

A comparative study of teacher effectiveness and personality traits of senior secondary school teachers on the basis of their information and communication technology knowledge

Dr. Devendra Singh Chamyal

M.Sc. Chemistry, M.A. Mathematics, M.A. History, M.Ed. (Gold Medalist), Ph.D. (Education),
Assistant professor, Faculty of Education, S. S. J. Campus, Almora, Kumaun University, Nainital

Introduction

“It is the supreme art of the teacher to awaken joy in creative expression and knowledge”.
- Albert Einstein

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Education is the base of human's development and personification. Without education a human being is just like an animal. Students learn education more properly by teachers. The importance of teachers in the educational process is unquestionable and uncountable. The role of teacher is often formal and ongoing, carried out at a school or other place of formal education. There is a need of 21 century to Obtain capable teachers in education system. If competent teachers can be obtained, the likelihood of attaining desirable educational outcomes is substantial. Whole education is disturbed, aimless and directionless if the teacher is weak and ineffective. A teacher is a person engaged in interactive behaviour with one or more students for the purpose of effecting change in the students. The change, whether it is to be in knowledge (cognitive), skill (psychomotor) or feeling (affective). An effective teacher is the main factors contributing to educational development. **Anderson** (1991) stated that “an effective teacher is one who quite consistently achieves goals which either directly or indirectly focuses on the learning of their students. According to **Harry Wong**, there are three main characteristics of an effective teacher:

- (i) Has positive expectations for student success
- (ii) Excels at classroom management
- (iii) Designs lessons for mastery

Effective teachers possess certain personality traits as:

Caring: The effective teacher shows deep care and concern for his students.

Listening: The effective teacher listens to students, parents, administrators, and colleagues when making decisions for instruction.

Understanding: The effective teacher has a deep understanding of the students in her classroom.

Knowing Students: The effective teacher knows his students and their lives. Effective teachers instruct each student as an individual. Effective Teachers can use technologies that are of huge benefit to them and increase their effectiveness. Teacher's effectiveness increases learning outcomes.

According to **Westwood (1998)** effective teaching as “Providing maximum opportunities for all students to learn”. Effective teaching providing the necessary learning environment and learning experiences that enable all students to learn through making meaning from experience. Teaching may be more effective by the help of technology. **Jacquetta bloomer** said “technology is the application of scientific theory to practical ends”. Nowadays a new term

ICT is used. Which is very much applicable to effective teaching and developing personality. Information and communications technology includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. From a personality perspective, analysis of data suggests that introverts benefit from the use of ICTs and experience lower levels of techno-invasion. The same applies to pseudo-extraverts that is, introverts who have learned to exhibit extraverted behaviours when necessary. It is possible that ICTs allow pseudo-extraverts to communicate with a

broader audience without having to physically participate in large social gatherings. In addition, their preference for building authentic relationships with a smaller number of people may mean that although pseudo-extraverts can choose to be visibly active and present through ICTs, they are more strategic and selective about their availability. Personality traits and other psychological variables have been found to influence the use of technology as well as group functioning and effectiveness. Teacher's personality is a crucial factor in arranging the conditions of the learner's environment. So that the process of learning is activated, supported, enhanced and maintained. The teacher whose personality helps create and maintain a classroom or learning environment in which students feel comfortable and in which they are motivated to learn is said to have a desirable teaching personality. Today, ICT in education encompasses a great range of rapidly evolving technologies such as L.C.D. projector, Wi-Fi, Whatsapp, Epidiascope, Social Sites, desktop, notebook, and handheld computers, digital cameras, local area networking, the Internet and the World Wide Web, CD-ROMs and DVDs, and applications such as word processors, spreadsheets, tutorials, simulations, electronic mail(e-mail), digital libraries, computer mediated conferencing, videoconferencing, and virtual reality. Personality traits are another major predictor of teaching effectiveness. The extraverted attitude represents an orientation towards the external world. The introverted attitude involves an orientation towards inner, subjective world. Introversion and extraversion preference tells us how people are energized.

Personality plays an important role in effective teaching learning process. According to **trait theories**, introversion and extroversion are part of a continuous dimension, with many people in the middle. The effectiveness of a teacher depends as much on his understanding of himself through continuous reflection and self assessment as it does on his understanding of his students. ICTs cover Internet service provision, telecommunications, equipment and media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services, and other related information and communication activities. Total personality of teacher is found to be influencing effective and ineffective teaching. Thus, the investigator motivated to study teacher effectiveness and personality traits in relation to ICT knowledge of secondary school teachers.

