



AN ANALYSIS OF TEACHERS' CONTENT COMPETENCE AND INSTRUCTION DELIVERY

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AN ANALYSIS OF TEACHERS' CONTENT COMPETENCE AND INSTRUCTION DELIVERY

Kiran Farzand, Muhammad Tahir Khan Farooqi, Shehzad Ahmed

ABSTRACT:

The current study planned to investigate quality assurance in higher education by analyzing teachers' content competence and instruction delivery at the university level. The objectives were to identify the content competence and instructional delivery among university faculty. The sample comprised 1550 scholars from the five public sector universities in the province of Punjab. It was a mixed-methods study. QUAN quall [deductive-sequential design] was used. The researcher developed the instrument titled Teachers' Content Competence, and Instruction Delivery Survey [TCCIDS]. Both groups of male and female students did not differ in their perceptions of the content competence and instructional delivery as perceived by students. The predictors of teachers' instructional delivery predict an 80% change in quality assurance practices.

KEYWORDS: Content Competence, Instruction Delivery.

Teacher as Most Competent Creature of Allah SWT:

Human beings are the noblest creatures of Allah SWT. Allah SWT created humans psychologically and physically in the best form and with optimum potential and capacity through education¹. Allah SWT in the Qur'an (Surat At-Tiin: 4)

¹ Muhaimin. (2005). Development of School Islamic Religious Education Curriculum, Madrasas, and Universities. Jakarta: Raja Grafindo Persada.

لقد خلقنا الانسان في احسن تقويم

"Indeed, We have created man in the best of forms. Teachers are considered the most intellectual assets of the education system. Teachers are expected as role models for students and foster and motivate students to achieve their goals². Humans are the most perfect creatures in terms of reason and potential. Humans are human beings who are continuously innovating the process of education³. The teacher has the main task of bringing, perfecting, and purifying the minds of learners closer to Allah SWT. It is the responsibility of a teacher with religious spirituality to form educated children⁴.

A teacher must have a good education, skills, teacher certification, physical and mental health, and be able to obtain the skills required by educational goals. Competence is a set of knowledge, skills, and behavior that must be lived, and controlled by a teacher in carrying out his professional functions⁵. Competence means the potential to solve problems according to the work given to an individual. Competence is a representation that will be made by an individual in a job and can see the work model, they can carry out a job. To be able to do it all, a person must have the competence of skills, attitudes, and knowledge in the relevant

² Rahmadhani, R. A., Ritonga, A. A. (2021). Competence of Educators in The Quran (Thematic Interpretation Approach). *Almufida: Journal of Islamic Sciences*, 6(2), 197-208.

³ Sukarno, (2009). *The Foundation for Conceptual Education and Its Application*. Jakarta: Raja Grafindo Persada.

⁴ Roestiyah, (2002). *Problems in Teacher Training*. Jakarta: Bina Aksara.

⁵ Jeju, M. (2015). *Improving Teacher Competence Through Training and Resources Learning Theory and Practice*. Jakarta: Prenada Media

field⁶. These physical and intellectual capacities of competence are needed to improve the system of education⁷. Competence possessed by teachers improves their work efficiently and effectively⁸.

Teachers' Content Competence:

Regarding instructors, little is known about the skills they employ while imparting digital literacy to students. Most research focused on understanding how teachers integrate ICT into their instructional practices⁹¹⁰¹¹¹². or exploring teachers' digital or ICT literacy¹³. There is a dearth of research on how to help students build their digital information and communication abilities in the classroom, particularly in situations

⁶ Daryanto, (2013). *Competency Standards and Performance Assessment of Professional Teachers*. Yogyakarta: Gava Media.

⁷ Syaefudin, (2010). *Teacher Professional Development*. Bandung: Alfabeta.

⁸ Mulyasa, (2013). *Competency Standards and Teacher Certification*. Bandung: Pt. Remaja Rosdakarya.

⁹ Albion, P., Tondeur, J., Forkosh-Baruch, A., & Peeraer, J. (2015). Teachers' professional development for ICT integration: Towards a reciprocal relationship between research and practice. *Education and Information Technologies*, 20(4), 655-673. doi: 10.1007/s10639-015-9401-9

¹⁰ Hinostroza, J. E., Labba, C., Brun, M., & Matamala, C. (2011). Teaching and learning activities in Chilean classrooms: Is ICT making a difference? *Computers and Education*, 57(1), 1358–1367.

