



**The Challenges of The Iraqi English Language
Teachers from The Autonomous Learning
During COVID 19 Pandemic**

Zainab Talib Abdul Rahman

Instr. Asmaa' Sirry Mahmoud, ph.D

University of Baghdad College of Education

الطالبة زينب طالب عبد الرحمن

For my mom, whose example of hard work and determination showed me the way to follow my dreams.

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Abstract:

The implementation of technology has enabled language teachers to adopt online applications and instruments to improve learners' skills under complex conditions such as the coronavirus pandemic. Subsequently, as learning technologies improve, EFL teachers face a variety of challenges in language teaching. This study focuses on the challenges faced by EFL teachers in the implementation of online education during the coronavirus pandemic, particularly in Iraq. In achieving the goals of this study, 30 EFL teachers who worked in English language institutes in Iraq participated in the study. These institutes were closed to prevent the adverse effects of the virus. This research is an exploratory mixed method research whereby questionnaire and interviews were used to explore the teachers' challenges in online teaching and the efficiency of online classrooms. This research focused on two research questions; Are the technology integration and online classes helpful during Coronavirus pandemic situation? and What are the most important challenges of teaching in integration of technology during Coronavirus pandemic situation? The findings indicated that, although Iraqi EFL teachers could perform the applications and platforms efficiently, there are many challenges such as lack of appropriate materials, learners' lack of attention and demotivation towards online classes, lack of funding and support for language institutions. In contrary to these problems, the results of the questionnaire which evaluate the technology efficiency in Iraq, many teachers have positive beliefs about the adaptation of technology in Iraq and mentioned that technologies can be fruitful for these situations to decrease the distance between learners and teachers. Moreover, EFL teachers, stockholders, policy makers, and institutions can benefit from the results of the study and analyze their performance during pandemic circumstances. **Keywords:** Teaching Challenges, Technology Integration, Coronavirus Pandemic, COVID-19

Introduction Today, language learning and teaching are well known throughout the world. Although English teaching and learning has experienced many challenges and problems over the decades, the crucial role of EFL teachers is manifested by developing powerful curriculum innovation which can be helpful to overcome the obstacles (Jiang, Zhang, May, & Qin, 2018). With respect to this idea in recent years, English language curriculum has been dominantly implementing technologies in order to improve learning and teaching context and solve the probable challenges. For instance, many language classrooms have adopted the recent technologies such as online presentation and online applications (Adnan et al., 2019). Unfortunately, there are few challenges that need to be highlighted despite all the positive feedbacks and benefits reported from various studies. One of the challenges is learners' and parents' awareness and limited knowledge and skill toward using technologies (Au-Yong Oliveira et al., 2018). Many of them believe that, traditional classes may be more useful than online ones (Che Mus, Koo, & Azman, 2012). Moreover, bandwidth and connectivity limitations in all parts of the country or in general in the world are not the same, and due to this, teachers prefer to stop implementing new technologies in their classrooms (Yadov, Gupta, & Khetrpal, 2018). In addition to all these problems, teachers' satisfaction can be another essential factor that may influence the applicability of the online teaching because conducting and designing the materials for online teaching are very time-consuming and even hard for them (Mahmoudzadeh, 2014). Despite all the limitations and problems associated with the use of technology in teaching English, online classrooms can be helpful during critical situations such as Coronavirus pandemic condition which has not been investigated in the literature of EFL/ESL teaching and learning. The new phenomenon, the coronavirus pandemic has transformed education scenario all over the world where schools and institutions were closed for a period of time. Therefore, technology integration is critical during this period to assist teachers in both under-developed and developed countries to connect with students and continue the teaching and learning process. Through online classes, many school leaders and teachers minimized the learning disruption and avoided the extension of school year. However, literature has highlighted that the implementation of technology may pose some challenges to teachers and students. Therefore, this study tried to explore the challenges teachers faced through using online classes during the virus pandemic circumstances. This paper sought to explore the EFL teachers' challenges in the process of

