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To produce research that can be applied in any social and educational context

To create research activities that can benefit universities and research institutes' research requirements as pre-requisites for effective ranking

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Perceptions of Higher Education Teachers Concerning Experiential Learning: An Exploratory Inquiry

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ABSTRACT

Experiential learning leads to intense and profound learning by involving students in any task. Employers prefer graduates who have learnt through various forms of experiential learning. However, in current academic scenario in higher education, experiential learning in higher education institutions is still restricted.Therefore,the major aim of the current work was to explore insights of university teachers regarding experiential learning in terms of their awareness of experiential learning, classroom practices and challenges to implement in classroom This study polled teachers across the general public sector universities of Punjab, Pakistan via thirteen questions based survey involving 208 teachers. The study concluded that collaborative learning is widely used strategy in the classroom as compared to other approaches of experiential learning. Classroom structure, such as overcrowded class, inadequate time, challenge to complete the syllabus, and teachers' own reluctant attitude, were found to be the most significant barriers to utilize experiential techniques in classroom. Therefore, the study recommends to divide a large number of students in groups for better implementation of various form of experiential learning like project-based learning. Science departments be provided sufficient funding to involve students in project-based learning. Students be provided hands-on experiences in classroom and labs.

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INTRODUCTION

Humans learned via direct experience prior to the development of printed material (books) and the introduction of formal education. Before starting formal schooling, young children are similar in that they attempt numerous times unless they solve a problem. Humans have polished their ability to learn via trial and error. John Dewey devoted

his whole life studying this sort of learning. He published a number of publications about the need of hands-on learning in the education system. Dewey was considered a reformer educationist who wrote on the necessity of incorporating instructive experiences into the learning process in the late 1800s and early 1900s. How we think (1910), Democracy and education (1916), and Experience and education (1917) are some of his scholastic works (1938a). Dewey (1938b) believed that learning entailed a combination of think and do, and he described his learning theory, known as the "pattern of inquiry," in great detail, which includes an undefined set of circumstances or scenario, creation a plan of action , try out the plan that compared against pre-defined criteria of effectiveness , and the reflection upon its worth .

Regrettably, his views were misunderstood. According to Philips (2014) Dewey established the lab school in university of Chicago in 1894.After that, lab schools were springing up all over the country. In these lab schools, teachers frequently thought that they provide learning experiences to their students in such a way, after leaving classrooms students would be able to explore the world. David Kolb is another contemporary pioneer of experiential learning to John Dewey. Kolb (1984) published extensively on this field, developed a learning theory that differed slightly from Dewey. According to his idea, the learning cycle begins with concrete experience, which is followed by reflective observation, abstract conceptualization, and active experimentation (1984, p. 38). Outside of the classroom, concrete encounters are common, but they are not required for learning to take place. What's required is that you go through an experience, think on it, and derive concepts from it that you may apply to future encounters. Reflecting on experience, according to Kolb's theory, helps one to create connections between practical experience and conceptual theories, which may then be used to make better and refine comparable future situations. When you go through an event without reflecting on it, you're leaving learning to impact, and Kolb's theory of learning is intentional.

Now a days, researchers have adapted Dewey and Kolb's theories and concepts to a variety of learning contexts. For instance, five teaching techniques identified by Wurdinger and Carlson (2009) that enhance student involvement in the classroom: active learning, problem-based learning, project-based learning, service learning, and place-based learning. Experiential learning, they say, is guided by specific concepts, including encouraging student engagement with one another and with the curriculum, participating in first hand experiences, and make use of various topics to improve interdisciplinary learning. All of these methods allow students to participate in a learning cycle that involves planning, assessment, and reflection. Experiential learning, is a cognitive process that combines Dewey's pattern of inquiry of planning, testing, and reflecting in a single learning event. When teachers utilize pedagogical methods like problem-based learning, project-based learning, service learning, and place-based learning, the learning cycle begins.

In the global context of higher education, experiential learning tends to be underutilized. In view of Rosenstein, Sweeney and Gupta (2012) stereotyped fields of study are unwilling to adopt experiential learning in their curricula, and many do not embrace it in real spirit at all .Teachers may intuitively recognize the effectiveness of this approach, yet according to Faculty survey of Higher Education Research Institute (2011) over half of all faculty utilize lecture method as their major teaching style. Workloads, restrictions regarding time, and size of classes have been cited as reasons for its lack of utilization (Remmen & Froyland, 2014). Even though Hake (1998) demonstrated that interactive techniques are much superior to lectures in terms of enhancing academic achievement in a study over 6500 students, experiential learning continues to be underutilized.

The same situation is faced by higher education institutes in Pakistan. According to Ilyas,Kashif and Iqbal (2020) experiential learning in higher education is currently facing numerous defies and hurdles, including students' inferior academic background and a lack of prior experiences as they have not been taught before at any level through experiential learning, poor curricula that is not properly aligned with the practical application of the

concerned field in which students are enrolled ultimately going down towards transferring bookish knowledge with scarce inclination of teachers for opting hands-on experiences. Students have least opportunity to have experiential learning platforms in their institutes. Other constraints include overcrowded classrooms, time constraints, management priorities for low resource allocation, lack of technical resources, and most importantly, a discrepancy between cumulative grades point averages (CGPA) and employability in the absence of tangible Memorandums of Understanding between industry and academia. In a recent study by Prastawa, Akhyar and Suharno (2020) it is claimed that EL is proven in enhancing the entrepreneurial capability of vocational high school students which highlights the long lasting of experience-based learning.

Experiential learning (EL) refers to be involved in productive experiences by the students in their classroom is based on C. Roger's (1969) idea of "learning to do" (Rogers, 1969). Experiential learning is a type of active learning that allows students to use and analyze their previous experiences in order to learn. In EL, pupils are at the center of the learning process, and the efficacy of learning is determined by "how to learn" and "how to think." Wurdinger and Allison (2017) identified these five teaching approaches that come under EL.

Collaborative learning is a teaching and learning approach in which a group of students is involved in a joint venture to resolve a problem, accomplish a task, and ultimately come up with an innovative product or idea for a challenge (Laal, & Laal, 2012).

Project-based learning is a teaching technique in which students work on skills by responding to an authentic, novel, a social, economic, technical or physical issue, problem, over an extended period of time (Sumarni & Kadarwati, 2020).

Place based learning enhances environmental, social, and economic life as well as student success. In summary, place-based education teaches students to care for the planet by helping them understand where they live and taking action in their local neighborhoods and communities. For example, oral history projects in which students gather the tales of community members, historical parks or structures, or learning about urban agriculture and community gardening in major cities with food deserts are all examples of urban place-based teaching (Klippel,Zhao, Sajjadi, Wallgrün, Bagher & Oprean, 2020).

Service Learning is a type of EL in which students apply their academic knowledge and critical thinking abilities to real-world problems. Service-learning is a teaching and learning approach. It stimulates civic sense in students and transforms learning into useful community service. Its critical component is a rigorous and relevant curriculum that prepares students for success in 21st-century skills (Wurdinger & Allison, 2017).Service-learning is defined as an experiential teaching technique in which students are personally indulged themselves in accomplishing human and community needs. It designs and provides structured learning opportunities to foster learning and social development (Ahmad, Deeba & Raza, 2023).

Problem based learning

Problem-Based learning is a teaching approach in which challenging real-world issues are presented before students as the vehicle to nurture concept learning (Ahdhianto, Marsigit, & Nurfauzi,2020).Students' active participation stimulates them and develops their cognitive and social abilities, which are required for self-directed learning and constructive problem-solving (Wudinger,2005).Students participate actively, cognitively, emotionally, and socially during the educational process during experiential teaching (Kokkos, 1999) and manage to comprehend the barriers that arise during their learning and life skills development (Courau, 2000).

Keeping in view the above stated scenario, the study was carried out to explore perceptions of higher education teachers about experiential learning in terms of their awareness about its concept and approaches, their classroom practices on the basis of various approaches of experiential learning and barriers to implement experiential learning if teachers are willing to implement it

Objectives of the study

- To explore the perceptions of teachers concerning experiential learning in the context of higher education

RESEARCH METHODOLOGY

The present study was conducted with the purpose of exploring the perceptions of teachers about experiential learning. For this purpose, thirteen question web based survey tool (qualtrics) was adapted to collect data about teachers' perceptions for the usage of EL.Wurdinger and Allison (2017) identified teaching approaches that were used by researchers including collaborative learning, project based learning, place based learning, service learning, problem based learning that provide basis and conceptual framework for drafting and adapting the questions of survey for experiential learning. However, Wurdinger and Allison (2017) used a newer term collaborative learning that reflects same concepts as of active learning (Barkley,Major & Cross,2014) which was used by Wurdinger and Carlson (2009) in their teaching approaches. Among these five approaches of teaching another approach student presentation was also included in the survey. Participants were asked in survey to identify which teaching approaches among these six approaches they use in their classrooms and what percentage of time they spend in using of each teaching approach in their classes. In addition to that other questions mainly focus on out of class experiences either they provide their students and what barriers they face in implementing the experiential learning .All the questions were close ended except 1 and 13 that asks from participants to define and explore their concepts about experiential learning and in question 13 option of other was given.