¹¹ Sánchez, J., & Salinas, A. (2008). ICT & learning in Chilean schools: Lessons learned. *Computers and Education*, 51(4), 1621–1633.

¹² Scherer, R., Siddiq, F., & Teo, T. (2015). Becoming more specific: Measuring and modeling teachers' perceived usefulness of ICT in the context of teaching and learning. *Computers & Education*, 88, 202-214. doi <http://dx.doi.org/10.1016/j.compedu>.

¹³ Ahmad, M., Badusah, J., Mansor, A. Z., Karim, A. A., Khalid, F., Daud, M. Y., et al. (2016). The application of 21st century ICT literacy model among teacher trainees. *Turkish Online Journal of Educational Technology*, 15(3), 151-161.

when they are solving problems¹⁴ (Siddiq, et al., 2016).

To assess university professors' competencies¹⁵, research created a questionnaire with three dimensions: planning, development, and result. Teachers are more willing to integrate technology into their lessons when they see its value¹⁶. To shorten the time, it takes students to become effective in the online environment, it is unclear what treatments should be designed¹⁷. Digital technologies, in contrast to conventional teaching techniques, are flexible, unpredictable, and opaque, claim¹⁸. According to¹⁹ majority of teachers have inappropriate experiences when utilizing digital technology because they receive insufficient training²⁰.

¹⁴ Siddiq, F., Scherer, R., & Tondeur, J. (2016). Teachers' emphasis on developing students' digital information and communication skills (TEDDICS): A new construct in 21st-century education. *Computers & Education*, 92, 1-14. <http://dx.doi.org/10.1016/j.compedu.2015.10.006>.

¹⁵ Moreno-Murcia, J. A., Torregrosa, Y. S., & Pedreño, N. B. (2015). Questionnaire evaluating teaching competencies in the university environment. Evaluation of teaching competencies in the university. *New Approaches in Educational Research*, 4(1), 54-61. DOI: 10.7821/naer.2015.1.106

¹⁶ Ottenbreit-Leftwich, A. T., Glazewski, K. D., Newby, T. J., & Ertmer, P. A. (2010). Teacher value beliefs associated with using technology: Addressing professional and student needs. *Computers & Education*, 55(3), 1321–1335. doi: 10.1016/j.compedu.2010.06.002

¹⁷ Wisneski, J. E., Ozogul, G., & Bichelmeyer, B. A. (2017). Investigating the impact of learning environments on undergraduate students' academic performance in a prerequisite and post-requisite course sequence. *The Internet and Higher Education*, 32, 1–10. doi: 10.1016/j.iheduc.2016.08.003

¹⁸ Koehler, J., & Mishra, P. (2008). Introducing technological pedagogical knowledge. In *The Handbook of Technological Pedagogical Content Knowledge for Educators*, AACTE, Ed. Routledge: New York, NY, USA, pp. 3–28.

¹⁹ Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of Education*, 193(3), 13–19. doi:10.1177/002205741319300303

²⁰ Baran, E. (2014). A review of research on mobile learning in teacher education. *Journal of Educational Technology & Society*, 17(4), 17.

As technology tools change quickly, it can be difficult for instructors to develop their digital literacy²¹. According to research by²², lack of time and insufficient knowledge and skills were the biggest barriers to ICT adoption among teachers. The technological and instructional support were the aspects of ICT deployment that were most encouraging. According to²³ Nave, et al., improvement in lessons through e-learning increased by a factor of two after participating in a well-planned professional development program on it through online forums.

Instructional Delivery:

Tondeur, et al.²⁴ asserted that a lifelong learning strategy is necessary for teacher professional development (TPD). A study by²⁵ which claims that after a six-week development program, a small shift was identified in

²¹ Kaufman, K. (2014). Information communication technology: Challenges & some prospects from preservice education to the classroom. *Mid-Atlantic Education Review*, 2(1), 1–11.

²² Ungar, O. A., & Baruch, A. F. (2016). Perceptions of teacher educators regarding ICT implementation. *Interdisciplinary Journal of e-Skills and Life Long Learning*, 12, 279–296.

