Science Teachers regarding Authority Skills value are 122 while the CMS practice of Science Teachers showed more chi square value are 212 and as P value 0.00 represented that "while managing the classroom majority of Science Teachers practices the Authority Skills". Table 3 depicted the Responses of Science Teachers regarding Patience Skills value are 140 while the CMS practice of Science Teachers showed minor difference with chi square value are 136 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Science Teachers practices the Communication Skills, Motivational Skills, Delegation Skills, Conflict Management Skills, Authority Skills and Patience Skills".

Table 4 *Descriptive Analysis of Science Teachers' Technical skills*

Technical Skills	**Responses of Science Teachers**			**CMS Practices of Science Teachers**		
	Chi Square	**Df**	**Sig**	**Chi Square**	**Df**	**Sig**
Application of Specialized Knowledge	53.24	3	.000	142.03	3	.000
Application of Specialized Experience	68.2	2	.000	290.74	3	.000
Individualization	80.64	3	.000	97.55	3	.000
Time Management	103.2	3	.000	227.7	3	.000

Table 4 indicated the Responses of Science Teachers and CMS in the light of Pedagogy and Teaching theories related to technical skills including (Application of Specialized Knowledge, Application of Specialized Experience, Individualization, Time Management). It is represented from Table 4 regarding Application of Specialized Knowledge the Responses of Science Teachers' Chi Square value are 53 while the CMS practices of Science Teachers showed more chi square value are 142 and as Significance value .000 represented that "while managing the classroom majority of Science Teachers applying the Specialized Knowledge". It is indicated in Table 4 regarding Application of Specialized Experience that Responses of Science Teachers' Chi Square value are 68 while the CMS practice of Science Teachers showed more chi square value are 291 and as significance value 0.00 represented that "while managing the classroom more of Science Teachers practices the Application of Specialized Experience".

Table 4 represented that regarding Individualization Skills the Responses of Science Teachers' Chi Square value are 80 while the CMS practices of Science Teachers showed more chi square value are 97

and as P value .000 represented that "while managing the classroom majority of Science Teachers Practices Individualization Skills in the light of pedagogy and Teaching Theories. Responses of Science Teachers regarding Time Management Skills value are 103 while the CMS practice of Science Teachers showed more chi square value are 228 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Science Teachers practices the Application of Specialized Knowledge, Application of Specialized Experience, Individualization, Time Management Skills".

Descriptive Analysis of Responses of Head Teachers and check CMS in the light of Pedagogy and Teaching Theories.

Table 5 *Descriptive Analysis of Head Teachers' Conceptual skill*

Conceptual Skills	Responses of Head Teachers			CMS Practices of Head Teachers		
	Chi Square	Df	Sig	Chi Square	Df	Sig
Analyzing skills	16.03	3	.000	111.4	3	.000
Diagnosing skills	35.5	3	.000	54.2	2	.000

Table 5 showed the Responses of Head Teachers and CMS in the light of Pedagogy and Teaching theories related to conceptual skills including (Analyzing Skills and Diagnosing Skills). It is reflected from Table 5 regarding Analyzing Skills that Responses of Head Teachers' Chi Square value are 16 while the CMS practices of Head Teachers showed more chi square value are 111 and as Significance value .000 represented that "while managing the classroom majority of Head Teachers applying the Analyzing Skills". It is indicated in Table 5 regarding Diagnosing Skills that Responses of Head Teachers' Chi Square value are 35 while the CMS practice of Head Teachers showed more chi square value are 54 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Head Teachers applying the Analyzing Skills and Diagnosing Skills".