Approval from faculty members was obtained for survey by using assistance from higher education commission (HEC) website to obtain Email addresses of faculty members of teaching in universities of Punjab. To maximize the sample pool, total 35 public sector general universities were included in the study. Total 509 surveys were sent out, 208 were returned back which was equal to forty percent. Percentages were used for interpretation of data to infer results.

Question 1 asked respondents to define and elaborate their understanding about the concepts of experiential learning. Overall,35% participants defined it learning through one's personal and practical experiences 41% defined it learning through observation and through everyday life experience and 24% defined it as learning by doing.

In question 2 of survey, on the whole,62 % respondents mentioned that they widely used experiential learning and seventy nine percent participants considered it beneficial for students in their life in response to question 3.

Question 4 requested respondents to choose those teaching techniques they utilize in the classroom among given choices; 93 percent use lecture methods, while just 23 percent use place-based learning the least one among given teaching methods.

Table 1. *Percentages of teachers' perceptions using common teaching methods in their classrooms.*

Methods of Teaching	Teachers' percentages
Lecture Method	93%
Presentations of students	87%
Problem based learning method	71%
Service Learning method	33%
Project based learning method	76%
Place based learning method	23%
Collaborative learning method	88%

Question 5-10 participants were asked how much time they spend in using these approaches in less than ¼ th % of time in their classes. Figures 1 demonstrate that 79% used student presentation, whereas 48% used collaborative learning. Higher the percentages of respondents shows least time was given to those teaching approaches ,such as place based learning and service learning methods about them mostly respondents believed least time they used.

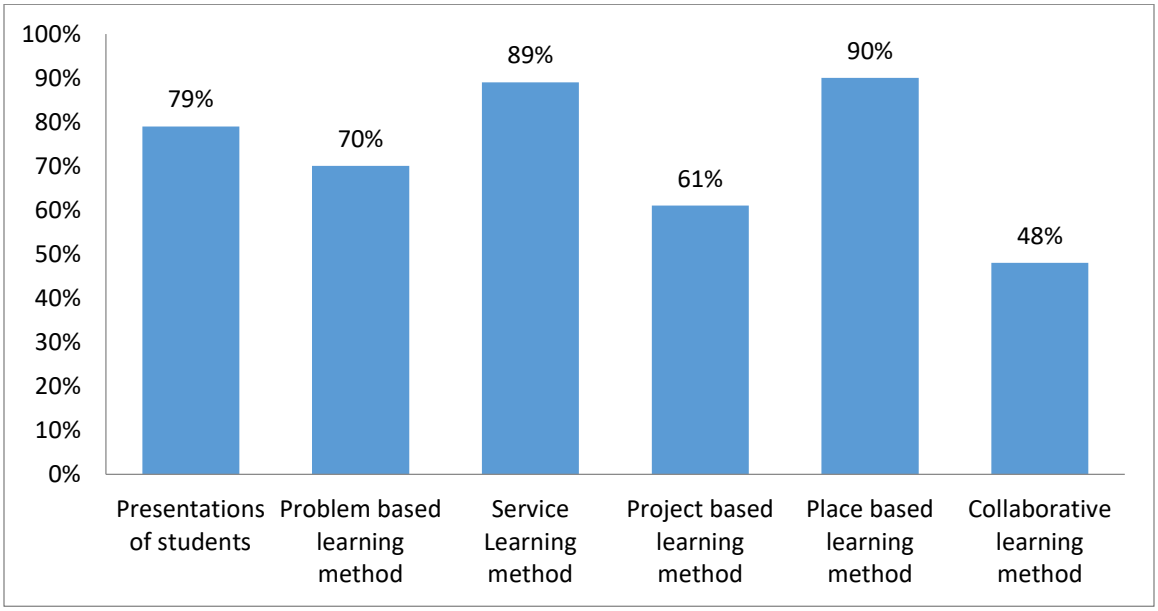

Fig 1. *Percentages of teachers' perception using teaching methods in their classrooms less than 1/4th % of time column (the least given time)*

Respondents to Question 11 were asked if they share out-of-class experiences with their students. Sixty-three percent of respondents replied yes, while twenty-seven percent replied no.

Question 12 inquired what types of out of class experiences are shared by them for students. Most of the respondents, sixty one percent (61%) were in the favor of observation while 42% respondents considered field work as out of class learning approach they use. Thirty two percent participants use field trips, thirty percent preferred to use interviews; eight percent do not apply any kind of out of class experiences in their learning.

Table 2. *Teachers' Response Percentage regarding out of class experiences they provide to students*

Out of class experiences	**Faculty response percentage**
Observation	61%
Field work	42%
Field trips	32%
Interviews	30%
Not any	8%

Question 13 asked what hurdles they face for the implementation of experiential learning in their classrooms. Seventy two percent claimed shortage of time, 43% claimed shortage of funds, 27% indicated lack of evaluation techniques for various approaches of experiential learning and 19% indicated lack of interest of university management and 9% agreed at institutional policies.

Table 3. *Teachers' response percentage regarding obstacles to implement experiential learning.*

Implementation Hurdles	**Faculty response percentage**
Shortage of time	72%
Shortage of money	43%
Evaluation techniques	27%
University management	19%
Institutional policies	9%
Others	17%

Among other reasons in question 13 that make experiential learning difficult to implement. Most dominant reasons were considered structure of classroom, size of classes, due to lengthy course outlines and teachers' resistive behavior.

DISCUSSION AND CONCLUSION

Results of the study demonstrate that lecturing is still the most common way for faculty to teach their students, in spite of this, it also reveals that some faculty members are at least practicing with presentations of students, collaborative learning technique, and method of project-based learning in their teaching. Despite the fact that lecturing is the most common method, instructors are increasingly using alternative approaches, which is very encouraging. The extent to which teachers understand the ideas and practices behind each of these approaches is unknown. Collaborative learning, for example, entails students working in groups to finish a task, with each group member having an equal amount of work to perform (Barkley, Major & Cross, 2014). Collaborative learning does not mean just working together where only one student accomplishes the entire given task; nonetheless, this is a widespread misconception about the approach.

However, service learning and place based learning are the least popular, most likely because these take a long time for planning and implementation in the local context of students and worldwide organizations. Even while percentages represented that student presentations, problem-based learning, and project-based learning had somewhat higher implementation rates than place-based learning and service learning, they still lacked implementation. These findings are consistent with Hou and Wilder (2015) according to them the majority of the teachers surveyed were ignorant of the usage of service learning, which is a common experiential learning approach. One reason is that many people are unaware of this strategy that is why the lecture format may be more widely employed than other approaches. Collaborative learning was the one strategy that was used more frequently than other approaches (48 % of teachers utilize it less than 25% of the time), thus it appears that this method is gaining attraction.

Because these experiences require time and commitment to administer these approaches, faculty must be dedicated to the ideals and advantages of these approaches. What faculty may not realize, however, is that after they spend some time in planning the projects, activities, and experiences, the learning process starts and improves on its own, enabling teachers to step back and function as mentors. Classrooms may look chaotic at first when utilizing these techniques, but this state of great uncertainty serves as an aim later. Despite the fact that teachers use experiential learning rarely in their lectures, even then other sorts of out-of-class events are being incorporated into their courses. The most common method for out of class experience was observation (61 percent), followed by fieldwork (42 percent), field excursions, and interviews (30 percent each). However, there are two possible problems with these experiences that the study did not account for in the survey.

One problem is that it is unknown how frequently and for how long teachers used these approaches. Second, these activities might be unassisted. Learners may be involving in observations or participating in a field experience, but learning may not occur if the teacher does not guide the event without clarification of students about goal and reflection on its significance by students. Several barriers were cited that prevent use of experiential learning by the teachers. The main issue was a lack of time to put the approach into practice. Other issues were a lack of funds, the need to meet needed curriculum quantities, large size of class, organization of classrooms, and staff opposition. These all challenges, however, may be overcome if teachers really have firm belief in real philosophy of experiential learning. Instructors can, for example, split students into small groups for debate and discussion of topics in a fifty-minute lecture class. Structured group work outside of the classroom can be included in

assignments, and somehow as basic as setting chairs into circular mode can help to create a conducive environment for discussion.

Among other barriers teachers' reluctance can be a crucial challenge, but professional enhancement programs that introduce advantages of experiential learning to faculty may encourage trying out of these few approaches. Instructors can overcome these apparent barriers with a little creative thinking and can develop interest of students in learning.

RECOMMENDATIONS

On the basis of study finding, it is recommended that teachers be trained in new and innovative teaching techniques especially approaches of experiential learning. However, few of its approaches demand sufficient funding especially in the field of Natural Sciences. So, ample funding be provided to departments to be utilized by teachers to involve their students in projects. Teachers are encouraged to maximize provision of hands-on experiences to learners in classroom and labs.