Research area will be Almora district of uttarakhand state. The state of Uttarakhand is carved out of Uttar Pradesh on Nov. 09,2000. It is surrounded by U.P. on the south, Himachal Pradesh on the west, and international boundaries of Nepal on the east, China on the northeast. The total geographical area of the state is 53,483 sq. km which is 1.69% of total area of the country. Uttarakhand was centre of education from the ancient time. It was believed that kauravas and pandavas were trained by Guru Dronacharya in the foot hills of Himalaya that's why Dehradun is also known as Drona Nagari. India's best schools and training institutes are located in Uttarakhand. Education in the state of Uttarakhand has a sound background, right from the inception of the state. Department of education is running ahead and getting shape gradually. According to present survey in Uttarakhand state total high schools are 1099 and intermediates are 1371. So total secondary schools are 3260 from which 2060 are government and 1191 are government aided. Under central government scheme computers are available in secondary schools from 2002 to provide computer knowledge. Then government establish a computer laboratory along with internet connection and gave 10 days computer training to secondary school teachers. In order to effectively implement the integration of computer in educational process the department has targeted to computerize all the 1720 schools in the State under the 'Aarohi Programme' by installing 5 – 6 computers in every school. Information and communication technologies (ICT) have become commonplace entities in all aspects of life. The use of ICT in education lends itself to more student-centred learning settings. ICT performs pedagogical, cultural, social, professional and administrative roles in an institution. ICT if sensibly deployed with suitable hardware and software can positively affect many aspects of educational life, present teaching practices to a gradual improvement of the quality, as well as to provide a remarkable opportunity for teacher's development.

Statement of the problem

“A comparative study of teacher effectiveness and personality traits of senior secondary school teachers on the basis of their information and communication technology knowledge”

Significance of the problem

Teacher effectiveness of teachers is one of the major factor contributing towards school effectiveness. Reformers of education may establish new schools, effect changes in structure and curriculum, recommend and prescribe teaching methods and aids, but in the end, only effective teacher will be solely responsible for effectively applying them. School authorities complain that teachers still lack the basic skill and motivation to succeed at work. Effective teachers are of immense significance in the current educational setup. This study of teacher effectiveness and personality traits on the basis of their ICT knowledge can provide assistance to both policy makers and administrators in understanding the degree of influence of different demographic factors such as sex, academic streams, location of school, types of school, teaching experience, rural and urban background on teacher effectiveness. The teacher faces challenge today to keep pace with the continued progress in information resources. At present large changes are unavoidable and therefore a teacher is effective, good personality if he/she can adapt to the changing scenario as in the field of technology. Because Information and

communication technology (ICT) changes all field of life. If he/ she used ICT properly, has the potential to effectively change the manner in which students learn and teachers teach. Any technological upgradation of educational institutions will not change the performance of our students unless the teachers have the right attitude towards ICT application in the teaching-learning process. Teachers can performs to the best of their abilities but nowadays it is necessary to pay attention to the number of factors such as personality characteristics and ICT that affect teachers' effectiveness. ICT may give better direction to principals, teachers and students. In addition to above significance the study also exhibits academic significance in providing the new information and updating the existing knowledge. Hence the problem has practical significance also.

Theoretical significance of the problem

Nowadays Information and Communication Technology affects teaching and personality of teachers. Teacher effectiveness of any teacher depends upon his/her personality. Present study compares teaching effectiveness, personality traits on the basis of knowledge of Information and Communication Technology. This study is important to know information about computer knowledge, teaching skills and personality of senior secondary school teachers. So this study of teacher effectiveness and personality traits on the basis of their ICT can provide assistance to teacher, policy makers and administrators in understanding the degree of influence of different demographic factors, such as sex, academic streams, location of school, teaching experience, rural and urban background on teaching effectiveness and personality.

Practical significance of the problem

This study provides us merits and demerits of teachers personality and teaching-learning process. The present problem provides direction for professional development of the teachers for developing the right kind of knowledge towards ICT for efficient and effective teaching.

