

ORIGINAL ARTICLE



MJSSH
Muallim Journal of
Social Science and Humanities

COMMUNICATION FOR DIGITAL LEADERSHIP: AN EXPLORATION TO THE FACTORS THAT CONTRIBUTE TO LOW INDEX

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DOI: <https://doi.org/10.33306/mjssh/274>

Abstract

Digital leadership is important today because leadership development is a key element of sustainability education. To achieve the Sustainable Development Goals (SDGs), leaders should deploy resources, be visionary and ethical, and focus on long-term goals without neglecting values and principles. There are nine elements to assess the digital leadership of teachers. One of the crucial elements in digital leadership of teachers is communication. However, previous studies show that communication has a low index in digital leadership compared to the other elements. Therefore, this study aims to explore the factors that contribute to a low index of communication in digital leadership. In this paper, a qualitative approach using a semi-structured interview is adopted. The interview protocol consists of basic information about the participants, guidelines for the participants, interview questions, and appreciation for the participants. The interviews were conducted thoroughly, although there was only one interview question. The interviews were conducted online via the Zoom application. The interview participants were selected by using purposive sampling that involved four teachers from primary and secondary schools in Perak, Selangor and Sabah. The data was analysed using thematic analysis. The analysis revealed five factors: inefficient use of communication channels, inappropriate attitude of parents, lack of face-to-face communication, inappropriate teaching methods of teachers and limited internet access. The implications of this study point to the possibility of improving the use of communication channels in an efficient way, improving teaching methods so that students can understand what is being taught by teachers, and improving Internet access to increase the frequency of communication and diversify the methods of online communication between teachers and

students. Stakeholders, administration and teachers should be more proactive in seeking solutions to overcome these challenges. It is suggested that a further study on communication in digital leadership be conducted, involving teachers from all states and using a quantitative approach and interviews among teachers in all types of Malaysian schools.

Keywords: Digital leadership, communication, interview, teachers, index.

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Received 16th November 2023, revised 17th December 2023, accepted 4th January 2024

Introduction

Digital leadership is one of the leadership styles alongside transformational leadership, instructional leadership, culturally responsive leadership and innovative leadership. Since Covid-19 conquered the world, attention to digital leadership has been increasing. Given the fundamental changes it is trying to bring about in education, digital leadership is a bold leadership style (Alexandro & Basrowi, 2024)¹. Digital leadership is somewhat associated with leadership effectiveness, as high performance and pleasure coincide with an increased number of digital leadership implementations (Antonopoulou, Halkiopoulos, Barlou, & Beligiannis, 2021)². Digital leadership is described as a leadership style that results from a combination of transformational leadership and the use of digital technology (Erhan, Uzunbacak, & Aydin, 2022)³. Technological advances in areas such as education, communications, basic sciences, engineering, medicine and other industries are happening at a pace beyond our imagination (Rahmanitabar, Khorshidi, Araghih, Barzegar, & Faghiharam, 2023)⁴.

There are a few academics who continuously research and write about digital leadership such as (Antonopoulou, Halkiopoulos, Barlou, & Beligiannis, 2020; Antonopoulou et al., 2021)^{5,2}, (Karakose et al., 2022; Karakose, Polat, & Papadakis, 2021; Karakose & Tülübaş, 2023)^{6,7,8} and (Tigre, Curado, & Henriques, 2023; Tigre, Henriques, & Curado, 2024)^{9,10}. One of the elements of digital leadership that has always taken centre stage is communication. As with organisations in other industries, all educational organisations are about leadership and communication with people (Rahmanitabar et al., 2023)⁴. A digital culture is essential for digitalisation and communication between internal and external environments (Shin, Mollah, & Choi, 2023)¹¹. Digital technology enables faster access to information, more efficient communication and easier collaboration (Turyadi, Zulkifli, Tawil, Ali, & Abdurrahman, 2023)¹². An example of digital skills is the ability to utilise digital channels (such as mobile platforms and social media) to integrate digital communication processes (BarNir, Gallagher, & Auger, 2003)¹³.

