Spry Contemporary Educational Practices

ISSN: 2958-6690
Vol. 3, Issue. 1
(Jan-Jun 2024)
Page no: 408- 419
DOI: https://doi.org/10.62681/sprypublishers.scep/3/1/22

Effect of Inquiry Based Learning on Academic Achievement of Students at Higher Secondary Level

Muhammad Usman Hayat
Ph. D. Scholar,
Department of Educational Leadership and Management
International Islamic University, Islamabad

Dr. Azhar Mahmood
Associate Professor,
Department of Educational Leadership and Management
International Islamic University, Islamabad

Mirza Muhammad Akhter
Ph. D. Scholar,
Department of Educational Leadership and Management
International Islamic University, Islamabad

Received: 31-Mar-2024
Revised: 11-Apr-2024
Accepted: 19-Apr-2024

ABSTRACT

Introduction: *This study aims to investigate the impact of Inquiry Based Learning (IBL) on the academic achievement of students in accounting at the higher secondary school level. The research objective was to assess the effectiveness of IBL compared to traditional teaching methods.*

Methodology: *The study involved forming control and experimental groups based on pre-test scores. Over eight weeks, lesson plans were implemented using IBL for the experimental group, while the control group received instruction through traditional methods. Pre-tests served as post-tests and for retention. Ethical considerations were adhered to throughout the research process.*

Results/Findings: *Analysis using t-test revealed that students taught with IBL demonstrated significantly higher academic achievement compared to those taught with traditional methods. This suggests that IBL is more effective in enhancing learning outcomes in accounting at the higher secondary school level.*

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

Future Direction: *It is recommended that teachers incorporate IBL more frequently in accounting classrooms at the higher secondary level. Additionally, fostering high levels of interaction through questioning is encouraged to promote student involvement, learning enhancement, and motivation.*

Keywords: Inquiry Based Learning, Academic Achievement, Traditional Teaching Methods, Interaction, Questioning.

Introduction

Inquiry-based learning is a widely used and highly recommended teaching strategy within accounting curricula and across education (Aldahmash, 2016; Dunne, 2013; Wang, 2014). Inquiry-based learning engages students in the processes of scientific discovery and can make science relevant towards their real-world concerns (Darling-Hammond et al., 2020). However, in most science classrooms, teachers still use traditional learning or direct methods of instruction on scientific terminology and other types of discrete knowledge students need to master for standardized testing. Within this learning approach, scientific concepts and methods are presented to students in a learner-centered strategy (Hafeez, Iqbal, & Imran, 2021).

Inquiry based learning enables students to research by conducting and experimenting, incorporate theories and hypotheses, and apply content material to understand and assimilate solutions to an identified problem or concept (Khan, Hussain & Ahmad, 2023). In contrast, traditional learning is a strategy developed and centered on the instructor. Information is typically taught by the instructor or from resources including textbooks and lectures (Khalaf, 2018). Through use of the traditional learning strategy, the monitoring of student achievement progress is an important aspect of education and curriculum (Rehan, et al., 2024). Traditional learning focuses on the students' ability to answer content knowledge questions through standardized testing and a multitude of assessment options, and mainly lacks the capability for students to make stronger, deeper, and personal connections to scientific material (Imran & Akhtar, 2023; Khalaf, 2018).

McIntyre and Munson (2018) discuss how traditional learning is not able to engage students and impedes their ability to process, recall, and retain information. Studies conducted shows in a traditional classroom setting scientific information can still be presented and taught, but there is a disconnect between the long term retention and application of accounts knowledge (Aligaen et al., 2016; Ahmad, Bibi, & Imran, 2023). Through traditional learning, there has

been a lack of student motivation because students do not understand the relevance of learning the content material (Wilhelm & Wilhelm, 2017).

Within traditional learning, there is a development of non-active learning and engagement among students due to the formulation of the learning process from the students receiving it (Khalaf, 2018; Ahmad & Hamid, 2021). Traditional learning classes do not support active learning or student engagement and motivation because the learning process focuses on the teacher's role as opposed to the students and how effectively teachers are presenting lesson material (Khalaf, 2018). Student motivation and engagement is not present within the TL method because students are not being given a relevant reason as to why they are learning the content material and how it can impact them as learners (Dorier & Maab, 2017).