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Analysis of Unethical Ways Used by the Research Scholars at University Level

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ABSTRACT

Ethics are the distinctions between right and wrong, and research ethics are implementing these norms during research work. The present study was conducted to investigate unethical practices by research scholars at the university level. Descriptive research and a questionnaire were used to conduct the survey. The questionnaire consisted of 34 closed-ended items. Three hundred fifty-five participants were from three universities of Multan. 353 out of 355 questionnaires were correctly filled and returned, so the return rate was 99.4%. Mostly, the researchers admitted that they had used coping and pasting techniques without acknowledging the original author. Referencing skills could be more vital in the research due to the need for more study habits. Another reason research scholars use unethical methods is the need for study habits. Due to this, the researchers are trapped in violating academic integrity. Academic writing skills should be developed among students. Results show that academic writing courses should be introduced in all the disciplines of the universities. Supervisors should guide their researchers about citation and referencing. Penalties should be clear and be practically given to those who plagiarize the work of others.

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INTRODUCTION

Morality refers to the distinction between good and evil. Researchers should implement moral principles in their research (Showkat & Parveen, 2017). There are several ways to transmit ethical development from generation to generation (David & Resnik, 2015). Formal and informal ethical development occur. In order to gain a deeper understanding of the acknowledgment of the

actual author, most researchers need to be aware of the mistakes they have made during their research. It is essential for researchers to have an understanding of academic honesty and integrity in order to implement ethical considerations in educational research (Khan, 2015). As this is the first school for each child, parents are responsible for teaching them ethical norms. As part of these norms, students must avoid cheating, coordinate with their peers, and be trustworthy (Josefová, 2016).

Teachers can detect plagiarism with plagiarism-checking software. Teachers learned writing sub-skills and how to detect problems in writing during workshops (Khan, 2015). The rules in our education system are repeated, and exams are conducted with these rules, which must be changed with time. Students' creativity is hindered by the repetition of questions and curriculum, which leads to cheating (Gladwin, 2018). A researcher's primary responsibility lies in providing the respondents with protection and safety, and ensuring that their consent will not be violated during the study procedure (Showkat & Parveen, 2017). A researcher should keep a record of his/her research activities and present the data carefully and independently. Reproducing and presenting previously published studies on one's own has also been reported many times. Replicating previously published studies is a significant daily issue (Gladwin, 2018).

As a result, plagiarism is the leading cause of academic dishonesty. Researchers copy and paste information from original articles and make a new paper without acknowledging their original authors (Njeri, 2016). Nowadays, it is quite easy to obtain information from the internet and present it as your own with minor modifications. As a result, copyright violations increase on a daily basis. The majority of researchers paraphrase the ideas of others, but do not acknowledge the original author (Chowdhury & Bhattacharyya, 2018). It therefore has pros and cons when it comes to using social media for research study ideas and information. It is common for researchers to fabricate or alternate data using those ideas (Sloan et al., 2017) where different ideas originated on social media at the same location. It is common for researchers to hire someone to complete their work in order to obtain good grades without any hard work. The practice is called contract cheating. Social media resources are crucial to this activity. Social media introduces cheating methods and research aids that may catch the attention of researchers (Morris, 2018).

According to the Turnitin white paper, there are ten types of plagiarism based on intensity: clone, copy and paste, find-replace, remix, recycle, hybrid, mashup, 404 error, aggregator, and retweet. A clone is a word-for-word copy of another individual's work, whereas a Ctrl-C involves copying and pasting information. Mixing and combining different sources of information without citing them is called a mashup. Plagiarists use find-replace techniques to replace phrases with a substitute character, while aggregators include proper citations but do not contain the original work. In recycling, published work is used in a new study without attribution. When retweeting plagiarism, references are cited correctly, but the sentence structure and grammar are more similar to those in the original. The term remix refers to the combining of ideas without acknowledging the source, whereas a hybrid refers to the collection of material from different sources without acknowledging the source. Plagiarism of this type may result in the loss of original thought as well as invalid citations.

The researcher must make the participants feel comfortable before giving their consent. It is also possible to ensure the accuracy of information (EnagoAcademy, 2018). In order to promote the social good of the respondents and avoid harm, the researcher must avoid and persist

discrimination and bias in order to protect them. Nevertheless, it is the responsibility of both the researcher and respondent to develop a convenient tool for respondents to use. Participants should be able to easily read and respond to items if simple, understandable terms and language are used (Showkat & Parveen, 2017). The following ethical challenges arise during the conduct of research:

It is essential to select a problem for any study. The chosen problem or question must benefit participants in the study. The results of this study will assist participants in making necessary changes and improvements to their lives. Responding to an unnecessary problem is unethical (Agwor & Adesina, 2017). As the researcher writes a literature review, some ethical considerations should be taken into consideration. Agwor & Adesina, 2017 assert that researchers must acknowledge the work of others as well as acknowledge themselves when using information from previous research (Agwor & Adesina, 2017). However, many new techniques have been developed to obtain information on the subject matter. Research can be easily conducted through social media resources and respondents will happily give their consent to a subject matter that is of interest to them. Using technology can reduce the amount of time wasted in selecting a problem (Sloan et al., 2017). Expertise is needed during selection. Factually based problems are best. Choosing a problem that has difficult measurements for the researcher can result in ambiguity within the problem (ProfessorToday, 2017).Data collection is crucial to quantitative and qualitative studies. Data must be taken personally and not used more than once. During data collection, respondents' confidentiality and anonymity must be maintained, and their rights must be respected (Agwor & Adesina, 2017). It must be possible for participants to decline participation or reject the results of the study at any time (Showkat & Parveen, 2017).

During research studies, the following ethics must be followed:

Informed consent means that respondents are informed about every aspect of the research prior to giving their opinions. A confidential and anonymous consent is required (Roka, 2017). Beneficence means to do something beneficial and positive. In this survey, the purpose is to clarify the importance of the study and explain to the respondents how beneficial the study will be for them and society. During the research study, anonymity and confidentiality are fundamental ethical requirements that researchers must consider during their research studies, as they are meant to enhance and uplift the respondents' development, and they are free from any bias (Akaranga & Makau, 2018). It is a guarantee that the data will not be leaked or used for any other purpose than this research study (Akaranga & Makau, 2018). Respondents' privacy must be protected, and their dignity must be respected. If the respondents do not want to give their response to a problem or a statement, then they should not be pressured to respond. This is an ethical consideration, as privacy is the fundamental right of the respondents, which is not harmed in any way (Pernilla, 2016).

Therefore, using social media to obtain information and ideas for research studies has both pros and cons. As different ideas arise on social media at that particular moment, data falsification is also possible. With the assistance of those ideas, researchers fabricate or alternate data on their own (Sloan et al., 2017). Contract cheating refers to the act of paying another individual to complete a researcher's work without doing any hard work. This is known as contract cheating. There are a number of research resources available on social media that can assist researchers in

cheating in research. These resources include a variety of research help contents as well as ways to cheat in research (Morris, 2018).

An integral part of any study is the selection of a problem. Choosing a problem to study or a question to be researched should benefit the participants. The research's results should assist in improving the lives of participants. Researching a problem that is unnecessary is unethical (Agwor & Adesina, 2017). The researcher should first determine whether the problem is valid and authentic. The researcher must be aware of the impact of the study on the respondents (EnagoAcademy, 2018). Therefore, researchers should take cautious considerations when choosing problems that do not detriment or abuse participants, and they may require participants' explicit consent when collecting information (Madushani, 2016). A number of new methods are available for obtaining information about the issue. A researcher can easily select a beneficial research topic that will benefit respondents and they are willing to participate in the study with social media resources. By using technology (Sloan et al., 2017), you can reduce the time you spend selecting problems. Expertise is required to select a problem. Factual information is required in the problem. For a problem that is difficult to measure, the solution may involve ambiguity (ProfessorToday, 2017).

Moreover, the present study suggests some solutions to overcome the challenges associated with academic integrity violations. Some of the rationales for the present study are as follows:

Many researchers have conducted extensive research on academic integrity violations from different parts of the world. This study is based on portions of academic dishonesty which have yet to receive significant research attention. According to the measures proposed in this study, some measures need to be taken to control academic dishonesty, such as imposing penalties on those who are accused of academic dishonesty. Student guidance should be provided regarding the ethics of research in their studies, and the administration should take a number of steps to combat academic dishonesty, such as providing plagiarism-checking software to students. Digital libraries should be available to researchers so they can easily read and download more articles. Among the fundamental reasons for this study is the increasing number of academic integrity violations by students, particularly by researchers who use unethical methods to complete their research at higher education institutions. In this study, some significant reasons and common methods of academic integrity violations are discussed. Researchers' perceptions of using unethical practices in their research are also reflected in this study.

In order to overcome the challenge of unethical research methods, this study provides teachers with appropriate guidance on referencing, citation, and acknowledgment to ensure their students develop their academic writing skills. Research scholars will find it useful to know about the various penalties associated with academic integrity violations, as well as the most commonly used unethical methods during research which they must avoid. As these factors were not well discussed in previous studies, they are discussed in significant detail in this study as they contribute substantially to the use of unethical methods (such as poor academic writing skills, failure to acknowledge, poor citation and referencing, etc.). A number of ways for academic cheating have been discussed in previous studies, but this study discusses the most commonly used methods.