Leaders must keep their team members regularly and transparently informed (Gilli, Lettner, & Guettel, 2023)¹⁴. Leaders are expected to actively listen to their team members and establish

proactive and clear communication to convey meaning and purpose (Gilli et al., 2023)¹⁴. In digital leadership, leaders who lack an understanding of the openness of communication, risk awareness in information technology, the importance of collaborative, adaptive teamwork and the latest developments in digital technology are unable to guide their employees to adapt to technological developments (Hadi, Setiawati, Kirana, Lada, & Rahmawati, 2024)¹⁵. Using virtual communication and collaboration tools, digital leaders can convey information quickly and accurately, facilitate collaboration and interaction, and connect teams (Rahmanitabar et al., 2023)⁴.

Digital leaders are improving internal and inter-organisational communication (Rahmanitabar et al., 2023)⁴. Through the use of technology, digital leaders can improve organisational processes, facilitate communication between departments and optimise organisational performance (HosseiniNasab, ShamiZanjani, & Gholipor, 2021)¹⁶. Digital leadership not only helps in interacting with digital technologies, but also enhances leaders' skills in improving organisational performance, driving innovation, increasing productivity and improving communication (Rahmanitabar et al., 2023)⁴. Effective leaders are those who communicate regularly, answer questions from team members, provide feedback, give instructions and treat members with a friendly but assertive tone (Kayworth & Leidner, 2002)¹⁷.

Review of Literature

A study by Obadimeji & Oredein (2022)¹⁸ states that digital leadership and communication styles have a positive impact on the job performance of teachers in public primary schools. This study was conducted in Nigeria and involved 643 teachers from three districts. Another study was conducted by Saraih, Wong, Asimiran & Khambari (2022)¹⁹. This study was conducted in Malaysia and included four headmasters and 12 school staff as participants in the survey. The study found that social media has become a modern means of communication among Malaysian school headmasters and that this medium is now more important than face-to-face interaction. The results also suggest that there is a positive correlation with work performance and productivity.

Digital leadership is important today because leadership development is a key element of sustainability education (Burns, Vaught, & Bauman, 2015)²⁰. To achieve the Sustainable Development Goals (SDGs), leaders should deploy resources, be visionary and ethical, and focus on long-term goals without neglecting values and principles (Sifat, 2019)²¹. Although there are some leadership styles that are commonly used in education, more and more attention is being paid to digital leadership in education. There are some elements of digital leadership, and one of the most important elements is communication. This is evidenced by some research that has been conducted related to digital leadership in general and communication in digital leadership in particular. Since effective communication has many important functions and contributions, this study aims to examine the factors that contribute to low index of communication in digital leadership.

Methodology

In the humanities and social sciences, qualitative research is often used in fields such as anthropology, sociology, education, health sciences and history (Ugwu & Eze Val, 2023)²². The methodology of qualitative case studies enables the investigation of complex phenomena and the holistic evaluation of novel practises (Ahumada-Newhart & Eccles, 2020)²³. A qualitative approach was used in this research, as the aim of qualitative research is to gain a comprehensive understanding of social phenomena in their natural setting (Ugwu & Eze Val, 2023)²². This is in line with the view of Gascón, Solà & Larrea-Killinger (2022)²⁴ that a qualitative approach can be more effective when trying to understand the phenomenon. This study is a semi-structured interview in which interviewers often have the flexibility to make changes even when adhering to a general plan and set of questions (Ugwu & Eze Val, 2023)²². For this context of research, the interview was planned to get information on factors that contributes to low index of communication in digital leadership.

Sampling and Participants

The sampling technique in this study is a purposive sampling technique. The aim of this sampling is to strategically select the research participants so that the selected participants are relevant to the research questions posed (Bekele & Ago, 2022)²⁵. The determination of sample size in qualitative research is the subject of ongoing debate (Vasileiou, Barnett, Thorpe, & Young, 2018)²⁶. In interviews, the general basis for sample size is whether or not information redundancy or saturation has been achieved (Cobern & Adams, 2020)²⁷. Therefore, this study interviewed four teachers from three Malaysian states: Selangor, Perak and Sabah. Two teachers are from primary schools and two teachers are from secondary schools. These teachers have at least a university degree and have been working as teachers for at least seven years. The research site and unit of analysis (organisation or individuals) are selected based on their relevance to the research questions (Bekele & Ago, 2022)²⁵. These criteria are sufficient to enable them to provide information on communication in digital leadership.

Instrument

The instrument used in this study was an interview protocol. Interview protocols are not only a series of questions, but also a procedural guide that leads a new qualitative researcher through the interview process (Jacob & Furgerson, 2012)²⁸. Therefore, the interview protocol for this study consists of basic information about the participants, guidelines for the participants, interview questions, and appreciation for the participants. The basic information about the participants is their name, grade of service, seniority, school name, position at the school, subjects taught and academic qualifications. A good interview protocol is important to get the best information from the participants in the study (Jacob & Furgerson, 2012)²⁸. Therefore, the interview question was "What contributes to a low communication index in digital leadership?".