²³ Nave, R., Ackerman, R., & Dori, Y. J. (2017). Medical community of inquiry: A diagnostic tool for learning, assessment, and research. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 13, 001–017. Retrieved from <http://www.informingscience.org/Publications/3632> doi: 10.28945/3632

²⁴ Tondeur, J., Van Braak, J., & Valcke, M. (2007). Curricula and the use of ICT in education: Two worlds apart? *British Journal of Educational Technology*, 38(6), 962–976.

²⁵ Uslu, O., & B€umen, N. T. (2012). Effects of the professional development program on Turkish teachers: Technology integration along with attitude towards ICT in education. *TOJET: The Turkish Online Journal of Educational Technology*, 11(3).

teachers' attitudes toward ICT in education²⁶, supports the need for longer technology integration programs. The consequences for teacher educators are that they never receive comprehensive instruction in the use of digital resources and that attitudes do not shift quickly.

The disparities between the generations of teachers and pupils can also be used to characterize teacher-led technical developments. According to²⁷ Prensky's methodology, kids are digital natives who were born into the world of digital technology, whereas teachers are generally digital immigrants. Even though this assertion is frequently mentioned in the study literature, little empirical evidence backs it up²⁸.

According to various studies, students have a wealth of knowledge regarding how to use computers efficiently for studying, which is consistent with this strategy²⁹. The study by³⁰ found distinctions between computer use in and outside of school. Kids may be adept at using technology for personal and social purposes outside of the classroom, but they lack fundamental technological abilities that are necessary for

²⁶ McGarr, O., & O'Brien, J. (2007). Teacher professional development and ICT: An investigation of teachers studying a postgraduate award in ICT in education. *Irish Educational Studies*, 26(2), 145–162. doi: 10.1080/03323310701295872

²⁷ Pacansky-Brock, M. (2013). *Best practices for teaching with emerging technologies*. New York & Oxon: Routledge Taylor & Francis Group.

²⁸ Bennett, S., Maton, K., & Kervin, L. (2008). The “digital natives” debate: A critical review of the evidence. *British Journal of Educational Technology*, 39(5), 775–786.

²⁹ Storz, M. G., & Hoffman, A. R. (2013). Examining response to a one-to-one computer initiative: Student and teacher voices. *RMLE Online: Research in Middle Level Education*, 36(6), 1–18.

³⁰ Lee, J., & Spires, H. (2009). What students think about technology and academic engagement in school: Implications for middle grades teaching and learning? *AACEJ*, 17, 61–81.

educational objectives. Digital socio-emotional competencies, such as the capacity to communicate effectively, disclose feelings, and maintain privacy online, may come naturally to pupils in the digital age. encourage code-switching in the digital environment, real-time thinking to perform various tasks, and reacting to digital games. Many pupils, however, are lacking in informational digital abilities, such as the capacity to efficiently evaluate the accuracy and validity of online material and the replication of digital skills³¹.

According to Abuhmaid³², the successful use of ICT by teachers has been attributed to the follow-up of ICT training courses, demonstrating the lifetime viewpoint and link to the complexity of digital competence among instructors. Pegrum, Oakley, and Faulkner³³ point out that a range of educational pedagogies can be supported by mobile digital technologies. To provide possibilities for learning and growth, it is crucial to employ them in a variety of contexts, such as classrooms, field excursions, or other learning circumstances. According to the study by³⁴ Marin et al. (2016), digital technologies were intended to serve as

³¹ Eshet, Y. (2012). Digital literacy: A revised model. *Issues in Informing Science and Information Technology*, 9, 267–276.

³² Abuhmaid, A. (2011). ICT training courses for teacher professional development in Jordan. *TOJET: The Turkish Online Journal of Educational Technology*, 10(4), 78-86.

³³ Pegrum, M., Oakley, G., & Faulkner, R. (2013). Schools going mobile: A study of the adoption of mobile handheld technologies in Western Australian independent schools. *Australasian Journal of Educational Technology*, 29(1) doi:10.14742/ajet.64

³⁴ Marin, V. I., Jeaskela, P., Heakkinen, P., Juntunen, M., Rasku-Puttonen, H., & Vesisenaho, M. (2016). Seamless learning environments in higher education with mobile devices and examples. *International Journal of Mobile and Blended Learning*, 8(1), 51–68.

mediators and cognitive tools that facilitated the development of pervasive learning spaces. To create ubiquitous knowledge availability during mobile-assisted seamless learning activities³⁵, Amhag presents certain issues and implications by utilizing digital tools to increase teacher and student participation and motivation across various contexts.