Objectives of the Study

Objectives of the study were:

- To investigate the most frequently used unethical practice by the research scholars;
- To find out the factors responsible for the use of unethical practices among research scholars

RESEARCH METHODOLOGY

The study population consisted of all students at two public higher education institutions and one private higher education institution. Approximately 37,000 individuals participated in the study. Respondents were randomly selected. A total of 355 individuals were included in the study. A survey method was utilized, and a questionnaire was developed with the assistance of an esteemed supervisor. A total of 34 closed-ended Likert-type items were included in the survey. Data was collected by the researcher using questionnaires from various institutions and departments. To analyze the obtained data, descriptive statistics were used, including mean and standard deviation.

RESULTS OF THE STUDY

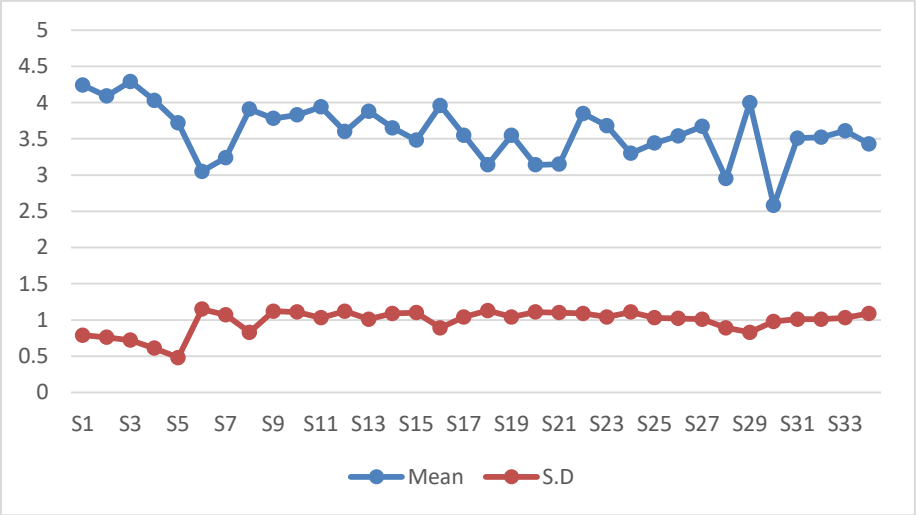
Table No 1. *Descriptive analysis of the statements*

Statements	Mean	SD
Research ethics is an….	4.24	.79
I am directly in contact with …	4.09	.76
I keep the confidentiality …	4.29	.72
I am aware of penalties ….	4.03	.61
Citation of other sources …	3.72	.48
I need to acknowledge …..	3.05	1.15
I have difficulty …..	3.24	1.07
I know how …..	3.91	.83
I maintain the records …..	3.78	1.12
I use the internet ….	3.83	1.11
I use online sources ….	3.94	1.03
I need help ….	3.60	1.12
I added references …..	3.88	1.01
Referencing is a ….	3.65	1.09

I manipulate ….	3.48	1.10
I collect data …..	3.96	.89
The use of technology ….	3.55	1.04
I cited the source ….	3.14	1.13
I took ideas from …..	3.55	1.04
I use my own words ….	3.14	1.11
I use phrases …..	3.15	1.10
I prefer to quote ….	3.85	1.09
I prefer to get help ….	3.68	1.04
I pay composers …..	3.30	1.11
My friends ….	3.44	1.03
Composers offered …..	3.54	1.02
I prefer to ….. procedures.	3.67	1.01
I copy and paste ….	2.95	.89
My supervisor ….	4.00	.83
My supervisor …..	2.58	.98
I use Excel sheets ….	3.51	1.01
I have difficulty ….	3.52	1.01
I use transitional ….	3.61	1.03
Developing codes …..	3.43	1.09

Several of the participants agreed or disagreed with the statements about plagiarism and research ethics, which were followed during their research projects, according to the table. Nevertheless, they disagreed on some statements, such as the issue of copy-pasting material in their research projects, to the same extent. It is also noteworthy that they have different views concerning the statement regarding the guidance they did not receive from their supervisors. By establishing some policies that are tailored to the needs of the students, institutions will be able to control academic integrity violations. The diversity in cultural and economic backgrounds of the students must also be taken into consideration when establishing these policies. As a result of some policies, plagiarism and academic integrity violations could be eliminated from higher education institutions. A separate set of rules and penalties must be included in these policies

regarding academic misconduct. In light of this, researchers cannot redevelop a single piece of paper since they must be habitual about reading articles. Due to less reading, researchers require more information and ideas about their study topic. Supervisors provide assistance to their researchers when necessary. Providing supervisory guidance to the researchers ensures that their tasks are completed in a righteous manner. It is common for researchers to add references to their reference lists, but they must also remember to include in-text references. As technological advancements occur, new ways of cheating and plagiarism also emerge. Researchers believe that excessive internet use opens the door to plagiarism. In the era of technology, some measures would be taken to control academic integrity violations.



DISCUSSION

Accordingly, previous studies on research ethics have discussed the main rules scholars should adhere to, and the present study indicates that unethical practices or academic integrity violations are on the rise. Data collection was conducted in accordance with some of the ethics of research; participants' data was kept confidential and permission was obtained from department heads or institutions before data collection occurred. The researchers did not violate the participants' consent. The researcher collects data personally and clearly explains the purpose of the study to participants, however Bornmann (2013) discussed the reasons for researchers' unethical methods in data collection. When participants did not respond correctly during data collection procedures, researchers manipulated the results of the study in order to obtain desired results. Sometimes, they used unethical methods to complete their project. It is necessary to clarify the penalties for violating ethics, and students should be made aware of these penalties.

Although ethical issues in research regarding researchers and research participants are addressed in Yip et al., these issues are considered necessary in the present study. researchers are able to determine whether they are violating academic integrity or not based on these issues. Although ethical issues related to research work have been examined in various previous studies, the reasons for violating academic integrity during research studies have not been examined in detail before, which is why this study examines them in detail. There are some interaction barriers that required the researcher to include teachers' perceptions and views about the unethical practices of the researchers (lecturers, professors). The same topics can be studied in

future studies in different areas and with a variety of populations, including researchers and supervisors (Louw, 2017).

The result of this is that researchers are incapable of redeveloping a single sheet of paper since they must have a habit of reading articles. Due to the reduced amount of reading, researchers require additional information and ideas on the subject of their research.

Supervisors provide assistance whenever necessary to their researchers. According to Njeri (2016), the solution to unethical conduct in research projects is proper guidance from supervisors that assists researchers in completing their tasks in a righteous manner. Researchers sometimes add references to the reference list, but they must remember to include in-text references as well. It has been suggested that excessive use of the internet increases the likelihood of plagiarism. Technological advancements also result in new methods of cheating and plagiarism. It is anticipated that some measures will be taken to control academic integrity violations in the age of technology (Gokmenoglu, 2017).

According to Quraishi and Aziz (2017), the dilemma of ethics in research can be resolved by adopting some precautionary measures. The researchers will be able to avoid copy-pasting techniques and summarize ideas in their own words when the problem of academic writing skills is resolved. Researchers and their work can achieve success through fair and honest research; otherwise, plagiarized works and studies are not considered significant by society and researchers.

CONCLUSION

1. Based on the results of the entire study, it has been concluded that unethical practices or violations of academic integrity are on the rise every day. In addition to keeping the participant's data confidential and getting permission from the department heads or institutions before collecting data, researchers follow some aspects of research ethics.
2. During the study, the researchers collected data personally and clearly explained the study's purpose to the participants without harming their consent. The researchers also must acquire academic writing skills as another challenge to unethical practice. As a result, researchers prefer to use the copy-paste technique as a method of summarizing or paraphrasing the ideas of others in their own words.
3. The perception of female researchers is better than that of male researchers, according to a comparison of male and female researchers. Researchers believe that the excessive use of the internet creates the potential for plagiarism. New methods of cheating and plagiarism are also developed as technological advancements occur.

RECOMMENDATIONS

Based on results and research methodology, recommendations for further studies are as follows:

1. It is possible to examine the impact of unethical practices on researchers at a higher institutional level.
2. Teachers' perceptions of the researchers' unethical practices can also be investigated.
3. There may be an opportunity to conduct seminars on how ethical issues in research are used and misused.

4. It has been observed in the studies of researchers that ethics have benefits and that unethical methods have consequences.
5. It is possible to extend the sample size in other areas of a province.
6. Data can also be collected using online sources, such as questionnaires completed via email or Survey Monkey, interviews conducted via phone or videoconferencing, etc.
7. It is possible to take out more institutions for further research.