Table 6 *Descriptive Analysis of Head Teachers' Human Skills*

Human Skills	Responses of Head Teachers			CMS Practices of Head Teachers		
	Chi Square	Df	Sig	Chi Square	Df	Sig
Communication skills	24.65	3	.000	73.52	3	.000
Motivational skills	24.93	3	.000	154.5	3	.000
Delegation skills	21.62	3	.000	108.6	3	.000
Conflict Management skills	22.2	3	.000	86.17	3	.000
Authority skills	35.36	3	.000	86.81	3	.000
Patience skills	43	3	.000	55.62	3	.000

Table 6 reflected the Responses of Head Teachers and CMS in the light of Pedagogy and Teaching theories related to Human skills including (Communication Skills, Motivational Skills, Delegation Skills, Conflict Management Skills, Authority Skills and Patience Skills). It is represented in Table 6 regarding Communication Skills that Responses of Head Teachers' Chi Square value are 24 while the CMS practices of Head Teachers showed more chi square value are 75 and as Significance value .000 represented that "while managing the classroom majority of Head Teachers applying the Communication Skills". It is indicated in Table 6 regarding Motivational Skills that Responses of Head Teachers' Chi Square value are 24 while the CMS practice of Head Teachers showed more chi square value are 154 and as significance value 0.00 represented that "while managing the classroom more of Head Teachers practices the Motivational Skills". Table 6 represented that regarding Delegation Skills the Responses of Head Teachers' Chi Square value are 22 while the CMS practices of Head Teachers showed more chi square value are 109 and as Significance value .000 represented that "while managing the classroom majority of Head Teachers Practices Delegation Skills in the light of pedagogy and Teaching Theories.

Responses of Head Teachers regarding Conflict Management Skills value are 22 while the CMS practice of Head Teachers showed more chi square value are 86 and as P value 0.00 represented that "while managing the classroom majority of Head Teachers practices the Conflict Management Skills". It is indicated in Table 6 that Responses of Head Teachers regarding Authority Skills value are 35 while the CMS practice of Head Teachers showed more chi square value are 87 and as P value 0.00 represented that "while managing the classroom majority of Head Teachers practices the Authority Skills". Table 6 depicted the Responses of Head Teachers regarding Patience Skills value are 43 while the CMS practice of Head Teachers showed chi square value are 56 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Head Teachers practices the Communication Skills, Motivational Skills, Delegation Skills, Conflict Management Skills, Authority Skills and Patience Skills".

Table 7 *Descriptive Analysis of Head Teacher' Technical skills*

Technical Skills	**Responses of Head Teachers**			**CMS Practices of Head Teachers**		
	Chi Square	**Df**	**Sig**	**Chi Square**	**Df**	**Sig**
Application of Specialized Knowledge	18.02	3	.000	49.18	3	.000
Application of Specialized Experience	24.92	2	.000	143.6	3	.000
Individualization	20.9	3	.000	37.48	3	.000
Time Management	28.05	3	.000	98.35	3	.000

Table 7 indicated the Responses of Head Teachers and CMS in the light of Pedagogy and Teaching theories related to technical skills including (Application of Specialized Knowledge, Application of Specialized Experience, Individualization, Time Management). It is represented from Table 7 regarding Application of Specialized Knowledge the Responses of Head Teachers' Chi Square value are 18 while the CMS practices of Head Teachers showed more chi square value are 49 and as Significance value .000 represented that "while managing the classroom majority of Head Teachers applying the Specialized Knowledge". It is indicated in Table 7 regarding Application of Specialized Experience that Responses of Head Teachers' Chi Square value are 25 while the CMS practice of Head Teachers reflected more chi square value are 144 and as significance value 0.00 represented that "while managing the classroom more of Head Teachers practices the Application of Specialized Experience".

Table 7 reflected that regarding Individualization Skills the Responses of Head Teachers' Chi Square value are 21 while the CMS practices of Head Teachers showed more chi square value are 37 and as P value .000 represented that "while managing the classroom majority of Head Teachers Practices Individualization Skills in the light of pedagogy and Teaching Theories. Responses of Head Teachers regarding Time Management Skills value are 28 while the CMS practice of Head Teachers reflected more chi square value are 98 and as significance value 0.00 is less than standard value of α i.e. 0.05 therefore "while managing the classroom majority of Head Teachers practices the Application of Specialized Knowledge, Application of Specialized Experience, Individualization, Time Management Skills".