Objectives of the Study:

The following were the main objectives of the study:

1. To identify the difference concerning gender regarding content competence and instructional delivery among university faculty in public sector universities of Pakistan as perceived by the students.
2. To examine the role of the university faculty in improving content competence and applying instructional delivery in public sector universities of Pakistan as perceived by the students.

Research Questions of the Study:

The questions of the research were as under:

RQ 1: What is the difference in the gender of students' perceptions regarding the content competence of faculty members at the university level?

RQ 2: What is the difference in the gender of students' perceptions regarding the implementation of instructional delivery by the faculty members?

RQ 3: What is the role of the university faculty in using content

³⁵ Amhag, L. (2016b). Mobile technologies for student-centered learning in a distance higher education program. In *Blended Learning: Concepts, methodologies, tools, and applications* (Vol. 4, pp. 802–817). IGI Global. Retrieved from <http://www.igi-global.com/book/wearable-technology-mobile-innovations-next/142108>

competence to improve practices of quality assurance in public sector universities of Pakistan?

RQ 4: What is the role of the university faculty in applying instructional delivery to improve practices of quality assurance in public sector universities of Pakistan?

Research Design:

It was a descriptive type of research accompanied by a survey method. Descriptive studies are aimed at finding out "what is," so observational and survey methods are frequently used to collect descriptive data³⁶. The study employed mixed methods QUAN-qual design. According to³⁷ Morse and Niehaus (2009), there are two types of QUAN-qual designs. QUAN → qual (a deductive-sequential design, where the quantitative is the core component, and the qualitative is the supplemental part). QUAN + qual design is (a deductive-simultaneous design, where the quantitative is the core component, and the qualitative is the supplemental part. In this study, QUAN → qual [deductive-sequential design] was used because the main part of the study was quantitative, and based on the result analysis, the qualitative part was completed as a supplementary aspect of the study. According to Johnson and Christensen³⁸ (2017), QUAN → qual [quantitatively driven sequential design] supported the justification of the

³⁶ Borg, W. R., & Gall, M. D. (1989). *Educational Research. An Introduction*. 5th Ed. New York: Longman.

³⁷ Morse, J. M., & Niehaus, L. (2009). *Mixed method design: Principles and procedures*. Walnut Creek: Left Coast Press.

³⁸ Johnson, B. R., & Christensen, L. B. (2017). *Educational research: Quantitative, qualitative, and mixed approaches*. Los Angeles: SAGE.

research study³⁹.

The Population of the Study:

All the university teachers teaching in the public sector universities of the Punjab Province and their respective BS level students studying under their tutorship were the population of the study. Five universities were selected randomly using a multistage random sampling technique. In the second stage, four faculties were selected randomly (social sciences, basic sciences, management sciences, and languages). In the third stage, the departments were selected randomly.

Sample of the Study:

Twenty-five percent (5) of public sector universities were selected for the sample. The list was obtained from the website of HEC (2018–19), and five public sector universities were selected. Among the selected universities, four faculties were selected randomly with their respective class students. In addition, four faculty members were approached for an in-depth interview.

Instruments of the Study:

The researcher developed the instrument named, Teachers' Content Competence and Instruction Delivery Survey [TCCIDS]. There were two variables in the current study. Teachers' Content Competence and Instruction Delivery. They were further distributed in sub-factors. The instrument was completed keeping in view the previous studies conducted on the topic and empirical evidence related to the variables referring from the literature review. The instrument was validated by experts in the

³⁹ Morse, J. M., & Niehaus, L. (2009). *Mixed method design: Principles and procedures*. Walnut Creek: Left Coast Press.

educational field and the reliability was computed with Cronbach Alpha and Spearman-Brown on a specific sample collected from the population. The reliability of the instrument was checked through the statistical test, Cronbach Alpha. Each item was correlated with the total score of their subscales and overall scale; the items with low reliability were either removed or rephrased. After the pilot testing, some items were deleted as they had low reliability and validity issues. In addition, the interview protocol for faculty members was also conducted as the completion part of the research study.