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Analysis of Metacognition of Prospective Teachers

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ABSTRACT

Metacognition of the prospective teachers is the cognitive skill and the demand of modern education. Therefore, the present study analyzed metacognition of prospective teachers. The objectives of the study were to find out the perception of prospective teachers regarding the above mentioned construct, analyze demographic based metacognition of prospective teachers. To investigate metacognition, the scale of metacognition (30 items) was administered .The sample for the present study was 116 students enrolled in Department of Education Bahauddin Zakariya University, Multan. In this study, the descriptive survey research design was used. The data were gathered through the survey method and by hard form of questionnaire. Further, the data were analyzed by using Microsoft Excel. Frequency, Percentage, Mean score, Standard deviation and z-test were computed. The results indicate that the most of the students show high levels of agreement towards metacognition. There was significant difference in gender while there was no significant difference in terms of hostelide students and day scholars for the metacognition. It was concluded that to fulfill the demand of modern education this skill should be taken into account when developing curriculum, planning teaching strategies and assessment of intended learning outcomes. The curriculum should be challenging, teacher use different techniques, and teachers assign challenging task to students which assess their cognitive skills.

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INTRODUCTION

Student teaching has traditionally been seen as a bridge between theory and practice. This bridge allows prospective teachers to transfer their university-level knowledge and skills into the classroom. During this transition process, prospective teachers' higher-order thinking skills, such

as critical thinking, creative thinking, problem solving, and metacognition, are crucial. (Tarman, 2012).

A crucial part of the teaching and learning process is metacognition. In addition to giving instructors the ability to learn about their students, metacognition helps them to teach effectively by monitoring, evaluating, and adapting their lesson plans and methods to meet the requirements of their pupils. Teaching for metacognition equips aspiring educators with goals that will enhance and encourage their students' metacognition. It helps students become aware of their knowledge and gaps by applying philosophical concepts, and it enables them to take corrective action by using self-regulation techniques to fill in errors and gaps in their knowledge (Chisholm, 2014). Metacognition is a term widely used in psychology and education. It is a broader concept that describes in various contexts. Meta-knowing, thinking about thinking and cognitive awareness is used interchangeable for meta-cognition (Myers, Abel, Mickens, Russell, Rand, Salyers, Lysaker, Minor 2024).

Research on metacognition and the cognitive processes involved in knowledge acquisition. The main goal of cognitive procedures is to develop students' cognitive abilities. It helps students solve problems and make decisions, which is important for understanding lessons. In view of Mason and Nadalon (2015) it can be used to teach students about teaching and learning procedures and outcomes and how to control them. Flavell coined the term "metacognition" in 1976, which means "thinking about thinking" about cognitive phenomena." Abdellah (2015) explained metacognition as knowledge about one’s cognitive process. He further described that a student can overcome his learning difficulties with the use of metacognition. Metacognition is a learning process in which students can get knowledge and information, if they are facing any problem and issues, they can use their cognitive ability to sort out those problems, this process is called metacognition.

According to Flavell, meta-cognition gives learners more power and provides a thorough process for organizing and improving an approach in a similar but novel context. The authors of cognitive psychology noted that metacognition functions as an executive control mechanism that includes observation and self-regulation. This view has been widely shared by academics. (Lock, 2012). Furthermore, meta-cognition was described by Schraw (2010) as a process involving common, specialized, and general skills.

The understanding of cognition is necessary for understanding the Metacognition and Metacognitive skills. It has been defined as a process by which one involves in understanding and seeking awareness. Cognition is a process by which one involves in the reception of information, its transformation, coding, storing, and also retrieval of stored information. Metacognition is the next step to Cognition. Cognition is concerned with one's knowledge, whereas metacognition is concerned with how one uses the knowledge. In other words, it can be said that metacognition is thinking over-thinking. The way people's minds influence their cognition is known as metacognition. It is important to remember that metacognition emerges and manifests when thinking gets difficult. When the task at hand is challenging, meta-cognition becomes crucial. And it can begin at any point during a challenging task and continue until the end. Consequently, there is a strong connection between metacognition and the process of addressing problems. While learning strategies play a crucial role (Ali, Siddiqui & Zarar, 2021).

Metacognitive knowledge is the first component of metacognition, and regulation is the second. Therefore, educators must understand metacognition to make informed decisions regarding

curriculum development and design. Teachers' daily activities tend to raise learners' metacognitive awareness and abilities (Cooper, 2004). He further asserts that teachers' metacognitive skills improved with experience and aging. He goes on to say that a teacher's ability to use meta-cognition abilities depends on their age and length of teaching experience. Teachers have higher cognitive capacities as they get older and gain experience. As a result, he demonstrates that teachers who instruct at different levels do not significantly differ in their meta-cognitive abilities. The results of Elliott (1993) revealed that students who participated in metacognitive-directed lesson periods performed significantly better in the classroom than those who were not taught metacognition skills.

According to Myers, Abel, Mickens, Russell, Rand, Salyers & Minor (2024) these methods are frequently referred to as metacognitive training. Therefore, in order to engage learners' metacognitive strategies and advancements, the implementation of metacognitive education requires practical preparation. By teaching students to identify acceptable problem-solving techniques that they may use in a variety of situations, the meta-cognitive educational approach helps students understand new cognitive processes. With a metacognitive instructional approach, learners become aware of a particular awareness, rephrasing a problem, examining self-told questions, associating earlier awareness with a new condition, and checking the progress of teaching and learning. Metacognitive education helped learners learn by enhancing their metacognitive skills and providing a good explanation for their struggles with shame and incapacity in the classroom. A crucial part of the learning process is meta-cognition. Learning new concepts and refining existing ones is helpful.

In addition, it is critical that educators control their observational learning, memorizing, and problem-solving processes when gathering data (Kallio, Virta, Kallio, Virta, Hjardemaal & Sandven, 2017).Çakici (2018) claims that despite the fact that the notion of metacognition has been extensively investigated by educational psychologists, there is uncertainty. In general, meta-cognition is characterized as an individual's awareness of and control over how they process information. When Favell coined the term "meta-cognition" in 1976, it referred to an individual's knowledge of his own cognitive processes, their outcomes, or something else personally connected to him. He went on to describe metacognition as knowledge and perceptions about the cognitive process, as well as thinking about thinking.

Metacognition, as defined by Çakici (2018) is the knowledge of anything connected to the cognitive process. Additionally, he explained that evaluating the learning strategy on its own is the responsibility of metacognition. The concept of metacognition is the skill of a teacher to think carefully. Critical thinking requires metacognition since it keeps our thoughts and actions under control. As a result, teachers are able to recall, re-identify, and organize the literature more effectively. Furthermore, it assists them in solving any problems they may encounter during their academic teaching activities. Researchers on metacognition have found that establishing and utilizing problem-solving skills to sort out learning challenges is enabled by metacognitive awareness. Metacognition enhances the ability of teachers to control their critical thinking and enhances their self-directed learning ability.

Metacognition is the capacity to control and improve critical thinking abilities through the use of information. Without a doubt, metacognition is essential to teachers' development of critical thinking abilities. Particular metacognitive exercises, such as thinking process monitoring, assessment, accuracy assurance, and time and cognitive process-based decision-making, are

required when students are involved in critical thinking. This demonstrates how metacognition both fosters and predicts critical thinking abilities (Çakici, 2018). According to Gupta and Bamel (2023) a study on the same construct revealed that metacognition was positively related to metacognition. During this study, the researchers described providing professionals with tools for developing meta-cognition in prospective teachers.

Rationale of the Study

From the above stated scenario, it is evident that metacognition skills remained an area of research by numerous researches. However, a literature gap aroused that most of the studies were conducted in international context rather Pakistani context. Although few studies were conducted on this construct, however, they were conducted on general students rather specifically on prospective teachers. Therefore, it was thought appropriate to analyze this higher order thinking skill with reference to prospective teachers who are future teachers and who are expected to be equipped with higher order thinking skills to transfer into their students.

Prospective teachers are future teachers who have to join the teaching profession after completing their studies. For a prospective teacher, it is crucial to have higher order thinking skills like problem solving, creative thinking and critical thinking and metacognition that is thinking about thinking. If prospective teachers are better aware of their metacognition and its strategies they can improve their performance. Literature review indicated that numerous studies have been conducted to highlight the construct of metacognition however, with reference o metacognition of prospective teachers there are few studies especially with reference to Pakistan. So, researcher thought appropriate to conduct this study. In the present study, metacognition was examined in order to determine how it impacts students' learning as well as how it helps them in the learning process. The results of previous studies have suggested that a decline in metacognition leads to a decline in student learning and achievement. As a result, it plays a crucial role in students' learning process. Nevertheless, this study was conducted with students in higher education in mind, as metacognition is a higher-order skill that is in high demand by future employers. Therefore, it is important to emphasize its ultimate importance.

Objectives of the study

The following were the objectives of the study

1. To find out the perception of prospective teachers regarding their metacognition
2. To compare metacognition of male and female students
3. To compare metacognition of students on the basis of living status

RESEARCH METHODOLOGY

For the present study, a quantitative research design was opted to explore the problem. In quantitative research, social phenomena are examined systematically through the use of mathematical and statistical techniques. Quantitative research involves the use of specific questions and the collection of numerical data from respondents, as well as the analysis of the data using statistics (Creswell, 2012).Under quantitative approach, a survey was conducted over prospective teachers enrolled in various programs of department of Education, Bahauddin Zakariya University, Multan like BS Education, B.Ed.(Hons) and BS Special. Population the

target population of the present study was all the students of faculty of Social Sciences.However,accessible population of this study was confined only to one department of Social Sciences Department of Education as the main respondent of the study was prospective teacher and prospective teachers are enrolled in Department of Education as it is Teacher Education Department.Currently,data were collected from students enrolled in all current semesters of BS Education,B.Ed.(HONS) and BS Special programs.Currently,total four semesters are working in this Spring session. Total no of students was total 374 Male 127 Female 247.