Objectives of the study

The major objectives of the study will be as:

1. To compare the teacher effectiveness of senior secondary school teachers on the basis of their ICT knowledge.
2. To compare the personality traits of senior secondary school teachers on the basis of their ICT knowledge.
3. To compare the teacher effectiveness of senior secondary school teachers on the basis of their sex.
4. To compare the personality traits of senior secondary school teachers on the basis of their sex.
5. To compare the ICT knowledge of senior secondary school teachers on the basis of their sex.
6. To compare the teacher effectiveness of senior secondary school teachers on the basis of their teaching experience.
7. To compare the personality traits of senior secondary school teachers on the basis of their teaching experience.
8. To compare the ICT knowledge of senior secondary school teachers on the basis of their teaching experience.
9. To compare the teacher effectiveness of senior secondary school teachers on the basis of their types of school.
10. To compare the personality traits of senior secondary school teachers on the basis of their types of school.
11. To compare the ICT knowledge of senior secondary school teachers on the basis of their types of school.
12. To compare the teacher effectiveness of senior secondary school teachers on the basis their academic stream.
13. To compare the personality traits of senior secondary school teachers on the basis of their academic stream.
14. To compare the ICT knowledge of senior secondary school teachers on the basis of their academic streams.
15. To compare the teacher effectiveness of senior secondary school teachers on the basis of their rural and urban background.
16. To compare the ICT knowledge of senior secondary school teachers on the basis of their rural and urban background.
17. To compare the personality traits of senior secondary school teachers on the basis of their rural and urban background.
18. To compare the teacher effectiveness of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.
19. To compare the ICT knowledge of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.
20. To compare the personality traits of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.

Definition of variables used in research

Comparative study- A study in which a participant is randomly assigned to one of two or more different treatment groups for purposes of comparing the effects of the treatments. The study of the similarities and differences in the behaviour of different groups.

Sex- 'sex' denotes biologically determined, thus unchangeable, difference between them. Sex is state of being male or female.

Living place- Particular position or area belongs to any person or things where he/she lives, i.e. rural and urban background.

Teaching level- Position of class taught by teacher during teaching time.

Situation of school- Particular position or area of any school, i.e., situated in rural and urban.

Type of school- Schools categorised on the basis to its management, i.e. government, private aided and public schools.

Government school- Institutions/schools managed and financed by Central/State Governments, Autonomous Organisations set up by the Central/State Governments.

Private aided school- Institutions/schools managed by an individual, trust or a private organisation and are receiving regular maintenance grants either from a Local Body or the Central/State Governments.

Public schools- Institutions/schools managed by an individual, trust or a private organisation and do not receive regular maintenance grants either from Local Body or Government (Central/State). An institution which is in receipt of an ad-hoc grant for a specific purpose like building grant, grant for strengthening of library or laboratory facilities, one time subsidy towards teacher salary etc. But does not receive regular maintenance grant should be treated as an unaided institution.

Academic streams- "Academic stream" just means your course of study, that is, what courses you will take in the future; the direction your studies will go. or, your institution could possibly have different "academic streams" already written out for you, that you will choose from.

Teaching experience- Teaching experience is directly relevant to the classroom/ lecture hall.

Science subject teacher- Someone who teaches science subjects as biology, mathematics, physics, chemistry etc.

Art subject teacher- Someone who teaches art subjects as Hindi, drawing, commerce, home science, social science, etc.

Urban area- An urban area is the region surrounding a city. Most inhabitants of urban areas have non agricultural jobs. Urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads, bridges, and railways. "Urban area" can refer to towns, cities, and suburbs.

Rural area- A rural area or countryside is a geographic area that is located outside towns and cities. Where people lives slower pace of life.

Teacher effectiveness- "teacher effectiveness" is used broadly, to mean the collection of characteristics, competencies, and behaviours of teachers at all educational levels that enable students to reach desired outcomes, which may include the attainment of specific learning objectives as well as broader goals such as being able to solve problems, think critically, work collaboratively, and become effective citizens. **Dunkin (1997)** stated that "**Teacher effectiveness is a matter of the degree to which a teacher achieves the desired effects upon students. He defined teacher competence as the extent to which the teacher possesses the requisite knowledge and skills, and teacher performance as the way a teacher behaves in the process of teaching**".

Four major assumptions are implicit in this definition of teacher effectiveness:

1. Effective teachers tend to be aware of and actively pursue goals.
2. The teaching is an intentional and reasoned act.
3. The vast majority of teacher goals are, or should be, concerned either directly or indirectly with their students learning.
4. No teacher is effective in every aspect of their profession.