Gender Based Comparison of Responses of Science Teachers

Table 8: *T-test regarding Grand Total skills of Science Teachers (Part-1& and Part-2)*

Grand Total skills	**Gender**	**N**	**Mean**	**S.D**	**T**	**Sig**
Science teachers	Male	50	224.3200	26.49947	0.669	0.505
	Female	46	220.3043	32.26341		

Table 8 reflected that there is no significant difference between the opinion of male and female secondary school science teachers regarding over all areas of science teacher's classroom management skills as the

t-value 0.669 is not significant at sig level.0.505 is much higher than standard value .05. However, the mean value of male science teacher is slightly greater than that of female. Therefore, the null hypothesis is accepted. There is no significant difference

Gender Based Comparison of Responses of Principals/Headmasters.

Table 9: *t-test regarding Grand Total Head Teachers Part-1&Part-2 of Questionnaire.*

Grand Total	Gender	N	Mean	S.D	t- value	Sig
Heads of schools	Male	25	214.6800	33.32006	2.48	0.027
	Female	23	194.7391	26.41490		

Table 9 showed that there is no significant difference between the opinion of male and female head teachers regarding Grand Total of Part-1 of classroom management of science teachers as the t-value 2.48 is not significant at sig level 0.027 is much higher than standard value .05. However, the mean value of male head teacher was observed slightly greater then female Therefore the null hypothesis is accepted. There is no significant difference.

Findings

Findings revealed that Science teachers were excellent at designing lessons that precisely aligned with both the curriculum requirements and the specific needs of their students. Teachers effectively utilized human skills, fostering positive relationships with students, creating a supportive learning environment, and encouraging active participation and collaboration. Teachers demonstrated proficiency in using various educational technologies, maintaining a smoothly running classroom, and addressing technical issues promptly.

Conclusion

The conclusion was found on the basis of Responses of Science Teachers and Head Teachers and CMS in the light of pedagogy and teaching theory.

Conceptual Skills

Science teachers properly used to analyze skills while giving responses to statements however a small number of them seemed to be confused in giving opinion which indicates that proper training / refresher courses are required to improve their analyzing skills. In general classroom conditions in secondary schools were reported by Head Teachers as good for working, but large number of schools is without proper teaching aids for science teaching and the others have insufficient or low standard. Similarly, basic needs like furniture, lightings etc are insufficient. Science teachers made better use of their diagnosing skills to report on different areas. Only a minor number of respondents were found to be confused in giving responses, which pointed out that further training is required for improvement.

Science Teachers and Head Teachers supported the themes of formation of classroom rules at the start of academic year, use of science lab for maximum science teaching and importance of favorable and conducive school environment for quality of science teaching. They support the proper knowledge and training of classroom management skills included and incorporated in syllabus and material of teacher training programs. They supported the fact that Science Teachers need proper knowledge and skills to maintain discipline in classroom and agreed with the idea that good criteria are compulsory for assessment and tests to be conducted.

Human Skills

An important finding of the study was that secondary school's science teacher's communication with their students is very open, clear, and flawless. Science teacher's common practice in their science classes is that they praise, encourage and motivate students for participation in different activities and conduct group competition to motivate them for learning. science teachers delegate students' different tasks and

provide them opportunities to work with themselves. They also claimed that students' point of view about classroom practices is usually honored. Science teacher's found well skilled in conflict management as they not only addressed issues at initial stage but also identified source of conflict. Conflict management skills of science teachers found to be well exercised while addressing discipline issues in classrooms. Science teacher's concept, awareness, and practices in authority skills found to be on optimum level. They exercised their authority positively in decision making and maintaining discipline. Science teacher's welcome student's opinion in classrooms and they listen their points of view and queries with patience.