As the respondents of the study were only students enrolled in Department of Education, therefore census method was thought appropriate for the selection of respondents. Census method is also known as complete enumeration method. A census method helps in collecting information from all units of the population (Pallant, 2020).So while opting this method, all the students were included in the list of respondents as subject for data collection. Scale was distributed to all the students irrespective of any program and semester. A Likert-type five-point scale was used as the self-reporting measure. A metacognition scale was used to measure the metacognition of students. The questionnaire consists of thirty items rated on a 5-point Likert scale. In order for the participants to rate the frequency of each category they use; they were asked to rate the level of agreement they have with each category on a 5-point Likert scale. The points ranged from strong disagreement (1 point), disagree (2 points), not decided (3 points), agree (4 points), and strongly agree (5 points). The reliability coefficient of the scale was 0.876, which indicates a high level of reliability. The validity of the content was ensured. The researcher personally approached all the respondents, to fill the questionnaire, First of all, list of all students enrolled in all semesters was obtained from the administrative office of the concerned department.However, only 116 students respondent to scale who were considered the real participants of the research. For statistical analysis of the current work, Frequency, Percentage, Mean score and Standard Deviation were employed under Descriptive statistics and z-test under inferential statistics to analyze the metacognition of prospective teachers. Data were analyzed on Excel program.

RESULTS

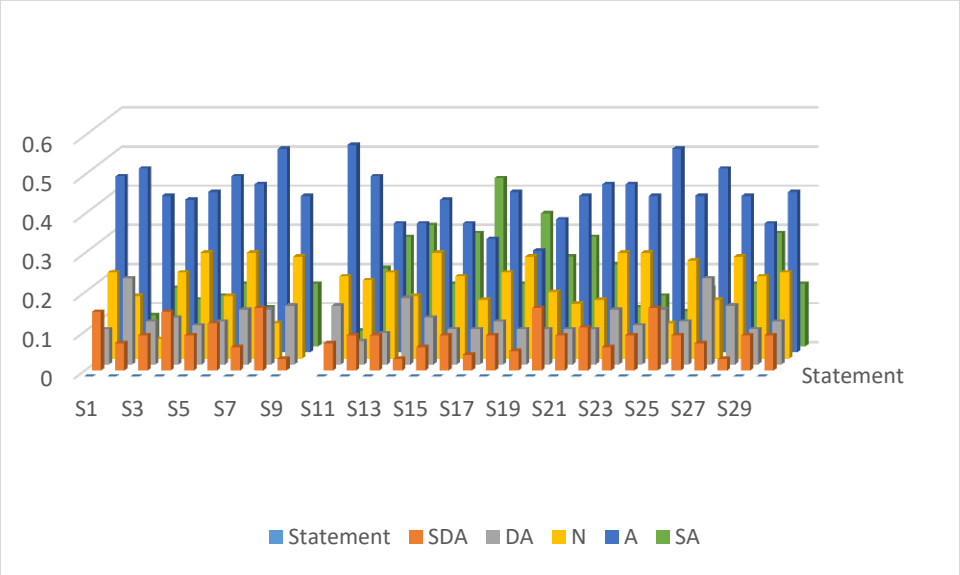
Descriptive Analysis

Table 1.1

Sr#	Statement	SDA	DA	N	A	SA	Mean	SD
1	When confronting with a…..	15% 18	9% 10	22% 25	45% 52	9% 11	3.21	1.24
2	When learning a new content….	7% 8	22% 26	16% 18	47% 55	8% 9	3.41	1.11

3	I choose different learning ….	9% 11	11% 13	5% 29	40% 46	15% 17	3.43	1.14
4	I usually follow a strict ….	15% 18	12% 14	22% 26	39% 45	12% 13	3.1	1.22
5	Whenever taking a decision…	9% 11	10% 12	27% 31	41% 47	13% 15	3.36	1.17
6	I often try to complete my ….	12% 14	11% 13	16% 18	45% 52	16% 19	3.5	1.26
7	After learning….	6% 7	14% 16	27% 31	43% 50	10% 12	3.47	1.09
8	I always try to discuss and ….	16% 9	14% 16	9% 11	52% 60	9% 10	3.61	1.06
9	I start learning only often getting …	3% 4	15% 17	26% 30	40% 46	16% 19	3.51	0.99
10	When confronting with the problem situation,…..	7% 8	15% 17	21% 24	53% 62	4% 5	3.44	1.06
11	I always accept to innovative …..	9% 11	6% 7	20% 23	45% 52	20% 23	3.72	1.07
12	As a student, I always critically…..	9% 11	8% 9	22% 26	33% 38	28% 32	3.59	1.24
13	I always try to ….	3% 4	17% 20	16% 19	33% 38	31% 35	3.65	1.17
14	I have the ability to completely….	6% 7	12% 14	27% 31	39% 45	16% 19	3.49	1.07
15	Before stating the study, …..	9% 10	9% 10	21% 24	33% 38	29% 34	3.56	1.15
16	After the successful completion of each learning task, ….	4% 5	9% 10	15% 17	29% 34	43% 50	3.75	1.09
17	I always ask myself as ..	9% 11	11% 13	22% 26	41% 47	16% 19	3.69	1.07

18	I find happiness in …	5% 6	9% 11	26% 30	26% 30	34% 39	3.66	1.06
19	I am efficient in finding and ….	16% 18	9% 11	17% 20	34% 40	23% 27	3.61	1.19
20	I split the learning task …	9% 10	9% 10	14% 16	40% 47	28% 33	3.81	1.07
21	I evaluate the ability of myself …	11% 13	9% 10	15% 18	43% 50	21% 25	3.61	1.14
22	I change the speed and time of …	6% 7	14% 16	27% 31	43% 50	10% 12	3.54	1.16
23	Whenever doing a task, …	9% 11	10% 12	27% 31	40% 47	13% 15	3.7	1.11
24	I regularly assess my learning …	16% 19	14% 16	9% 11	52% 60	9% 10	3.57	1.17
25	I control my emotions ….	9% 11	11% 13	25% 29	40% 46	15% 17	3.61	1.19
26	After completing a learning task, ..	12% 14	11% 13	15% 18	47% 55	14% 16	3.64	1.12
27	I try to do the allotted learning …	7% 8	22% 26	15% 18	47% 55	8% 9	3.61	1.06
28	I like to collect ….	3% 4	15% 17	26% 30	40% 46	16% 9	3.74	0.99
29	Before beginning a learning …	9% 10	9% 10	21% 24	33% 38	29% 34	3.82	1.04
30	I consider my failures ….	9% 11	11% 13	22% 26	41% 47	16% 19	3.88	0.86



The table 1.1 displays the standard deviation and mean values of the responses from the participants of the Scale of Measuring Metacognition. Statement No. 6, which pertains to my efforts to complete assignments and learning activities within the given time frame, exhibited the highest standard deviation of 1.26. On the other hand, statement No. 30, which relates to my perception of failures as stepping stones to success, had the lowest standard deviation of 0.86. Statement No. 30, which states that I view my setbacks as stepping stones to achievement, had the highest mean score of 3.88. In contrast, statement No. 4, which states that I typically adhere to a rigid study schedule, had the lowest mean score of 3.10. Overall, the mean score for all statements was greater than 3:00, indicating a substantial agreement among students.The majority of respondents agree that when faced with a problem, they tend to compare it to similar problems they have previously solved. When learning new content, they also compare it to what they have previously learnt. They adapt their learning methods based on the subject matter, and they typically adhere to a strict study schedule. When making decisions, they take the time to carefully consider their options, and they strive to complete assignments and learning activities within the allotted time frame. Similarly, the majority of the respondents agree that they engage in revising the central ideas of the content after learning. They begin the learning process only after gaining a clear understanding of the content. When faced with a problem, they consistently consider alternative solutions. They are open to embracing innovative changes in society. As students, they critically analyze their own learning abilities. Similarly, the majority of respondents agree that they consistently strive to enhance themselves. They possess the capability to fully focus on their learning activities, even in the face of distractions. Prior to beginning their studies, they gather all pertinent and up-to-date information about the subject matter. Upon successfully completing each learning task, their self-confidence grows. They always question themselves if they have explored all alternative options before settling on a final solution. They derive joy from gathering information on intriguing subjects of study.

Z-test based on demographic based comparison

Table No.1.2. *Z-test between Male and Female students*

Gender	N	Mean	Std. Deviation	Z-Score	Tabulated Value
Female	77	3.67	0.79	3.58	1.96
Male	39	3.28	0.41		

Table 1.2 shows the value of z calculations between male and female students. Female students show higher value of mean (3.67) as compare to male students (3.28). Similarly female students show higher value of std. deviation (0.79) as compare to male students (0.41). The value of z calculations between male and female students is 3.88 while table value is 1.96. As calculated value is greater than table value, so, there is significance difference was found between male and female students.