Inquiry-Based Learning

Inquiry-Based Learning an educational practice and method which puts the responsibility of the learning process onto the student. This form of active learning and teaching allows students to ask questions, form solutions to problems, explore and discover content material, and reflect upon learning processes to have deeper understandings of content material.

Academic Achievement

Academic Achievement is the extent to which a student or institution has achieved either short or long term educational goals. Achievement may be measured through students' grade point average, whereas for institutions, achievement may be measured through graduation rates.

Score

Score is a number that expresses accomplishment (as in a game or test) or excellence (as in quality) either absolutely in points gained or by comparison to a standard. In most Accounts classrooms, teachers still use traditional learning, or direct methods of instruction on Accounting terminology and other types of discrete knowledge students need to master for standardized testing (Imran, et al., 2023). In general, in Accounting and particularly in Financial Accounting, there are some misconceptions while teaching financial accounting by traditional method (Lecture method) that the score retention declines (Ali, et al., 2023). This study is being done to check whether the score retains if Accounting is taught by Inquiry-based Learning method or not (Ahmed, Ahmed & Buriro, 2023).

Objective of the Study

1. To find out the effect of Inquiry-based learning on academic achievement of students at Higher Secondary school.

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

Research Hypotheses

Ho1: There is no significant difference in mean scores of the experimental group and control group on academic achievement of secondary school.

Ho2: There is no significant difference in mean scores of the experimental group and control group on their score retention.

Significance of the Study

Multiple research studies (Baker & Robinson, 2018; Schmid & Bogner, 2015; Johnson & Cuevas, 2016) have shown the positive impacts of implementing inquiry-based learning into the educational classroom. Research suggests with the incorporation of inquiry-based learning within the classroom, Inquiry-based learning can lead to strong increases in student engagement, student motivation, and student academic achievement with long-term knowledge retention (Imran, Sultana, & Ahmed, 2023).

Literature Review

The term 'inquiry' is defined as questioning in the Current Turkish Dictionary (TDK, 2020), and scholars like Kartal (2014) consider it a versatile activity that involves questioning, observation, and pre-evaluation. Güneş (2014) views inquiry as a catalyst for changes in mental skills, fostering critical thinking and decision-making abilities in students.

This study delves into the impact of Inquiry-Based Learning (IBL) on academic achievement at the higher secondary school level, synthesizing existing research in Turkey (Abdi, 2014; Bailey, 2018; Bilir & Özkan, 2018; Çalışkan, 2008; Çelik, 2012; Çelik & Çavaş, 2012; Duban, 2008; Ebren Ozan, 2018; Kaçar, 2020; Kaya & Yılmaz, 2016; Keçeci & Yıldırım, 2017). Employing a meta-analysis approach, this study aims to discern the effect size of IBL on academic achievement, categorizing results by educational levels and publication types (articles-dissertations) between 2000 and 2020.

The review suggests that inquiry competence is essential across educational levels. IBL, aligned with the constructivist learning approach (Güneş, 2014), proves instrumental in enhancing students' cognitive abilities, promoting critical thinking, and nurturing information literacy (Kurudayıoğlu & Tüzel, 2010). Furthermore, the literature highlights IBL's applicability beyond science classes, influencing areas such as arts, foreign languages, social studies, and mathematics (Hussain, et al., 2023; İlter, 2013).

IBL is characterized by its emphasis on asking scientifically oriented questions, providing evidence for explanations, evaluating alternative explanations, and communicating proposed explanations and justifications (Phulpoto, Oad, & Imran, 2024; Cairns &

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

Areepattamannil, 2019). This strategy aligns with the shift away from traditional, teacher-centered methods, known for promoting rote learning (Novak, 1998). Reforms advocate for student-centered approaches, and numerous studies demonstrate the effectiveness of IBL in improving student performance, laboratory skills, content retention, and attitudes towards science (Celik & Cavas, 2012; Ozdemir & Isık, 2015; Turkmen, 2009; Arslan et al., 2014).