It is found very clear science teachers emphasized on clear and flawless communication to their part and to listen the students carefully for conducive learning atmosphere and understanding of concepts. A contradiction in responses of science teachers and institution heads showed that communications skills need improvement. It is found very clear that encouraging and making necessary correction, creating competition giving feedback, giving rewards and proper use of teaching aids are specific agents to motivate students and promote learning. Science teachers supported physical involvement and participation of their pupils in setting learning goals to build up their confidence level. Contradiction in opinion of institution heads depicted that science teachers' delegation skills need improvement. A number of science teachers and even heads of institution are not familiar with article 25-A of the constitution of Pakistan which banned any kind of corporal punishments and any kind of harassments in schools and those who do this will be punished by public courts. Science teachers' area of conflict management skills needs specific training to provide them knowledge of children rights and states laws about children rights and exercise of corporal punishments. Both teachers and institution heads were well aware of teachers' responsibilities, job description (JD) and authority or powers to play their role in maintaining discipline and decision making. It found positive that both teachers and institution heads were in favor of displaying patience and listening students point of views with patience.

Technical Skills

It is found that science teachers are skillful in lesson planning and gaining attention of students in classroom. they involve their students in learning activities by using a series of active learning techniques. They have clear concept and awareness of application of specialized experience skills. science teachers are engaged in creating positive group feelings in classroom and they usually related student's learning to the needs of their daily life practices. They reported to complete their lessons well in time and demonstrate good time management.

Science teachers and institutions heads supported the statements that better professional qualification for science teachers improves their performance. They also supported that developing and giving periodical assignments to science students for quality of science teaching and learning is good. Their skills of application of specialized knowledge were though found positive but low response rate in favor indicated that they need clarity of concept and proper training to improve this area of skills. There was consensus among science teachers and school's heads that use of questioning, conducting continuous evaluation, teachers experience and, teaching spirit are important factors for effective teaching. Both science teachers and school heads supported the view that teacher's daily presentation in classroom, designing of different activities and writing student's learning objectives of each topic before teaching the topic has good effect on student's achievement. Their concept, awareness and current practices about Individualization skills were found positive. Science teachers and heads of schools supported the view that proper utilization of time, considerable allocation of time for lab work and teacher's consistency are the key factors for effective science teaching.

Recommendations

On the basis of the conclusions of the study researcher made some recommendation to the concerning stakeholder. The possible stakeholders may be science teachers, headmasters / principals, district education management, management of teachers training institutes, directorate of education extension (DEE), and Government of Azad Jammu and Kashmir (GOAJK).

For Secondary Schools Science Teachers

1-To overcome issue of missing facilities they through their institutions heads should contact to local bodies representatives, Non- Governmental Organizations (NGOs), villages or town's welfare organizations, and to those who are well to do in village or town.

2-For their own professional development they should extend their studies by studying researches, journals and articles on CMS.

3-They are recommended to study International Child Rights Commission's (ICRC) charter and reports on children rights, and articles on children basic rights from constitution of Pakistan.

For School Headmasters and Principals

1- To overcome issue of missing facilities they should contact to District Education Management, District Re-Construction Unit (DRU), a subsidiary of ERRA (Earthquake Re-construction and Re-Habilitation Authority), Directorate of Education Planning AND development (DEP&D), by involving their school management committees (SMCs).

2-They are also recommended to study International Child Rights Commission's (ICRC) charter and reports on children rights, and articles on children basic rights from constitution of Pakistan.

3-To build up management capacity of science teachers arrange school based short trainings to improve teacher's classroom management skills. Every year during vacations teachers training courses in classroom management skills are recommended to be arranged on local basis by taking help from teacher training colleges at district level.

For District School Management

1- It is recommended to District School Management (DEM) of district Bagh to take necessary steps to provide missing facilities in the schools and for this they knock all those doors which recommended to school heads at serial number one above

2-They are recommended to arrange special short time training programs on classroom management skills in Government College of Elementary Teacher's Training (GCETT) Bagh

For Govt. of AJK

1-It is recommended to Govt. of AJ&K to provide basic facilities to all govt. schools of district Bagh.

2- It is recommended that Govt. of AJ&K should allocate proper funds and resources for district teacher training colleges to arrange short training courses on classroom management every year in vacations.

3- It is also recommended that Govt. of AJ&K through its department of education should issue special circulars to bound teachers and institution heads to totally avoid corporal punishment in schools as it is banned in the constitution of Pakistan.

4- Govt. of AJ&K through its department of education direct AJ&K Text Book Board to include special chapters on concepts and topics of classroom management skills.

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Conflict of Interest

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