Reliability of the Instrument after Pilot Testing:

The validity of an instrument provides the degree to which an instrument measures what it claims to measure⁴⁰. Validity of research is the requirement of scientific research provided by the expert followed during the process of collection of data. It is a mandatory characteristic of all studies⁴¹ (Oliver, 2010). Validity is the expert opinion and certification that the research may be conducted confidently.

The reliability of the instrument was used to evaluate the stability of measures conducted at different intervals in the same group and the equivalence of test items from the same test⁴² (Kimberlin & Winterstein,

⁴⁰ Robson, C. (2011). *Real World Research: A Resource for Users of Social Research Methods in Applied Settings, (2nd Ed.)*. Sussex, A. John Wiley, and Sons Ltd.

⁴¹ Oliver, V. (2010). *Smart Answers to Tough Business Etiquette Questions*. Skyhorse Publishing: New York, USA.

⁴² Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and Reliability of Measurement Instruments Used in Research. *American Journal of Health-System Pharmacists*, 65(1), 2276- 2284.

2008). The reliability of the instrument was conducted using SPSS⁴³. The high reliability showed more accurate results which enhances the chance of making the correct decisions in research. Cronbach's alpha is used to find the internal consistency of the items. The alpha value greater than .70 or higher revealed that the instrument was supposed to be reliable. The split-half was used for this purpose. The test items are divided into halves and a correlation is run to estimate the reliability of the test in each half. To estimate the reliability of the entire survey, the Spearman-Brown correction must be applied.

Data Analysis and Its Interpretation

Table 1.

Students' Participation in Gender

Gender	Frequency	Percent
Male	470	30.3
Female	1080	69.7
Total	1550	100.0

In Table 1, the gender-wise analysis of the respondents was presented. A total of 1550 participants took part in the study. Among them, 30.3 percent were male respondents, and 69.7 percent were female respondents. The majority of female scholars participated in the study.

Table 2.

Students' Participation with Faculty

Faculty	Frequency	Percent
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⁴³ George D., & Mallery, P. (1995). *SPSS/PC + Step: A Simple Guide and Reference*. Belmont (CA): Wadsworth Publishing Company.

Social Sciences	318	20.5
Basic Sciences	719	46.4
Management Sciences	414	26.7
Languages	99	6.4
Total	1550	100.0

In Table 2, the faculty-wise analysis of the respondents was presented. A total of 1550 participants from four faculties took part in the study. Among them, 20.5 percent belonged to the social sciences faculty. 46.4% of respondents belonged to the basic sciences faculty. 26.7 percent of scholars belonged to the management sciences faculty. 6.4% of respondents belonged to the language's faculty. The majority of basic sciences faculty scholars participated in the study.

Table 3.

Students' Participation with Subject

Subject	Frequency	Percent
Education	537	34.6
Zoology	270	17.4
BBA	200	12.9
English	273	17.6
Psychology	270	17.4
Total	1550	100.0

In Table 3, the subject-wise analysis of the respondents was presented. There were a total of 1550 participants from five subjects who took part in the study. Among them, 34.6 percent belonged to the education discipline.

17.4% of respondents belonged to the zoology discipline. 12.9 percent of scholars belonged to the BBA discipline. 17.6% of respondents belonged to the English department. 17.4% of respondents belonged to the psychology department. The majority of scholars who belonged to the education discipline participated in the study.

RQ 1: What is the difference in the gender of students' perceptions regarding the content competence of faculty members at the university level?

Table 4:

Comparison between Students' Opinions about Teachers' Content Competence

Indicator	Gender	N	Mean	Std. D.	t	p
Content Competence	Male	470	4.04	.774	-1.085	.278
	Female	1080	4.08	.726		

In Table 4, the evaluation between the two groups was made using an independent sample t-test. The comparison was based on the perceptions of students about the content competence depicted by the teachers in universities. Both the male and female groups of respondents did not differ in their views of content competence. The results showed no significant difference in scores for male students ($M = 4.04$, $SD = .774$) and females ($M = 4.08$, $SD = .726$; $t(1548) = -1.085$, $p = .278$). It showed that the research question about the difference in gender of students' opinions regarding content competence was answered negatively by the faculty members. No significant difference was found between the opinions of both groups of scholars about the content competence of faculty members.

RQ 2: What is the difference in the gender of students' perceptions regarding the implementation of instructional delivery by the faculty members?