While the literature provides varied conclusions on the effects of IBL, the growing body of research necessitates a meta-analysis to comprehensively understand its impact on science education (Hedges & Olkin, 1985; Borenstein et al., 2009). This study aims to fill the gap by systematically analyzing existing studies, providing valuable insights for educators and policymakers in Turkey.

Utilizing Inquiry-Based Learning (IBL) to Enhance Student Achievement

Recent research emphasizes the superiority of IBL over Traditional Learning (TL) in boosting student achievement (Baker & Robinson, 2018). Saunders-Stewart et al. (2012) identified 23 learning aspects and outcomes facilitated by IBL, demonstrating its effectiveness in knowledge recall and retention. For instance, Abdi (2014) conducted a study in a fifth-grade primary school in Kermanshah, Iran, comparing IBL and TL classrooms. The experimental group, exposed to IBL using the 5E Learning Cycle Model, outperformed the control group taught through traditional methods, revealing a significant relationship between IBL and enhanced student achievement.

Abdi (2014) found a substantial increase in mean scores from pre-test to post-test for the experimental group (4.15 points), indicating a deeper understanding of the material compared to the control group (3.4 points). This supports the notion that IBL enables students to engage with scientific material, fostering long-term knowledge and retention (Cakir, 2008). Building on this, Schmid and Bogner (2015) conducted a study in Germany, revealing that IBL contributes to long-term knowledge retention and a more profound understanding of content material.

Schmid and Bogner's (2015) study involved 138 ninth graders, presenting a structured inquiry-based science unit on air and sonic waves to both experimental and control groups. The experimental group, engaged in IBL projects, demonstrated a significant increase in content knowledge, as evidenced by diagnostic and post-tests. The control group, devoid of IBL exposure, showed no significant improvement in knowledge scores across assessments. These findings underscore the effectiveness of IBL in promoting sustained learning and recall of scientific concepts.

Theoretical Framework: Inquiry-Based Learning (IBL) in a Constructivist Context

IBL is an 'inductive' teaching approach, initiating with observations or real-world problems. Key characteristics include a learner-centered focus, active learning through problem-solving, the development of self-directed learning skills, and a constructivist basis where students actively construct knowledge (Gormally, 2019; Imran, et al., 2023).

Theoretical support for IBL aligns with constructivism, emphasizing active knowledge construction by individuals. Drawing from research on motivation, intellectual development, and learning approaches, IBL shares similarities with learning cycle-based teaching. Constructivism posits that learners actively construct knowledge and skills, filtering new experiences through mental structures (schemata) that incorporate prior knowledge (Gormally, 2019).

Incorporating insights from Dewey, Vygotsky, and Piaget's developmental psychology, the constructivist theory highlights effective teaching strategies:

- Building on existing knowledge for meaningful connections.
- Encouraging active, self-directed learning.
- Providing authentic learning opportunities.
- Involving collaborative or cooperative learning in small groups.

IBL's advocacy stems from its perceived ability to strongly motivate learners. Motivation studies by McIntyre (2018) indicate that tasks challenging at an appropriate level sustain motivation, fostering engagement. IBL leverages perplexity to prompt students to seek solutions, making tasks personally relevant.

Adesoji and Idika (2017) outline stages of intellectual development in college students, emphasizing the transition from certainty to relativism. IBL facilitates this transition by involving students in questioning knowledge and developing critical thinking skills, contrasting traditional didactic approaches (Adesoji & Idika, 2017).

Research Methodology

Research Design

The research was quantitative Pre-test post-test equivalent groups design was used. On the basis of pre test scores, control and experimental groups were formed randomly. The teachers of Financial Accounting taught the subject and guidelines were given to the teacher who was to teach Inquiry Based Learning for teaching Accounting at Higher Secondary Level. Pre-test was used as post-test as well as for retention. Study was comprised of eight weeks. Lesson plans were prepared on the basis of Inquiry Based Learning for experimental group

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

while control group was taught by usual traditional method. Four chapters were covered in this study.