Analysis of Data

Qualitative research involves collecting and analysing non-numerical data (such as text, video or audio) (Ugwu & Eze Val, 2023)²². The data in this study was analysed using thematic analysis. Thematic analysis is often the first step in learning about and applying more sophisticated methods of analysis (Braun & Clarke, 2006)²⁹. Ironically, thematic analysis is one of the most ill-defined analytical techniques in the field of qualitative research (Lochmiller, 2021)³⁰. Thematic analysis is used to find, recognise and interpret themes and patterns in qualitative data (Ugwu & Eze Val, 2023)²². This is in line with the view of Lochmiller (2021)³⁰ that thematic analysis involves the identification of recurring patterns that are presented by researchers as overarching statements or themes. However, the concept of generalisation should not be applied to qualitative (Cobern & Adams, 2020)²⁷.

Results and Discussion

Qualitative results are externally valid for situations similar to the one in which the study was conducted (Cobern & Adams, 2020)²⁷. Based on the thematic analysis, the result shows that there were five factors contributing to the low index of communication in digital leadership. The analysis revealed five factors: inefficient use of communication channels, inappropriate attitude of parents, lack of face-to-face communication, inappropriate teaching methods of teachers and limited internet access. For the first factor, the definition of inefficient refers to not organised or not able to work in a satisfactory way. This is because group chats are stored in messaging applications such as WhatsApp and Telegram, which are members of the same group. If the information presented is the same for multiple groups, and this is often the case, then there is a possibility that teachers will ignore the information received in group chats. As a result, the notifications may not be delivered to the intended recipient.

Communication becomes ineffective due to barriers (Jelani & Nordin, 2019)³¹. Ineffective communication is the situation in which a person cannot understand written or transmitted messages (Albalawi & Nadeem, 2020)³². Ineffective communication in an organisation can lead to uncertainty, apprehension and dissatisfaction, which in turn leads to low productivity (Musheke & Phiri, 2021)³³. In addition, different communication styles and ineffective use of communication tools contribute to unclear responsibilities, which certainly leads to more stress in the workplace (The Economist Intelligence Unit, 2018)³⁴. Information overload is one of the biggest barriers to effective communication (Mailabari, 2014)³⁵. In addition, improper communication channels are one of the most frequently cited causes in the literature (Gamil & Abdul Rahman, 2017)³⁶. Therefore, the use of communication channels should be improved in an efficient way to enable effective communication.

Secondly, the inappropriate attitude of parents contributes to the low index in the communication of digital leadership. In this study, parents expressed or made inappropriate

comments to teachers through the communication channels. This made teachers feel uncomfortable and it became a barrier in communication between teachers and parents. Parents' behaviour towards teachers was related to parents' social status, education and age. Most of the parents were not very educated and came from low-income families. This is supported by Şengönül (2021)³⁷ who states that poor parents have relatively less communication skills. As Lareau (2003)³⁸ explains, poor or working class parents used fewer means and methods to express themselves, explain and argue, preferring instead to give orders. This is in line with the view of Sénéchal & LeFevre (2002)³⁹ that parents living in poor and low economic circumstances display a more authoritarian attitude.

The link between the school and the family relates to communication (Sylaj & Sylaj, 2020)⁴⁰. The most important step towards better parental involvement is for parents, teachers and administrators to work together to communicate effectively (Kocyigit, 2015)⁴¹. Communication can be direct or indirect and also covert or clear (Epstein, Ryan, Bishop, Miller, & Keitner, 1993)⁴². When communication is weak, it can lead to misunderstandings and thus affect the effective partnership between the family and the school (Martin & Hagan-burke, 2002)⁴³. The communication skills that significantly influence parent-teacher relationships can be learnt and improved through practise (Dinnebeil, Hale, & Rule, 1996)⁴⁴. Frequent communication between parents and teachers leads to the development of trust and responsible relationships between teachers and parents (Cankar, Deutsch, & Sentočnik, 2012)⁴⁵.