Table 5:

Comparison Between Gender of Scholars in Implementing Instructional Delivery by the Faculty

Indicator	Gender	N	Mean	Std. D.	t	p
Instructional	Male	470	4.07	.749	.378	.706
Delivery	Female	1080	4.05	.694		

According to Table 5, a comparison between the two groups using an independent sample t-test was applied. The comparison was made based on the perceptions of respondents about the implementation of instructional delivery by faculty members in universities. Both groups of male and female students did not differ in their perceptions of the implementation of instructional delivery by faculty members in universities. The results showed no significant difference in scores for male respondents (M = 4.07, SD = .749) and female respondents (M = 3.05, SD = .694; $t(1548) = .378, p = .706$). It revealed that the research question about the difference in the gender of students' perceptions regarding the implementation of instructional delivery by the faculty members was answered negatively. No significant difference was found between the opinions of both groups of respondents about the implementation of instructional delivery by the faculty members.

RQ 3: What is the role of the university faculty in applying content competence to improve practices of quality assurance in public sector universities of Pakistan?

Table 6:

Role of University Faculty in Applying Content Competence

S#	Statement	Mea	SD
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		n	
1	My teacher has expertise in digital content creation, skills focused on writing and editing online content, as well as using a range of online tools.	4.05	1.051
2	My teacher is competent in creating and editing digital content in different formats, to express oneself through digital means.	4.07	0.97
3	My teacher has the in-depth technical skills needed to use and interpret novice communication technologies.	4.01	1.024
4	My teacher has the expertise to increase independence and confidence by solving problems and finding solutions using digital tools.	4.12	0.997
5	My teacher can formulate clear information needed, navigate across disparate sources, and gain access to digital communities and organizations.	4.06	0.984

Table 6 represents the responses of the respondents regarding the content competence used by university teachers. The first item concerned with the teachers' competence in providing digital content creation skills for strong writing and editing online content as well as using a range of online tools to improve the content competence of teachers based on the mean value of 4.05 and the standard value of 1.051. The majority of respondents revealed that teachers have expertise in creating digital content to improve their

digital skills from online resources. The second item is concerned with the teachers' competence and creation and editing of digital content in different formats to express through digital means. the mean value of 4.07 with a standard deviation value of 0.97. The teachers have the competence in creating and editing digital content in different shapes and formats. The third item is confirmed with the teachers applying the technical skills that are needed to interpret communication technology and skills towards the improvement of content competencies for students. the mean value of 4.01 and a standard deviation value of 1.024 that most of the teachers have the technical skills to use communication technology for students in creating independence and confidence while the solution of problems and finding suitable digital devices.

The fifth item is about teachers' ability to formulate clear information needed, navigate across disparate sources, and gain access to digital communities and organizations around them based upon the mean value of 4.06 and standard deviation value of 0.984. The majority of the respondents claim that their teachers with the help of digital devices can manage and elaborate large quantities of content and manage information regarding the improvement of digital content.

RQ 4: What is the role of the university faculty in applying instructional delivery to improve practices of quality assurance in public sector universities of Pakistan? (Correlations were done in the discriminant validity table)

Table 7:

Role of University Faculty in Improving Instructional Delivery

S#	Statement	Mean	SD
1	My teacher can teach lessons that	4.1	1.07

	appropriately strengthen his/her teaching subject, technologies, and teaching approaches.		
2	The key to maintaining a desirable classroom climate is to provide students with quality instructional delivery aligned to their skill level of students to keep them attentive.	4.07	0.97
3	At the start of every lecture, my teacher provides a good overview of the pedagogical content to be covered.	4.14	1.017
4	My teacher can provide instruction to solve problems with clear, correct answers, and around ideas that most students can grasp quickly.	4.07	0.999
5	My teacher believes in how to develop exercises with which scholars can consolidate their knowledge of his/her teaching subject.	4	1.061

Table 7 presented the mean and frequency analysis of instructional delivery as perceived by the students for faculty. The teachers are ready to deliver a lesson that proves to be better and teach subjects with technology and teaching approaches. The majority of the respondents affirmed that teachers deliver an appropriate lesson about their teaching subjects.

The second indicator is considered classmate by the teachers with quality instructional materials that are aligned with their learning skills based

upon the mean value of 4.07 and standard deviation of 0.97 standard division and appropriate learning classroom for quality students.