Population

1st year class was selected for this study as the study is based on Higher Secondary Level. The institution from which the class was selected, is Government Higher Secondary School, Jhelum. Two groups (control and experimental) were formulated equally on the basis of pre-test scores. Thirty students from the class were selected for each group.

Sample and Sampling

The study was conducted with 30 experimental and 30 control group students at higher secondary school schools in Jhelum. It was made sure that experimental group is equal to control group.

Instruments

The test included multiple-choice items to measure the students' academic achievement. Each question has one correct answer and three 'distracters'. The chapters from which the questionnaire was made are Accounting Cycle, Bank Reconciliation Statement and Bills of Exchange.

Procedure (Data Collection)

The researcher used the following two treatments in the present study:

i. Teach by using Inquiry Based Learning (experimental group)
ii. Teach by using Lecture method (control group).

Data were collected by using Pre Test and Post Test techniques.

Data Analysis and Interpretation

Intention of study was to evaluate effect of inquiry based learning on academic achievement of high secondary school students in Accounting Cycle, Bank Reconciliation Statement and Bills of Exchange. Data were obtained through teacher made tests to draw inferences. Pre-test scores in subject of Accounting Cycle, Bank Reconciliation Statement and Bills of Exchange were used to equate the groups. Significance of difference between the mean scores of treatment and control groups on pre-test, post-test and retention test were determined through application of t-test, analysis of variance and factorial design (2 x 3) analysis of variance.

Table 1

Significations of difference between means scores on post-test of experimental and control group

Groups	N	D.F	Mean	S.D	S.E	T. Value	
						Calculated Value	Table Value
Experimental	30	29	52.80	14.88	3.59	3.59	2.02
Control	30	29	49.42	7.11			

The critical region is $|t| \geq t$ to $0.025(40) = 3.02$

It is obvious from the table that the computed t (3.59) value was found greater than table value at 0.05. Therefore null hypothesis, "significant difference does not exist between mean scores of experimental and control groups on post-test" was rejected. It means that the significant difference was there between mean scores on post-test of both groups after being treated by effect of inquiry based learning method and traditional learning method respectively.

Table 2

Significance of difference between the scores on post-test of higher achievers of experimental and control groups

Groups	N	D.F	Mean	S.D	S.E	T. Value	
						Calculated Value	Table Value
Experimental	30	29	65.81	16.40	4.00	2.70	2.08
Control	30	29	55.00	4.04			

The critical region is $|t| \geq t$ to $0.025(20) = 3.08$

It is apparent from the above table that computed t (2.70) value was found greater than table value at 0.05. Therefore null hypothesis, "significant difference does not exist between mean scores of high achievers of treatment and control groups on post-test" was rejected, and researcher may conclude that high achievers of treatment group performed better than control group.

Table 3

Significance of difference between mean scores on post-test of low achievers of experimental and control groups

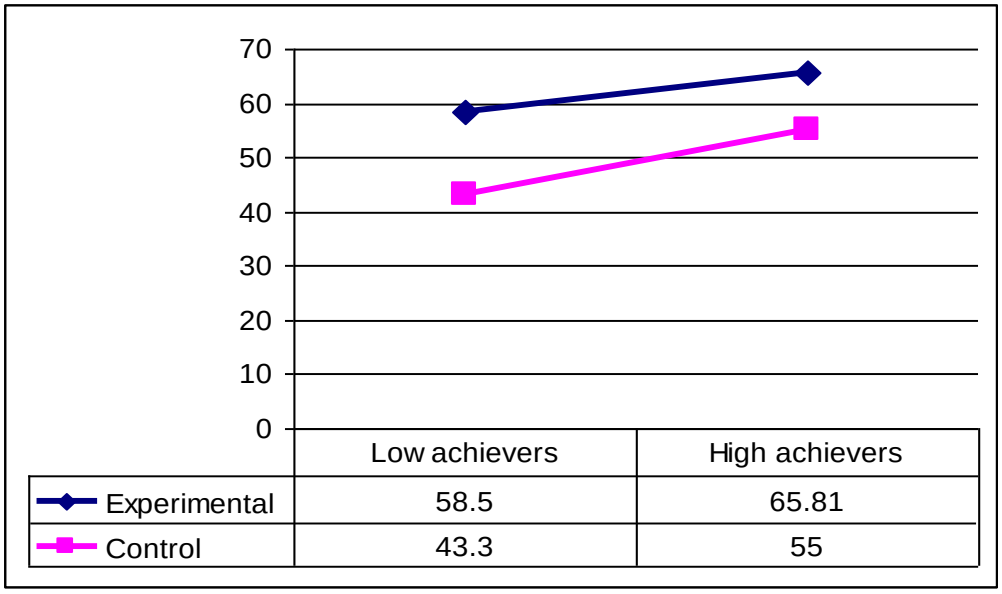
Groups	N	D.F	Mean	S.D	S.E	T. Value	
						Calculated Value	Table Value
Experimental	30	29	58.50	12.73	4.20	3.61	2.10
Control	30	29	43.30	3.83			