Thirdly, communication in digital leadership is lack in face-to-face communication. Online communication is not a physical or face-to-face conversation (Owens, McPharlin, Brooks, & Fritzon, 2018)⁴⁶. The question of the potential impact of the internet, and computer-based communication in particular, on the form and quality of communication among young people has recently attracted a great deal of attention (Malle & Scheutz, 2014)⁴⁷. This is due to the pandemic affecting face-to-face communication the most (Mheidly, Fares, Zalzale, & Fares, 2020)⁴⁸. Nowadays, educational activities are shifting to virtual communication via social applications such as Zoom, Cisco Webex, Skype and Microsoft Teams (Mheidly et al., 2020)⁴⁸. Due to the lack of physical contact or body language and the real tone of voice during the communication process, the likelihood of misunderstandings increases (Lee, 2009)⁴⁹.

Leaders should be trained to understand that communication techniques that worked well in a face-to-face environment need to be modified or enhanced to meet the communication needs of virtual employees (Newman & Ford, 2021)⁵⁰. In this study, teachers as leaders communicate virtually with students, colleagues and superiors. So, the approach or techniques should have been different from face-to-face communication. This is in line with the view of (Newman & Ford, 2021)⁵⁰ that leaders must therefore adapt their communication practises and techniques for their virtual employees. Teachers need to feel more competent and have more self-efficacy to support students, encourage their engagement and offer appropriate practises (Stadler-Heer, 2019)⁵¹. The more experienced and trained teachers are, the better students learn and the more successful lessons are when they are given the right guidance to educate learners (Hills & Sessoms-Penny, 2021)⁵².

Fourth, teachers' inappropriate teaching methods contribute to a low index of communication in digital leadership. The change in the use of media, methods, strategies and the implementation of learning require an increase in the competence of teachers (Deeley, 2018)⁵³. Teachers tend to communicate with learning applications and digital devices in digital leadership. Therefore, teachers need to choose appropriate teaching methods that make lessons interesting. Despite the development of modern and entertaining learning methods, teachers' competences in information and communication technology (ICT) remain a crucial element for the development of education, as they are required to incorporate technology into their routines, become role models and motivate young people to use technology and the internet as a learning tool (Szymkowiak, Melović, Dabić, Jeganathan, & Kundi, 2021)⁵⁴.

In the field of implementing the educational process, it is important to choose teaching and learning strategies (Mirsharapovna, Shadjalilovna, Kakhramonovich, & Malikovna, 2022)⁵⁵. Teaching and learning strategies include taking into account individual differences, differences in learning styles, habits, abilities and learning pace (Mirsharapovna et al., 2022)⁵⁵. The most important thing is that students understand what the teacher is teaching. The teacher chooses ways to work with ICT so that students can express their creativity. He has the opportunity to prepare and use programmes for specific groups of students or programmes that complement the resources from which the student draws his knowledge (Mirsharapovna et al., 2022)⁵⁵.

Fifth, limited internet access is the final factor contributing to the low index of communication in digital leadership. The use of messaging apps such as WhatsApp and Telegram is increasingly becoming the channel of communication between teachers and parents. As Hutchison, Paatsch & Cloonan (2020)⁵⁶ noted, parental engagement requires clear communication and collaboration between children, teachers and parents in an accessible physical and online environment. This limitation results in limited communication between teachers and parents as communication in digital leadership requires the internet. In Malaysia, especially in the rural areas of Sabah, internet coverage is lower. Due to limited internet access, teachers have to use other methods of communication to reach parents or provide them with information.

Students and teachers can interact with each other online and discussion groups on WhatsApp or Telegram allow effective communication between teachers and students (La Hanisi, Risdiyani, Dwi Utami, & Sulisworo, 2018)⁵⁷. A study in Indonesia shows that the use of Telegram can have a positive impact on English lessons (Putra & Inayati, 2021)⁵⁸. Limited internet access can also lead to communication problems between teachers and students during lessons when using digital devices and learning applications. This can cause students to lose interest in learning. Interest in learning is a very important aspect of learning (Cheung, 2018)⁵⁹. Interest in learning increases students' attention during learning (Kayalar & Ari, 2017; Lin & Huang, 2016)^{60,61}, which in turn affects learning outcomes (Jamilah & Isnani, 2017)⁶².