How to increase teacher effectiveness

That is, how to get teachers to use this knowledge in order to become more effective in their classrooms. There is little, if any, evidence that enticing teachers, for example by giving them more motivating salaries or coercing them by, for example, making them conform to administrative mandates results in any meaningful, long-lasting improvement in their effectiveness, at least in normal circumstances where teachers are actually paid and where they earn a salary that allows them to live. If teachers are to change the way they teach and, perhaps more importantly, the way they think about their teaching, their reluctance to change must be overcome and support must be provided in their attempts to improve.

Information and Communication Technology (ICT)- ICT stands for information and Communication Technology comprising three words Information, Communication and Technology.

Information- Information is resource which has no value until it is extracted, processed and utilized. Information can be defined as data refined into form that is meaningful or valuable to the recipient for drawing conclusions and taking some decisions.

Communication- Communication is basically the process of sharing thoughts, ideas, feelings, experiences, information, etc. with others through some mutually agreeable media that is verbal or non-verbal.

Technology- Technology includes methods and strategies of teaching tools, mechanical and electrical devices and instruments, media equipments, library inventories and even text books. According to **Dr. Das** "Any system

of interrelated parts which are organized in a scientific manner as to attain some desired objective could be called technology”.

Information and Communication Technologies consist of the hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text, images).

According to **Margaret Rouse(2005)** “ICT (information and communications technology) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The term is somewhat more common outside of the United States”.

According to **Chandler, Daniel, Munday, Rod, iaugust (2012)** “The study, design, development, application, implementation, support or management of computer-based information systems. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones”.

Information and communications technology (ICT) in education is the processing of information and its communications facilities and features that variously support teaching, learning and a range of activities in education.

Thus conclusively **ICT stand for information and communication technologies and is defined, as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.**

Senior secondary School- Comprising Classes IX-X.

Teacher- Teachers are subjective insiders involved in classroom instruction as they go about their daily routines of instructing students, grading papers, taking attendance, evaluating their performance as well as looking at the curriculum.

Senior Secondary School teachers- Those teachers who teaching XI and XII class students known as senior secondary school teachers.

Personality Traits- “Personality” derived from the Latin term “**Persona**” which means a mask worn by theatre actors to represent their role and personality in the play. A personality trait is a characteristic that is distinct to an individual. Personality traits are simply: actions, attitudes, behaviours you possess. Psychologists determined that there are five major personality traits and that everyone falls into at least one of them. Psychologists believe the five common personality traits are extrovert, neurotic, open, agreeable and conscientious. Someone with an open personality tends to be artistic, inventive and curious. Extroverts are described as being full of energy, outgoing and are often viewed as the life of the party. Conscientious individuals live with a purpose. They are dedicated, focused and ambitious. Neurotic personalities tend to be very nervous, worrisome and on edge. Agreeable individuals are cooperative, compassionate and very accepting. These traits can directly affect a person's overall quality life and can even affect how their body overcomes illness.

Review of related literature

The phrase ‘Review of Literature’ consists of two words, viz., Review and Literature. The term ‘Review’ means to “Look Again” or to organize the knowledge of specific area of research, to involve an edifice of knowledge to show that study would be an addition to this field. The term “Literature” in research methodology refers to the knowledge of a particular area of investigation of a discipline which includes theoretical, practical and its research studies or literature as the mirror that reflects the past view and presents the future perspective. Review of related literature means to locate, to read and to evaluate the past as well as current literature of the research concerned with the planned investigation. Such literature provides the researcher with the footprints of earlier travellers gone ahead on the same route. It is a crucial step which minimizes the risk of dead ends, wasted efforts, rejected topics and even more important errorless findings based on a faulty research design. According to **John W. Best** “Practically all human knowledge can be found in books and libraries, unlike other animals that must start a new with each generation, man builds upon the accumulated and recorded knowledge of the past, his constant adding to the vast store of knowledge makes possible progress in all areas of human end over”.

Chhaya (1974) investigated into certain psychological characteristics of an effective school teacher, which was conducted on 80 effective and 100 ineffective higher secondary teachers. The findings were that

- (i) Effective teachers had significantly better personality adjustment and more favourable attitude towards teaching than ineffective teachers.
- (ii) Effective teachers did not show significantly more interest in teaching than ineffective teachers.
- (iii) Effective teachers were significantly more emotionally stable than ineffective teachers.
- (iv) Effective teachers were not more extrovert than ineffective teachers.