The critical region is $|t| \geq t$ to $0.025(18) = 3.10$

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

It is visible from the table that computed t (3.61) value was found greater than table value at 0.05. Therefore null hypothesis, "significant difference does not exist between mean scores of low achievers of experimental and control groups on post-test" was not accepted, and researcher may conclude that the difference between mean scores on post-test of low achievers of treatment and control groups was significant in the favour of experimental group.

The interaction effect between treatment and achievement level on post test scores



	Low achievers	High achievers
Experimental	58.5	65.81
Control	43.3	55

Graph shows that both high and low achievers of treatment groups outscored the high and low achievers of control groups.

Findings

1. It is obvious from table1 that the computed t (3.59) value was found greater than table value at 0.05. Therefore null hypothesis, "significant difference does not exist between mean scores of experimental and control groups on post-test" was rejected. It means that the significant difference was there between mean scores on post-test of both groups after being treated by effect of inquiry based learning method and traditional learning method respectively.
2. It is apparent from table 2 that computed t (2.70) value was found greater than table value at 0.05. Therefore null hypothesis, "significant difference does not exist between mean scores of high achievers of treatment and control groups on post-test" was rejected, and researcher may conclude that high achievers of treatment group performed better than control group.

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

3. It is visible from table 3 that computed t (3.61) value was found greater than table value at 0.05. Therefore, null hypothesis, "significant difference does not exist between mean scores of low achievers of experimental and control groups on post-test" was not accepted, and researcher may conclude that the difference between mean scores on post-test of low achievers of treatment and control groups was significant in the favour of experimental group.

Recommendations

1. Inquiry Based Learning has proved to be effective for learning accounting at higher secondary school level. Therefore, it is recommended for higher Secondary School teacher to apply this method more frequently in the classroom for teaching of accounting.
2. It is recommended that teachers who are teaching accounting at higher secondary school level may be trained to teach accounting by applying Inquiry Based Learning.
3. It is recommended that teachers may be established high level of interaction through questioning as it promotes involvement, enhances learning and motivates students.

Future Direction

Further research can open doors to investigate whether Inquiry Based Learning plays a purposeful role in the traditional classroom setting to upgrade students' understanding and inspiration towards the accounting subject. This study was conducted in boys of higher secondary school in Pakistan. Furthermore, conducting similar study in girls higher secondary school would be worth presenting.

References

Abdi, A. (2018). The effect of inquiry-based learning method on students' academic achievement in education. *Universal Journal of Educational Research, 2*(1), 37-41. https://doi.org/10.13189/ujer.2014.020104

Adesoji, F. A., & Idika, M. I. (2017). Effects of 7E learning cycle model and case-based learning strategy on secondary school students' learning outcomes in education. *Journal of the International Society for Teacher Education, 19*(1), 7-17.

Ahmad, N., & Hamid, S. (2021). An Analysis of Instructional Leadership Practices of Primary School Head-Teachers on Teacher Effectiveness: A Qualitative Study of Teachers' Perceptions. Pakistan Languages and Humanities Review, 5(2), 193-209. http://doi.org/10.47205/plhr. 2021(5-II)2.16

Ahmed, S., Ahmed, S., & Buriro, A. (2023). Strategies and Best Practices for Managing Cost Overruns in the Construction Industry of Pakistan. Propel Journal of Academic Research, 3(1), 28-55.