Conclusion

This paper highlights exploration of five factors that contribute to a low digital leadership communication index. These factors are the inefficient use of communication channels, inappropriate attitudes of parents, lack of face-to-face communication, inappropriate teaching methods of teachers and limited internet access. This study addresses issues of communication in digital leadership in education in Malaysia. Moreover, the paper provides implications on improving the use of communication channels, improving teaching methods and improving internet access. This is because improving the use of communication channels in an efficient way can lead to effective communication. Improving teaching methods also enables students to understand what teachers are teaching. In addition, improving internet access can increase the frequency of communication and diversify the methods of online communication between teachers and students. Future research could consider assessing these five factors as constructs of communication in digital leadership. In this way, empirical data can be provided, and generalisation is possible. Further research can also be conducted by the Malaysian Ministry of Education (MOE) through digital leadership communication interviews among teachers in all types of Malaysian schools. The digital leadership researcher can investigate the communication aspect through quantitative research with teachers from all Malaysian states.

References:

1. Alexandro, R., & Basrowi. (2024). Measuring the Effectiveness of Smart Digital Organizations on Digital Technology Adoption: An Empirical Study of Educational Organizations in Indonesia. *International Journal of Data and Network Science*, 8(1), 139–150. <https://doi.org/10.5267/j.ijdns.2023.10.009>
2. Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021). Associations between Traditional and Digital Leadership in Academic Environment: During the COVID-19 Pandemic. *Emerging Science Journal*, 5(4), 405–428. <https://doi.org/10.28991/esj-2021-01286>
3. Erhan, T., Uzunbacak, H. H., & Aydin, E. (2022). From Conventional to Digital Leadership: Exploring Digitalization of Leadership and Innovative Work Behavior. *Management Research Review*, 45(11), 1524–1543. <https://doi.org/10.1108/MRR-05-2021-0338>
4. Rahmanitabar, Z., Khorshidi, A., Araghieh, A., Barzegar, N., & Faghiharam, B. (2023). Designing a Digital Leadership Model for Managers in Educational Organizations (Case Study: Islamic Azad University, Tehran Province). *International Journal of Innovation Management and Organizational Behavior*, 3(4), 1–8.
5. Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2020). Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. *International Journal of Learning, Teaching and Educational Research*, 19(4), 110–129. <https://doi.org/10.26803/ijlter.19.4.8>
6. Karakose, T., Kocabas, I., Yirci, R., Papadakis, S., Ozdemir, T. Y., & Demirkol, M. (2022).

- The Development and Evolution of Digital Leadership: A Bibliometric Mapping Approach-Based Study. *Sustainability*, 14(23), 1–26. <https://doi.org/10.3390/su142316171>
7. Karakose, T., Polat, H., & Papadakis, S. (2021). Examining Teachers' Perspectives on School Principals' Digital Leadership Roles and Technology Capabilities during the Covid-19 Pandemic. *Sustainability*, 13(13448), 1–20. <https://doi.org/10.3390/su132313448>
 8. Karakose, T., & Tülübaş, T. (2023). Digital Leadership and Sustainable School Improvement—A Conceptual Analysis and Implications for Future Research. *Educational Process: International Journal*, 12(1), 7–18. <https://doi.org/10.22521/edupij.2023.121.1>
 9. Tigre, F. B., Curado, C., & Henriques, P. L. (2023). Digital Leadership: A Bibliometric Analysis. *Journal of Leadership & Organizational Studies*, 30(1), 40–70. <https://doi.org/10.1177/15480518221123132>
 10. Tigre, F. B., Henriques, P. L., & Curado, C. (2024). The Digital Leadership Emerging Construct: A Multi-Method Approach. *Management Review Quarterly*, 1–48. <https://doi.org/10.1007/s11301-023-00395-9>
 11. Shin, J. K., Mollah, M. A., & Choi, J. (2023). Sustainability and Organizational Performance in South Korea: The Effect of Digital Leadership on Digital Culture and Employees' Digital Capabilities. *Sustainability*, 15(3), 2027–2041. <https://doi.org/10.3390/su15107875>
 12. Turyadi, I., Zulkifli, Tawil, M. R., Ali, H., & Abdurrahman, S. (2023). The Role of Digital Leadership in Organizations to Improve Employee Performance and Business Success. *Jurnal Ekonomi*, 12(2), 1671–1677.
 13. BarNir, A., Gallagher, J. M., & Auger, P. (2003). Business Process Digitization, Strategy, and the Impact of Firm Age and Size: The Case of the Magazine Publishing Industry. *Journal of Business Venturing*, 18(6), 789–814. [https://doi.org/10.1016/S0883-9026\(03\)00030-2](https://doi.org/10.1016/S0883-9026(03)00030-2)
 14. Gilli, K., Lettner, N., & Guettel, W. (2023). The Future of Leadership: New Digital Skills or Old Analog Virtues? *Journal of Business Strategy*, 44, 1–7. <https://doi.org/10.1108/JBS-06-2022-0093>
 15. Hadi, S., Setiawati, L., Kirana, K. C., Lada, S., & Rahmawati, C. H. T. (2024). The Effect of Digital Leadership and Organizational Support on Innovative Work Behavior: The Mediating Role of Emotional Intelligence. *Quality - Access to Success*, 25(199), 74–83. <https://doi.org/10.47750/QAS/25.199.09>
 16. HosseiniNasab, S. M., ShamiZanjani, M., & Gholipor, A. (2021). Defining a Framework for Chief Digital Officer Duties as Digital Transformation Governor in Organizations. *Journal of Human Resource Management*, 11(1), 1–25. <https://doi.org/10.22034/JHRS.2021.130495>
 17. Kayworth, T. R., & Leidner, D. E. (2002). Leadership Effectiveness in Global Virtual Teams. *Journal of Management Information Systems*, 18(3), 7–40. <https://doi.org/10.1080/07421222.2002.11045697>
 18. Obadimeji, C. C., & Oredein, A. O. (2022). Digital Leadership and Communication Styles on Public Primary School Teachers Job Performance in Nigeria. *Science Journal of Education*, 10(1), 1–11. <https://doi.org/10.11648/j.sjedu.20221001.11>
 19. Saraih, E. F., Wong, S. L., Asimiran, S., & Khambari, M. N. M. (2022). Contemporary Communication Conduit among Exemplar School Principals in Malaysian Schools. *Research and Practice in Technology Enhanced Learning*, 17(4), 1–23. <https://doi.org/10.1186/s41039->