Grewal (1976) found that the measures of personality traits clustered in specific constellations with the criterion measure of teacher effectiveness.

Goel (1978) reported extroversion as an important factor related to teacher effectiveness. Using the Flander's Interactive Analysis System, he found extrovert teachers to have greater interchange of classroom events than introvert teachers. The extrovert teachers had large transition from pupil response to the categories of teacher praise; encourage and questions as compared to introvert teachers. It appeared that extrovert teachers had all the seven interaction models of critical teaching behaviour while introvert teachers had only first four models of teaching behaviour. In conclusion, it may be said that personality dimension of extraversion is important in shaping the teacher's behaviour.

More (1988) concluded that out of the 16 personality factors, only six were found to be positively correlated with teacher effectiveness of which intelligence was the most important. The total personality of the teacher was found to be affecting his teaching.

Sikora (1997) conducted a study to examine relationship between personality types and teacher effectiveness of secondary family and consumer science teachers. The findings indicated that the teacher's personality may play a significant although limited role in teacher effectiveness.

Young and Robert (1998) in their attempt to investigate personality traits of those considered dependent users of internet, using 16 PF instrument, discovered that Dependents is ranked high in term of being self-reliant, a strong preference for solitary activities, and tend to restrict their social outlets. Dependents were also abstract thinkers who appear less conforming to social convention and more emotionally reactive towards others. The results also show that Dependents tended to be sensitive, vigilant and private individuals.

Kagathala (2002) studied teacher effectiveness of teachers of secondary schools in Gujarat in relation to area of their schools, sex, educational qualifications, experience of teaching, type of school personality and caste. Teacher effectiveness scale (Developed by the investigator), creative personality inventory were administered upon 1800 teachers (1290 male and 510 female) of secondary schools of different parts of Gujarat. Result of the study show that: Teacher effectiveness of teachers of secondary schools in Gujarat was found to be of average; The teachers of urban area are superior than rural area in teacher effectiveness; Sex of the teacher does not affect the teacher effectiveness; The teachers with masters degree possess more teacher effectiveness than bachelor degrees holders; The effect of experience of teaching on the teacher effectiveness is found increasing upto the experience of 19 years but it found decreasing after that level of experience; The teachers of boys schools are found to be effective than girls and co- educational school; The teacher having high creative personality are found superior to the teacher having low creative personality in their teacher effectiveness; No effect of caste of teacher on the teacher effectiveness was found.

Matthiasdottir, et al. (2003) focused on the use of ICT tools by teachers, their attitudes toward the use of ICT in teaching and how it relates to their teaching. The research study was conducted in 14 Icelandic high schools and one private School. The response rate was 47% or 423 answers out of 906. The questionnaire was developed for this study in 2002 by the authors. The main findings of this study were that the use of the Internet was quite common among Icelandic high school teachers. Teachers searched the Net for materials to use in their teaching and send and receive student projects and essays. Teachers were positive toward ICT use as most of them (81%) agreed that it was preferable to use computers in teaching, but were not widely taking advantage of the range of opportunities ICT offers, such as interactive exams and web discussions. Nor were they convinced that the use of ICT in teaching will lead to better student outcomes.

Paul, et al. (2006) found that male teachers report significantly higher levels of confidence in using ICT with students for teaching and learning and the students of male teachers or confident teachers use ICT more frequently to both enhance and transform the curriculum. Further there was no significant relationship between years of teaching experience and teacher confidence but experience did impact on the level of ICT use that teachers prefer their students to demonstrate, with teachers who have had least experience preferring their students to use ICT more to both enhance and transform the curriculum.

Zhi-guo (2007) studied the impact of information entropy on teaching effectiveness. According to the author to improve teaching effectiveness is virtually to increase the transmission of effective information in teaching. Modern teaching theory demands teachers to transfer a large amount of effective information to their students within the limited time by means of any modern technique available. To increase teaching effectiveness, first of all, the effectiveness of teachers' teaching should be improved, and in the second place, the learning effectiveness of students should be enhanced, teachers should emphasize "students-centeredness" and bring the activeness, initiative and pioneering spirits of students into full play to ensure that correct information in teaching process can be absorbed, transformed, stored and used by every student. To improve the transmission of effective information in teaching process, the following problems should be solved:

- (i) Improve the quality of information sent out by teachers.
- (ii) Reduce the interference in information transmission.
- (iii) Enhance the effectiveness of received information on students.