Aldahmash A. H., Mansour N. S., Alshamrani S. M., & Almohi S. (2018). An analysis of activities in Saudi Arabian middle school science textbooks and workbooks for the inclusion of essential features of inquiry. *Research in Science Education, 46*(6),

879– 900.

Ali, Z., Ahmad, N., Rehman, H. U., Ullah, N., & Zahra, T. (2023). Investigating Teacher Educators' Perceptions on Technology Integration in Teacher Preparation Programs. Journal of Social Sciences Review, 3(2), 341-355. https://doi.org/10.54183/jssr.v3i2.272

Ahmad, N., Bibi, N., & Imran, M. (2023). Effects of teacher's motivation on students' academic performance at public secondary schools in Karachi Pakistan. AITU Scientific Research Journal, 1(2), 20-32.

Aligaen, J. C., & Capaciete, M. E. C. (2016). Sustainability science as a neo-normal: A case study. *Universal Journal of Educational Research, 4(*10), 2229–2235.

Anderson, R. (1997). *The research on teaching as inquiry*. Paper presented for the Center for Science, Mathematics and Engineering Education. National Research Council, Washington D.C.

Baker, M., & Robinson, J. S. (2018). The effect of two different pedagogical delivery methods on students' retention of knowledge over time. *Journal of Agricultural Education, 59*(1), 100–118. https://doi.org10.5032/jae.2018.01100

Barron, B., & Darling-Hammond, L. (2018). Teaching for Meaningful Learning: A review of research on inquiry-based and cooperative learning.

Bransford, J. D., Sherwood, R. D., Hasselbring, T. S., Kinzer, C. K., & Williams, S. M. (2012). *Anchored instruction: Why we need it and how technology can help*. In Cognition, education, and multimedia (pp. 129-156). Rutledge.

Cavallo, A. M., Miller, R. B., & Saunders, G. (2002). Motivation and affect toward learning science among pre-service elementary school teachers: Implications for classroom teaching. *Journal of Elementary Science Education, 14(*2), 25-38.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science, 24*(2), 97-140.

Dorier, J., & Maab, K. (2017). The PRIMAS project: Promoting inquiry-based learning (IBL) in mathematics and science education across Europe PRIMAS context analysis for the implementation of IBL. *International Synthesis Report PRIMAS– Promoting Inquiry- Based Learning in Mathemati*, *23*(1), 54-67.

Gormally, C., Brickman, P., Hallar, B., & Armstrong, N. (2009). Effects of inquiry-based learning on students' science literacy skills and confidence. *International Journal for the Scholarship of Teaching and Learning, 3*(2), Article 16.

Hafeez, A., Iqbal, S., & Imran, M. (2021). Impact of Devolution of Power on School Education Performance in Sindh after 18th Constitutional Amendment; Journal of Development and Social Sciences, Vol. 2, No. IV, 273-285. http://doi.org/10.47205/jdss.2021(2-IV)24

Hussain, A., Jat, Z. G., Hassan, M., Hafeez, A., Iqbal, S., & Imran, M. (2022). Curriculum Reforms in School Education Sector in Sindh; What Has Changed? Journal of Positive School Psychology, 6(9), 2675-2687.

Imran, M., & Akhtar, N. (2023). Impact of Ethical Leadership Practices on Teachers' Psychological Safety and Performance: A Case of Primary School Heads in Karachi-Pakistan. *Academy of Education and Social Sciences Review, 3(2),* 172-181. https://doi.org/10.48112/aessr.v3i2.505

Imran, M., Ahmad, N., Al-Harthy, A. A. Q., & Jat, Z. G. (2023). Early Identification and Intervention: Amplifying the Voice of Slow Learners. *AITU Scientific Research Journal, Volume. 1, Issue. 4,*

Imran, M., Kazmi, H. H., Rauf, M. B., Hafeez, A., Iqbal, S., & Solangi, S. U. R. (2022). Internationalization Education Leadership of Public Universities of Karachi. Journal

of Positive School Psychology, 6(11), 1175-1188.