- 022-00179-x
20. Burns, H., Vaught, H. D., & Bauman, C. (2015). Leadership for Sustainability: Theoretical Foundations and Pedagogical Practices that Foster Change. *International Journal of Leadership Studies*, 9(1), 88–100. Retrieved from <https://web.a.ebscohost.com/ehost/detail/detail?vid=2&sid=b3d04cbb-a0d5-4ddb-ae2c-a4faf4d00cf6%40sdc-v-sessmgr02&bdata=JnNpdGU9ZWwhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=112988069&db=bsu>
 21. Sifat, R. I. (2019). Role of Leadership for Achieving Sustainable Development Goals. *GIS Business*, 14(3), 5–14. <https://doi.org/10.26643/gis.v14i3.1944>
 22. Ugwu, C. N., & Eze Val, H. U. (2023). International Digital Organization for Scientific Research IDOSR. *IDOSR Journal of Science and Technology*, 8(1), 20–35. Retrieved from www.idosr.orgAsuketal
 23. Ahumada-Newhart, V., & Eccles, J. S. (2020). A Theoretical and Qualitative Approach to Evaluating Children’s Robot-Mediated Levels of Presence. *Technology, Mind, and Behavior*, 1(1), 1–13. <https://doi.org/10.1037/tmb0000007>
 24. Gascón, J., Solà, C., & Larrea-Killinger, C. (2022). A Qualitative Approach to Food Loss. The Case of the Production of Fruit in Lleida (Catalonia, Spain). *Agroecology and Sustainable Food Systems*, 46(5), 736–757. <https://doi.org/10.1080/21683565.2022.2061099>
 25. Bekele, W. B., & Ago, F. Y. (2022). Sample Size for Interview in Qualitative Research in Social Sciences: A Guide to Novice Researchers. *Research in Educational Policy and Management*, 4(1), 42–50. <https://doi.org/10.46303/repam.2022.3>
 26. Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and Justifying Sample Size Sufficiency in Interview-Based Studies: Systematic Analysis of Qualitative Health Research Over a 15-year Period. *BMC Medical Research Methodology*, 18(148), 1–18.
 27. Cobern, W. W., & Adams, B. A. J. (2020). When Interviewing: How Many is Enough? *International Journal of Assessment Tools in Education*, 7(1), 73–79. <https://doi.org/10.21449/ijate.693217>
 28. Jacob, S. A., & Furgerson, S. P. (2012). Writing Interview Protocols and Conducting Interviews: Tips for Students New to the Field of Qualitative Research. *The Qualitative Report*, 17(6), 1–10. [https://doi.org/10.1016/0168-1702\(91\)90033-R](https://doi.org/10.1016/0168-1702(91)90033-R)
 29. Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101. Retrieved from <http://dx.doi.org/10.1191/1478088706qp063oa>
 30. Lochmiller, C. R. (2021). Conducting Thematic Analysis with Qualitative Data. *Qualitative Report*, 26(6), 2029–2044. <https://doi.org/10.46743/2160-3715/2021.5008>
 31. Jelani, F., & Nordin, N. S. (2019). Barriers to Effective Communication at the Workplace. *International Journal of Modern Languages and Applied Linguistics*, 3(2), 7–18.
 32. Albalawi, H., & Nadeem, M. (2020). Exploring the Impact of Ineffective Formal Communication between Teachers and Students: A Case Study of Mustaqbal University and Jubail University College, Kingdom of Saudi Arabia. *English Language Teaching*, 13(3), 68–