Table No.1.3. *Z-test between Day Scholars and Hostelide students*

Living Status	N	Mean	Std. Deviation	Z-Score	Tabulated Value
Hostelide	89	3.44	0.88	0.88	1.96
Day Scholars	27	3.64	0.34		

The above table 1.3 shows the value of z calculations between Day Scholars and Hostelide students. Day Scholars show higher value of mean (3.64) as compare to Hotlines (3.44) while hostelide show higher value of std. deviation (0.88) as compare to Day Scholars (0.34). The value of z calculations between Day Scholars and Hostelide students is 0.88 while table value is 1.96. As calculated value is less than table value, so, there is no significance difference was found between Day Scholars and Hostelide students.

CONCLUSION

Metacognition assists prospective teachers in enhancing their learning process and enhancing their learning experience. The use of metacognitive skills enhances the effectiveness and efficiency of learning. The metacognitive method assists prospective teachers in conceptualizing their knowledge in an active and skillful manner. Moreover, it assists prospective teachers in applying, analyzing, synthesizing, and evaluating their knowledge. The ability to think critically can broaden a prospective teacher's knowledge, and higher education has also required prospective teachers to build their own knowledge.

RECOMMENDATION

On the basis of findings of this study it is recommended:

1. In order to foster prospective teachers' metacognition skills, teachers may use a variety of teaching strategies.
2. Teachers should create an environment in which students are empowered to develop their metacognition skills
3. Metacognition should be measured using a variety of techniques during the assessment process
4. Policy makers may also consider activities that enhance prospective teachers' metacognition
5. Students and teachers should be provided with all the facilities necessary to enhance their metacognition.

FUTURE DIRECTIONS

Future researchers can conduct research keeping in view the following points

1. The present study utilized only a quantitative research design; however, future studies may utilize qualitative or mixed methods.
2. The present study was limited to students of the Department of Education. Further research could be carried out in faculties such as Commerce, Law and Business Administration, Engineering and Technology, Pharmacy and Agricultural Science and Technology, in order to increase the sample size.
3. The scope of the present study was limited to universities in Multan, a city located in Southern Punjab, Pakistan. Further research can be conducted at other universities in Punjab and in other provinces of Pakistan in the future.
4. The current study focused on students enrolled in higher education and enrolled in a Bachelor of Science program only. The research can be extended to other programs offered by universities, as well as to the differences between students at school, college, and university.

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Teaching Aptitude of School Teachers: A Gender-Based Comparison

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ABSTRACT

Teaching aptitude of school teachers is an important factor in making the teaching profession more effective. This research study was carried out for comparison of female teachers' aptitude of teaching with male teachers of three districts Multan, Khanewal and Muzaffar Garh. The key objective of this research study was to analyze the teaching aptitude of female and male school teachers. The present study includes the sample of 350 teachers including 178 female school teachers and 1172 male elementary and secondary school teachers by using simple random sampling technique. A standardized Teaching Aptitude Test is used as a research instrument for the measurement of aptitudes of male and female teachers. Z-test was applied to compare the aptitude of teaching for female and male school teachers. Data analysis revealed that the significant difference is not found between the teaching aptitude of female and male school teachers. The study recommends to administer aptitude test at the time of selection of teachers to appoint those teachers for teaching profession who have high level of teaching aptitude.

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INTRODUCTION

Teacher is very important and main pillar of education and educational system of any society. According to Nara & Kumar (2023) teaching may be defined as that all the activities which are designed and performed to create change in student's behavior. Profession of those who provide teaching particularly in an elementary and secondary school or in a university level is called teaching profession (Ranjith, & Achari, 2017). Concept of teaching is extremely straightforward: Communicate knowledge or ability, teaching is an activity and predicted behavior to persuade learning (Tasleema & Hamid, 2012).

Kuhn (2010) stated that teaching is a very specific profession where an individual is detained accountable throughout a series of, assessments tests and tools to conclude the learning and success of students. Teachers utilize their capabilities to communicate a multiplicity of teachable subjects to students within the classroom from math, history, social studies, science, to music, art and life abilities (Leigh, 2012).

Darling (2013) says that teaching is such a worthwhile and challenging profession, as teacher arrives outside the box, and frequently outside their sort of knowledge to assist students overcome academic, social and disturbing tasks to make sure achievement. It is gratifying when individuals have worked carefully with success in attaining pupils and permitting them to obtain their goal. Fischler (2007) highlighted that Teachers are important source to communities international, universal, and communitywide. They provide the major role of supporting and also provide the best possible means of education to a group of pupils that they probably can.

Aptitude is seen as a crucial personal characteristic. Aptitude reveals important aspects of a person's personality (Rajeeva, & Vanketsha, 2021). It can also forecast an individual's success or failure in a particular profession or subset of occupations. Aptitude can be defined as a person's clear interest in a certain skill or trade. To put it briefly, aptitude may be defined as a certain set of abilities and skills that allow a person to reach a certain level of knowledge in a given field. Armstrong (2009) stated that aptitude is a set of traits or developments, regarded as indicative of a character's functionality to obtain with education some (normally distinctive) proficiency, potential or set of comprehensive explanation of the functionality to talk a language, to create song etc. Bontempo (2012) stated that aptitude is an inborn or attained potential or ability in a specific turned, ability and inclination to study or detained. Aptitude is a circumstance or a hard and fast of traits seemed as symptomatic of a man or woman's capability to acquire with little education, a little knowledge, proficiency or set of answers beside with competency to speak a language. Even as we ask for advice from someone's aptitude for Science, Mathematics, Engineering, Medical or Music we are relating to his destiny too. According to Warren's Dictionary (2010) attitude may be defined as:

"Aptitude is a condition or a set of characteristics regarded as symptomatic of an individual's ability to acquire with some training, some knowledge, skills or set of responses such as ability to speak a language".

According to Mangal (2006) aptitude can be defined as a specific capability or unique competency which isn't the same as the overall intellectual capability which assists a man or woman to acquire the desired diploma of expertise or accomplishment in a special field. Aptitude is as a consequence character capability to analyze or to expand ability in a place if supplied with appropriate schooling or training (Singh, & Kaur, 2018).

Freeman (1965) studied that aptitude is a collection of qualities that show a person's capacity to learn specific information through instruction, develop musical talent, and do mechanical tasks. Additionally, he has made clear that aptitude is not the same as competence or talent. According to Dahiya and Singh (2004) "Dahiya and Singh Teaching Aptitude Test,"

"Aptitude for teaching is a condition or set of characteristics including Knowledge, understanding and attitude regarded as symptomatic or indicative of individual's ability to acquire with training abilities for teaching work."

Consequently, aptitude can be defined as a combination of a person's abilities and skills that enable him to excel in his line of work. One of the most crucial aspects of the teaching profession is teaching ability especially for them to successfully do their sacred duty (Sharma & Bedi, 2016). Any teacher cannot carry out their responsibilities effectively if they lack a significant degree of teaching aptitude, which highlights the critical significance that teaching aptitude plays in the teaching profession. Teaching aptitude is extremely important in the teaching area, as teaching is an art form, and personality is a stable and durable synthesis of a person's many physical and mental aspects (Eysenk & Derakshan, 2011).

Objective of the Study

1. To compare the male and female teachers' aptitude of teaching.

Hypotheses

In the light of the objectives of the study, null hypothesis is articulated given blow:
H0: There is no significance difference between of male and female teachers in teaching aptitude of school teachers.

H1: There is significance difference between of male and female teachers in teaching aptitude of school teachers.

METHODOLOGY OF THE STUDY

The methods and strategies used by the researchers to gather data for their studies are referred to as methodology. It provides insights into the research. The study's goal was to analyze the parents' financial decisions about their daughters' education. To counter research objectives, several research designs were used. Some of them, like the survey and multimethod designs, might have been effective in providing answers to the study questions. The nature of this study was descriptive and quantitative.

Three hundred and fifty elementary and secondary school teachers made up the study's sample; of them, 178 were female and 172 were male teachers. Two groups were chosen at random from the population using a basic random sampling method. The Teaching Aptitude Test Battery, created by Dahiya and Singh in 2004 (Raza, Deeba, & Faqir, 2022), is a research tool used to examine the teaching aptitude of elementary and secondary school instructors. The teaching aptitude of male and female elementary and secondary school teachers were compared using means, standard deviations, and the Z-test.

RESULTS

The present study is about measurement of teaching attitude of male and female teachers through test. The marks obtained by teaches in the test is based for data analysis. On the basis of the score in the test, the aptitude of the male and female teachers were compared.

Table 1.*Mean and Standard Deviation of Scores in Test*

Gender	N	Mean	Std. Deviation

Male	172	26.31	5.59
Female	178	26.69	4.93

The above table indicates that the average of male and female school teachers are 26.31 and 26.69 respectively. Similarly standard deviations of the male and female school teachers are 5.59 and 4.93 respectively.