Rafeedali (2009) carried out a study on “Computer based technology and its pedagogical utility”. The study revealed that higher secondary school teachers were unable to utilize the opportunities of information technology resources in education and they were observed to be comfortable with traditional teaching methods and materials and also pointed out secondary school teachers could not use the ICT resources in the classroom interaction. Only 13 percentage of higher secondary school teachers are using power point presentation in the classroom.

Vandana and Newa (2009) conducted to examine the “School teacher`s attitude towards ICT”. The main findings of the study were that private and secondary school teachers exhibited comparable attitude towards ICT. Teaching belonging to different academic streams, viz, language, science, mathematics and social sciences exhibited comparable attitude towards ICT. They found the school teachers exhibited positive attitude towards ICT. Therefore ICT must be given higher priority in teacher education curriculum. So that the future teachers can cope with various challenges in education system, more specifically the new roles of teachers in ICT based teaching learning system. Also in-service teachers must be given training to teach in ICT based instructional setting.

Hypotheses of the Research

1. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their ICT knowledge.
2. There is no significant difference in personality traits of senior secondary school teachers on the basis of their ICT knowledge.
3. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their sex.
4. There is no significant difference in personality traits of senior secondary school teachers on the basis of their sex.
5. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their sex.
6. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their teaching experience.
7. There is no significant difference in personality traits of senior secondary school teachers on the basis of their teaching experience.
8. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their teaching experience.
9. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their type of school.
10. There is no significant difference in personality traits of senior secondary school teachers on the basis of their type of school.
11. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their type of school.
12. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their academic streams.
13. There is no significant difference in personality traits of senior secondary school teachers on the basis of their academic streams.
14. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their academic streams.
15. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their rural and urban background.
16. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their rural and urban background.
17. There is no significant difference in personality traits of senior secondary school teachers on the basis of their rural and urban background.
18. There is no significant difference in teacher effectiveness of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.
19. There is no significant difference in ICT knowledge of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.
20. There is no significant difference in personality traits of senior secondary school teachers on the basis of their location of school, i.e. rural and urban background.

Delimitations of the study

The problem is very vast & wide. Hence the investigator has delimited the problem as under:

1. Out of 13 districts of Uttarakhand only Almora district will be selected for the present investigation
2. Only 400 senior secondary school teachers will selected for the proposed investigation.
3. The following variables will be selected for this investigation:
 - (i) Comparative study
 - (ii) Sex
 - (iii) Living place
 - (iv) Teaching level
 - (v) Situation of school
 - (vi) Type of school
 - (vii) Academic streams
 - (viii) Teaching experience
 - (ix) Science subject teacher
 - (x) Art subject teacher
 - (xi) Urban area
 - (xii) Rural area
 - (xiii) Teacher effectiveness
 - (xiv) Information and Communication Technology (ICT)
 - (xv) Situation of school
 - (xvi) Senior secondary School
 - (xvii) Teacher
 - (xviii) Senior secondary School teachers
 - (xix) Personality Traits
4. Only the following research tools will be deployed:
 - (i) Teacher effectiveness scale
 - (ii) 16 personality traits scale
 - (iii) An Information and communication technology knowledge (ICTK) scale

Variables used in study

Dependent variable- teacher effectiveness, personality traits

Independent variable- Information and communication technology knowledge

Methodology

To study the proposed research problem the survey/descriptive research method will be used.

Population- All the male and female secondary school teachers of Almora district constitute the population for the proposed study.

Sample- The study shall consist of about 400 secondary school teachers from Almora district.

Tools- The following research tools will be deployed to present study.

1. A teacher effectiveness scale will be developed and standardized by Dr. G. S. Nayal and the investigator for senior secondary school teachers.
2. 16 personality traits scale developed and standardized by S. D. Kapoor.
3. An Information and communication technology knowledge (ICTK) scale will be developed and standardized by Dr. G. S. Nayal and the investigator for senior secondary school teachers.

Statistical Techniques- To analyse the obtained data the parametric statistics will be used according to the nature of data.

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