76. <https://doi.org/10.5539/elt.v13n3p68>
33. Musheke, M. M., & Phiri, J. (2021). The Effects of Effective Communication on Organizational Performance Based on the Systems Theory. *Open Journal of Business and Management*, 9(2), 659–671. <https://doi.org/10.4236/ojbm.2021.92034>
34. The Economist Intelligence Unit. (2018). *Communication Barriers in the Modern Workplace*. London.
35. Mailabari, H. K. (2014). *Assessment of Barriers To Communication In The Nigerian Construction Industry* (Master's thesis, Ahmadu Bello University Zaria). Retrieved from <https://kubanni.abu.edu.ng/items/82e26ba6-3320-4e2b-9164-21d941328f6f/full>
36. Gamil, Y., & Abdul Rahman, I. (2017). Identification of Causes and Effects of Poor Communication in Construction Industry: A Theoretical Review. *Emerging Science Journal*, 1(4), 239–247. <https://doi.org/10.28991/ijse-01121>
37. Şengönül, T. (2021). The Adverse Role of Poverty in the Socialization Processes in the Family and in the Cognitive Development of Children and School Performance. *Pegem Journal of Education and Instruction*, 11(2), 1–13. <https://doi.org/10.14527/pegegog.2021.00>
38. Lareau, A. (2003). *Unequal Childhoods: Class, Race, and Family Life*. Berkeley: University of California Press.
39. Sénéchal, M., & LeFevre, J. A. (2002). Parental Involvement in the Development of Children's Reading Skill: A Five-Year Longitudinal Study. *Child Development*, 73(2), 445–460. <https://doi.org/10.1111/1467-8624.00417>
40. Sylaj, V., & Sylaj, A. K. (2020). Parents and Teachers' Attitudes Toward Written Communication and Its Impact in the Collaboration Between Them: Problem of Social Study Education. *Journal of Social Studies Education Research*, 11(1), 104–126.
41. Kocyigit, S. (2015). Family Involvement in Preschool Education: Rationale, Problems and Solutions for the Participants. *Educational Sciences: Theory and Practice*, 15(1), 141–157. <https://doi.org/10.12738/estp.2015.1.2474>
42. Epstein, N. B., Ryan, C. E., Bishop, D. S., Miller, I. W., & Keitner, G. I. (1993). The McMaster Model View of Healthy Family Functioning. In F. Walsh (Ed.), *Normal Family Processes* (pp. 138–160). New York/London: The Guilford Press.
43. Martin, E. J., & Hagan-burke, S. (2002). Establishing a Home-School Connection: Strengthening the Partnership Between Families and Schools. *Preventing School Failure: Alternative Education for Children and Youth*, 46(2), 62–65. <https://doi.org/10.1080/10459880209603347>
44. Dinnebeil, L. A., Hale, L. M., & Rule, S. (1996). A Qualitative Analysis of Parents' and Service Coordinators' Descriptions of Variables That Influence Collaborative Relationships. *Topics in Early Childhood Special Education*, 16(3), 322–347. <https://doi.org/10.1177/027112149601600305>
45. Cankar, F., Deutsch, T., & Sentočnik, S. (2012). Approaches to Building Teacher-Parent Cooperation. *Center for Educational Policy Studies Journal*, 2(1), 35–55.
46. Owens, E. S., McPharlin, F. W. H., Brooks, N., & Fritzon, K. (2018). The Effects of Empathy, Emotional Intelligence and Psychopathy on Interpersonal Interactions. *Psychiatry, Psychology and Law*, 25(1), 1–18. <https://doi.org/10.1080/13218719.2017.1347936>