Table 2.*Aptitude for teaching of male and female school teachers*

	Gender	**N**	**Mean**	**Std. Deviation**	**Z- Cal**	**DF**	**Significance Value**
Teaching aptitude	Male	172	26.31	5.59	3.159	298	0.530
	Female	178	26.69	4.93			

The above table discloses that the average of male and female school teachers are 26.31 and 26.69 respectively. Similarly standard deviations of the male and female school teachers are 5.59 and 4.93 respectively. Calculation value for z-test between both values is 3.159. Its mean calculated value is greater than significance value.

CONCLUSION

The study concludes that the average test score for male and female educators is 26.27 and 26.65, respectively. Regarding teaching aptitude based on gender, the corresponding standard deviations for male and female teachers are 5.587 and 4.930, respectively. The z-test between these values yields a value of 3.159, and the significance level is 0.530.In this hypothesis the researcher find out that female school teachers having greater teaching aptitude than male school teachers. The value of significance of this research is 0.530 which indicate that there is significance difference between gender and aptitude. So, the first (H0) hypothesis is rejected.

RECOMMENDATIONS

The recommendations of the study are:

1. Authorities should recruit the teachers having high aptitude of teaching.
2. Trainings should be conducted to polish the teaching aptitude of teachers.
3. Future researchers should conduct comparative study of teaching aptitudes with larger sample and area.

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Investigation of Teaching Talent of Urban and Rural School Teachers

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ABSTRACT

The effectiveness of the teaching profession is largely dependent on their natural teaching talent. Keeping in view this utmost importance of teachers' talents for teaching the study was carried out with the purpose of investigating the teaching talent of school teachers teaching in urban and rural schools of district Multan. By using simple random sampling technique, total 304 teachers including 161 urban and 143 rural teachers were considered as sample of the study. To measure teachers' natural talent for teaching, a standardized Teaching Aptitude Test was thought appropriate to be used to collect data. Teachers in urban and rural schools were compared for their teaching talent by using Z-test. Data examination showed that there is significant difference between the teaching aptitude of urban and rural school teachers. The study recommends to recruit teachers on the basis of measuring their teaching talents through any standardized aptitude test and further practical test in form of demonstration.

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INTRODUCTION

Teacher is the main pillar of educational system. An attempt has made to determine the difference between teaching aptitude and responsibility in his job. According to Nara & Kumar (2023), teaching may be defined as that all the activities which are designed and performed to create change in student's behavior. Profession of those who provide teaching particularly in an elementary and secondary school or in a university level is called teaching profession (Kant &

Shukla, 2021). Concept of teaching is extremely straightforward: Communicate knowledge or ability, teaching is an activity and predicted behavior to persuade teach (Kuhn, 2010).

To teach is to impart knowledge to students. In a school or other formal education setting, a teacher's primary duty is to impart knowledge to the students. This primary duty is frequently formal and ongoing. Poor teachers tell; excellent teachers instruct; outstanding teachers inspire their students; brilliant teachers display; excellent teachers only instruct; poor teachers merely describe (Hammond, 2006). So, teacher' main responsibility to create positive change in behavior and learning that is beneficial for society and a sign for prosperous of the society. The effectiveness of the teaching profession is largely dependent on their natural teaching talent (Ghatvisave & Siddharth, 2012). Keeping in view this utmost importance of teachers' talents for teaching the study was carried out with the purpose of investigating the teaching talent of school teachers teaching in urban and rural schools of district Multan.

A teacher's enthusiasm, commitment, and attitude toward the teaching profession are just as important as their qualifications and experience when it comes to the teaching profession. Teachers need to acquire two types of knowledge: pedagogical knowledge and content knowledge. He should also acquire two different kinds of quantities—personal and occupational—in addition to these two categories of knowledge (Vijaya Kumari & Naik, 2016). A teacher can be considered the best if they are able to connect both types of features in both subject and functional areas and achieve their goals. Therefore, having strong teaching abilities and aptitude is essential for a teacher to become a model teacher. Specificity, unitary composition, facilitation and constancy attributes are the traits of aptitude (Eduncle, 2022).

Aptitude is seen as a crucial personal characteristic. Aptitude reveals important aspects of a person's personality. It can also forecast an individual's success or failure in a particular profession or subset of occupations. Aptitude can be defined as a person's clear interest in a certain skill or trade (Warren, 2010). To put it briefly, aptitude may be defined as a certain set of abilities and skills that allow a person to reach a certain level of knowledge in a given field. According to Katz (2009), aptitude is a natural capacity and skill for learning that differs from person to person. According to Ramsay (2008), aptitude helps people identify their interests and makes decisions for them.

Mangal (2006) defines aptitude as a particular talent or distinct competency that is distinct from general intellectual capacity and helps an individual achieve the required level of proficiency in a particular subject. As a result, aptitude is the capacity to evaluate or increase one's competence in a situation given the right instruction or experience.

According to research by Freeman (1965), aptitude is a collection of characteristics that show a person's capacity to learn new skills, become a musician, or do mechanical tasks with instruction. Additionally, he has made clear that aptitude is not the same as competence or talent. Consequently, aptitude can be defined as a combination of a person's abilities and skills that enable him to excel in his line of work.

One of the most crucial aspects of the teaching profession is teaching ability, especially for them to successfully do their sacred duty. Any teacher cannot carry out their responsibilities effectively if they lack a significant degree of teaching aptitude, which highlights the critical significance that teaching aptitude plays in the teaching profession (Salkind & Rasmussen,

2008). A teacher's personality is a consistent and long-lasting amalgam of their diverse physical and mental traits. Teaching aptitude is very necessary in teaching field, teaching as an art (Eysenk, et al. 2011).

Objectives of the Research Study

The following are the primary goals of the current investigation:

1. To research the teachers' aptitude of teaching for urban areas.
2. To describe the teachers' aptitude of teaching for rural areas.
3. To compare the teachers' aptitude of teaching for urban and rural areas.

Hypothesis

In the light of the objectives of the study, null hypothesis is articulated given blow:

H0: There is no significance difference between in teaching aptitude of teachers from urban and rural areas.

H1: There is significance difference between in teaching aptitude of teachers from urban and rural areas.

METHODOLOGY OF THE STUDY

The methods and strategies used by the researchers to gather data for their studies are referred to as methodology. It provides insights into the research. The study's goal was to analyze the parents' financial decisions about their daughters' education. To counter research objectives, several research designs were used. Some of them, like the survey and multimethod designs, might have been effective in providing answers to the study questions. The nature of this study was descriptive and quantitative.

It was managed to conduct the test on 400 teachers. But with full efforts, it was conducted on 304 teachers. Three hundred and four elementary and secondary school teachers made up the study's sample; of them, 161 were from urban areas and 143 were male rural. Two groups were chosen at random from the population using a basic random sampling method. The Teaching Aptitude Test, created by Dahiya and Singh in 2004, is a research tool used to examine the teaching aptitude of elementary and secondary school instructors (Raza, Deeba, & Faqir, 2022; Dahiya, & Singh, 2004). The teaching aptitude of male and female elementary and secondary school teachers were compared using means, standard deviations, and the Z-test.

RESULTS

The present study is about measurement of teaching aptitude of teachers from urban and rural areas through test. The marks obtained by teaches in the test are based for data analysis. On the basis of the score in the test, the aptitude of the male and female teachers were compared.

Table 1. *Mean and Standard Deviation in Teaching Aptitude Test*

Locality	Gender	N	Mean	Std. Deviation
Urban	Male	78	26.87	4.989
	Female	81	25.58	6.053
Rural	Male	69	24.32	5.235
	Female	72	25.51	5.884

The above table indicates that the average of school teachers from urban areas of male and female teachers are 26.87 & 25.58 and rural areas of male and female teachers are 24.32 & 25.51 respectively. Similarly standard deviations of school teachers from urban areas of male and female teachers are 4.989 & 6.053 and rural areas of male and female teachers are 5.235 & 5.884 respectively.

Table 2. *Aptitude for teaching school teachers from urban and rural areas*

	Locality	N	Mean	Std. Deviation	Z- Cal	DF	Significance Value
Teaching aptitude	Urban	159	26.19	5.958	0.450	298	0.057
	Rural	141	24.92	5.542			

Table 2 discloses that the average of school teachers from urban and rural areas are 26.19 and 26.92 respectively. Similarly standard deviations of school teachers from urban and rural areas are 5.958 and 5.542 respectively and calculation value for z-test between both values is 0.450. Its mean calculated value is greater than significance value.

CONCLUSION

The average test score of school teachers from urban and rural areas are 26.19 and 26.92 respectively. Similarly standard deviations of school teachers from urban and rural areas are 5.958 and 5.542 respectively and calculation value for z-test between both values is 0.450 while significance value is 0.057.The study concludes that school teachers from urban areas having greater teaching aptitude than school teachers from rural areas. The value of significance of this

research is 0.530 which indicate that there is significance difference between teaching aptitude of school teachers from urban and rural areas. So the first (H0) hypothesis is rejected.

RECOMMENDATIONS

The recommendations of the study are:

1. Authorities should recruit the teachers having high aptitude of teaching.
2. Trainings should be conducted to polish the teaching aptitude of teachers.
3. Future researchers should conduct comparative study of teaching aptitudes with larger sample and area.

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