Imran, M., Sultana, Z., & Ahmed, S. (2023). The Influence 0f Student-Teacher Interactions on Secondary School Students' academic Performance. Benazir Research Journal of Humanities and Social Sciences, 2(1).

Jensen, M., Mattheis, A., & Johnson, B. (2018). Using student learning and development outcomes to evaluate a first-year undergraduate group video project. *CBE Life Science Education, 11*(1), 68-80.

Johnson, S. A., & Cuevas, J. (2016). The effects of inquiry project-based learning on student reading motivation and student perceptions of inquiry learning processes. *Georgia Educational Researcher, 13*(1), Article 2.

Khalaf, B. K. (2018). Traditional and inquiry-based learning pedagogy: A systematic critical review. *International Journal of Instruction, 11*(4), 545–564. https://doi.org10.12973/iji.2018.11434a

Khan, R., Hussain, A., & Ahmad, S. (2023). Revolutionizing Human Resource Management: The Transformative Impact of Artificial Intelligence (AI) Applications. International Journal of Social Science & Entrepreneurship, 3(4), 306-326.

Kuhlthau, C. C., Caspari, A. K., & Maniotes, L. K. (2007). Guided inquiry: Learning in the 21st century. Westport, Conn: Libraries Unlimited.

McIntyre, S. H., & Munson, J. M. (2008). Exploring cramming: Student behaviors, beliefs, and learning retention in the principles of marketing course. *Journal of Marketing Education, 30*(3), 226-243.

McIntyre, S. H., & Munson, J. M. (2018). Exploring cramming: Student behaviors, beliefs, and learning retention in the principles of marketing course. *Journal of Marketing Education, 30*(3), 226-243.

McMillan, J. H. (2004). Educational research: Fundamentals for the consumer (4th ed). Boston: Allyn & Bacon.

Pappas, C. (2014). Instructional design models and theories: Inquiry-based learning model. ELearning Industry.

Phulpoto, S. A. J., Oad, L., & Imran, M. (2024). Enhancing Teacher Performance in E-Learning: Addressing Barriers and Promoting Sustainable Education in Public Universities of Pakistan. Pakistan Languages and Humanities Review, 8(1), 418–429. https://doi.org/10.47205/plhr.2024(8-I)38

Rehan, F., Zaidi, S. S., Imran, M., Akhtar, S., Shah, A., & Hameed, S. (2024). Exploring the Efficacy of Music-Based Pedagogies in Developing Communication Skills: Perspectives of Early Childhood Educators. Al-Qanṭara, 10(2), 79-98.

Saunders-Stewart, K. S., Gyles, P. T., & Shore, B. M. (2017). Student outcomes in inquiry instruction: A literature-derived inventory. *Journal of Advanced Academics, 23*(1), 5-31.

Savery, J.R. (2006). Overview of problem-based learning: Definitions and distinctions. Interdisciplinary Journal of Problem-based Learning, 1(1), 8-20.

Schmid, S., & Bogner, F. (2015). Does inquiry-learning support long-term retention of knowledge? *International Journal of Learning, Teaching and Educational Research, 10(*4). 51-70.

Ssempala, F. (2017). Teachers' understanding and practice of inquiry-based instruction in Uganda. [Doctoral dissertation, Syracuse University]

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Harvard university press.

Wilhelm, J. D., & Wilhelm, P. (2017). Inquiring minds learn to read, write, and think: Reaching all learners through inquiry. *Middle School Journal, 41*(5), 39-46.

Yager, R., & Simmons, P. (2013). Results of the Salish projects: Summary and implications

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22

for science teacher education. *International Journal of Education in Mathematics Science and Technology, 1*(4), 259-269.

How to Cite: Hayat, M. U., Mahmood, A., & Akhter, M. M., (2024). Impact of Community Service on the Communication skills of Business Graduates. *Spry Contemporary Educational Practices (SCEP), 3(1),* 408- 419. https://doi.org/10.62681/sprypublishers.scep/3/1/22