47. Malle, B. F., & Scheutz, M. (2014). Moral Competence in Social Robots. *2014 IEEE International Symposium on Ethics in Science, Technology and Engineering*. Chicago: IEEE.
48. Mheidly, N., Fares, M. Y., Zalzale, H., & Fares, J. (2020). Effect of Face Masks on Interpersonal Communication During the COVID-19 Pandemic. *Frontiers in Public Health*, 8(582191), 1–6. <https://doi.org/10.3389/fpubh.2020.582191>
49. Lee, S. J. (2009). Online Communication and Adolescent Social Ties: Who Benefits more from Internet Use? *Journal of Computer-Mediated Communication*, 14(3), 509–531. <https://doi.org/10.1111/j.1083-6101.2009.01451.x>
50. Newman, S. A., & Ford, R. C. (2021). Five Steps to Leading Your Team in the Virtual COVID-19 Workplace. *Organizational Dynamics*, 50(1), 1–11. <https://doi.org/10.1016/j.orgdyn.2020.100802>
51. Stadler-Heer, S. (2019). Inclusion. *ELT Journal*, 73(2), 219–222. <https://doi.org/10.1093/elt/ccz004>
52. Hills, D. C., & Sessoms-Penny, S. (2021). Pre-Service Professional Development for Inclusion Teachers. *Research in Higher Education Journal*, 40, 1–17. Retrieved from <https://eric.ed.gov/?id=EJ1296461>
53. Deeley, S. J. (2018). Using Technology to Facilitate Effective Assessment for Learning and Feedback in Higher Education. *Assessment and Evaluation in Higher Education*, 43(3), 439–448. <https://doi.org/10.1080/02602938.2017.1356906>
54. Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information Technology and Gen Z: The Role of Teachers, the Internet, and Technology in the Education of Young People. *Technology in Society*, 65(101565), 1–10. <https://doi.org/10.1016/j.techsoc.2021.101565>
55. Mirsharapovna, S. Z., Shadjalilovna, S. M., Kakhramonovich, A. A., & Malikovna, K. R. (2022). Pros and Cons of Computer Technologies in Education. *Texas Journal of Multidisciplinary Studies*, 14, 26–29. Retrieved from <https://doi.org/10.17605/OSF.IO/FP5M7>
56. Hutchison, K., Paatsch, L., & Cloonan, A. (2020). Reshaping Home–School Connections in the Digital Age: Challenges for Teachers and Parents. *E-Learning and Digital Media*, 17(2), 167–182. <https://doi.org/10.1177/2042753019899527>
57. La Hanisi, A., Risdiany, R., Dwi Utami, Y., & Sulisworo, D. (2018). The Use of WhatsApp in Collaborative Learning to Improve English Teaching and Learning Process. *International Journal of Research Studies in Educational Technology*, 7(1), 29–35. <https://doi.org/10.5861/ijrset.2018.3004>
58. Putra, M. Y. R. F., & Inayati, D. (2021). The Teaching of English by Using Telegram Application: A Case Study at SMKN (Vocational High School) 4 Malang. *Journal of Education of English as a Foreign Language*, 4(2), 92–108. <https://doi.org/10.21776/ub.educafl.2021.004.02.06>
59. Cheung, D. (2018). The Key Factors Affecting Students' Individual Interest in School Science Lessons. *International Journal of Science Education*, 40(1), 1–23. <https://doi.org/10.1080/09500693.2017.1362711>
60. Kayalar, F., & Ari, T. G. (2017). Study Into the Views of Classroom Teachers Upon Interest-

- Based Learning in Primary Schools. *International Journal Of Turkish Literature Culture Education*, 6(4), 2776–2787. <https://doi.org/10.7884/teke.4053>
61. Lin, S. H., & Huang, Y. C. (2016). Examining Charisma in Relation to Students' Interest in Learning. *Active Learning in Higher Education*, 17(2), 139–151. <https://doi.org/10.1177/1469787416637481>
62. Jamilah, & Isnani, G. (2017). The Influence of Classroom Climate, Learning Interest, Learning Discipline and Learning Motivation to Learning Outcomes on Productive Subjects. *Jurnal Pendidikan Bisnis Dan Manajemen*, 3(2), 85–96. <https://doi.org/10.17977/um003v3i22017p085>