The third indicator is considered with the preparation of teachers' lectures with the alignment of academic skills to be covered during the lecture. The mean value of 4.14 and the standard deviation value of 1.017 showed that the teacher provided a good overview of the pedagogical content to be covered. The fourth indicator is concerned with the ability of teachers to provide instruction to solve problems with clear, correct answers, and around ideas that most students can grasp quickly. The mean value of 4.14 and the standard deviation value of 1.017 showed that the majority of respondents claimed that teachers can provide instructions to solve problems with clear, concise, and summarized ideas that most students can grasp quickly.

The fifth item is concerned with teachers' belief in developing exercises for scholars that can consolidate their knowledge and abilities in grasping the teaching subjects. the mean value of 4 and standard deviation value of 1.106 revealed that the majority of respondents believe that teachers consolidate the knowledge of students.

Discussion:

Teachers' content competence has a direct impact on student learning outcomes. In a recent meta-analysis of studies, Hattie⁴⁴ found a positive correlation between teachers' digital competency and student achievement. This correlation suggests that when teachers are proficient

⁴⁴ Hattie, J., & Donoghue, G. M. (2016, August 10). Learning strategies: A synthesis and conceptual model. *Nature Partner Journals Science of Learning, 1*, 16013. <https://doi.org/10.1038/npjscilearn.2016.13>

in using digital tools and resources, they are better positioned to design and deliver instruction that aligns with modern educational standards, resulting in improved student performance.

Teachers with strong content competence can individualize instruction more effectively. This is highlighted in a study by Anderson and Horney (2014), which discusses the benefits of personalized learning through digital technology. Teachers who can tailor lessons to meet the unique needs and abilities of each student, thanks to their digital skills, create a more inclusive and responsive learning environment. Despite the benefits, challenges in developing teachers' digital skills persist. Lack of access to professional development opportunities and resistance to change are common barriers⁴⁵ (Ertmer & Ottenbreit-Leftwich, 2013). To address these challenges, educational institutions and policymakers must invest in ongoing training and support for teachers, ensuring they are equipped with the necessary skills to effectively integrate technology into their teaching methods.

Teachers with better content competence are equipped to design and deliver effective lessons⁴⁶ (Hattie, 2009). They can create meaningful learning experiences, draw connections between concepts, and provide real-world applications of the subject matter. This results in enhanced

⁴⁵ Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education*, 59(2), 423-435. doi: 10.1016/j.compedu.2012.02.001

⁴⁶ Hattie, J., & Donoghue, G. M. (2016, August 10). Learning strategies: A synthesis and conceptual model. *Nature Partner Journals Science of Learning*, 1, 16013. <https://doi.org/10.1038/npjscilearn.2016.13>

instructional quality, fostering deeper student understanding. Numerous studies have demonstrated a positive correlation between teachers' content competence and student achievement⁴⁷. When teachers have a solid grasp of the subject matter, they can explain concepts more clearly, answer questions knowledgeably, and identify and address students' misconceptions effectively.

Teachers with strong content competence tend to inspire greater student interest in the subject. Their enthusiasm and expertise make the material more compelling, encouraging students to participate actively in the learning process. This engagement can lead to increased motivation and a deeper commitment to learning. Teachers' content competence enables them to adapt their instruction to meet the needs of diverse learners (Ingersoll & Strong, 2011). They can modify their teaching strategies to accommodate different learning styles, provide additional support to struggling students, and challenge advanced learners appropriately. Teachers who possess content competence are more likely to exhibit higher levels of self-confidence and self-efficacy. This self-assurance can have a positive impact on classroom management, as confident teachers are better prepared to handle disruptions and maintain a positive learning environment. The influence of teachers' content competence extends beyond immediate academic outcomes. It can shape students' attitudes toward the subject and their educational

⁴⁷ Hanushek, E. A., & Wobmann, L. (2007). The role of education quality for economic growth, World Bank Policy Research Working Paper 4122 (Washington, DC, World Bank).

pursuits. A passionate and knowledgeable teacher can inspire students to pursue careers and interests related to the subject matter.

Apart from content competence, teachers; instructional delivery is another important element for the completion of academic requirements of the students. Both indicators are a complement to each other. Strong instructional delivery bears positive results in the education system.



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