online teaching and investigate the contribution of technology integration for online classes in Iraq during Coronavirus pandemic condition. Literature Review This section focuses on the challenges teachers face in integrating technology into previous studies. The current way of learning, dealing with and interacting with new information differs considerably from how learners would respond to the same information in the past decade. In the teaching of English Language, the changing new methodologies have become a challenge right from the beginning till date (Patil, 2020). Many theories about learning and teaching of languages have been proposed and many changes have been made in the language teaching methodologies based on the needs of the learner. Changes also occurred in the context of learning materials whereby printed materials like papers do not present information dynamically (Huang, Wu & Chen, 2012), and many chose materials such as videos with motion or continuous movement (Kuhl, Scheiter, Gerjets, & Gemballa, 2011). While these approaches are occasionally effective, there is a growing number of researchers and educators interested in complementing further beneficial teaching methods. According to Yadov, Gupta, & Khetrapal (2018), the field of education has changed significantly over the past 20 years. The advent of digital age and importance of incorporating new technologies have also significantly changed the way of learning and communication. The social impact of technology is not understandable as the popularity and the widespread consumption of internet following its discovery bring about substantial transformation in our society (Martins, Goncalves, Oliveira, Cota, & Branco, 2016). New technologies are widely assimilated in the educational world to facilitate the learning process in many areas, including English (Adnan et al., 2019). Moreover, technology can improve student engagement. Now, technology is advancing at such a level that conventional ways of teaching and learning are not pushing students and teachers to their full potential. By using technology, teaching and learning are enhanced and given a new dimension. It is the best way to create language learning especially during critical situation (Pital, 2020). For instance, Microsoft power point presentations is demonstrated to have a significant role of the improvement of EFL learners' vocabulary (Mahmoudzadeh, 2014). However, Microsoft power point presentation is now reviewed as outdated as many new technologies emerge in to the education realm in the past decades but in present situation, it is really useful in combination with other software to teach students in this critical situation. Additionally, text, video, and voice tools have also become relatively inexpensive and increasingly easy for educators to use, and teachers play an important role in creating lessons and communicating with students.

The integration of both face-to-face interaction (offline) and online materials have shown great implications to learners as they found it to be useful (Bruff, Fisher, McEven, & Smith, 2013). Hence, another benefit of new technologies in language learning is encouraging learners to actively take part in (co)-constructing their learning environment (Bonner & Reinders, 2018). There are some activities that students can enhance their language ability by interacting with the real world. Although these studies focused on the integration of technologies in EFL classrooms, they considered these devices in the normal conditions not in hard situations such as Coronavirus pandemic situation which is problematic for all aspects like education and learning for all countries such as Iraq. Due to this gap in the literature and with respect to all previous studies in this field, the overall aim of this study was to examine the EFL teachers' challenges in integration of technologies during Coronavirus condition in Iraq.

Research Questions

In order to achieve the goals of the study, a mixed methods design was conducted to address the following questions: Q1. Are the technology integration and online classes helpful during Coronavirus pandemic situation? Q2. What are the most significant challenges of teaching in the integration of technology during Coronavirus pandemic situation? Methodology This section presents an account of the setting in which the study was conducted, participants, data collection methods, and data analysis procedures employed to analyze the data.

Research Design

As this research is a mixed-method design, the exploratory sequential mixed-methods was used in a way that the researcher first conducted the qualitative data to gather the participants' opinion then gather the quantitative data to follow up the answers. Participants A total of 30 non-native Iraqi teachers participated in the current study on a voluntary basis. These participants were English-related undergraduates and graduate students who were English language teachers at English language schools of Baghdad provinces of Iraq. These EFL teachers ranging in age from 20 to 50 consisted of 18 males and 12 females. It should be noted that, these Teachers had different years of teaching experiences and taught different level of English from basic to advanced level with

various teaching experience from two to ten years. It should be noted that, they had the experiences of online classes during Coronavirus pandemic. Figure 1 shows an example of online class during coronavirus pandemic.



Figure 1: Example of Online Class during Coronavirus Pandemic

Instruments In investigating the EFL teachers' challenges related to online classrooms during Coronavirus pandemic, the researcher used questionnaire survey and conduct interviews.

Questionnaire In order to answer the first research question, the researcher used Questionnaire in order to check the teachers' beliefs about the technology integration during coronavirus pandemic (See Appendix A). This survey was conducted the version of the questionnaire was presented in terms of Likert scale, from "Strongly Disagree" to "Strongly Agree" for all 10 items concerning the challenges, attitudes and beliefs of teachers toward computer technology adaptation both positively and negatively.

The Interview

To gain insight on teachers' challenges, a structured interview with teachers was conducted through WhatsApp, whereby recorded voice messages were transcribed in written form. After describing the objectives of the interview for the voluntary participants, 30 teachers took part and each teacher was interviewed after his/her online classes. They answered the questions completely through online by means of WhatsApp application and each interview lasted for 10-15 minutes. The interview consisted of six questions in particular and considered as an important tool for teachers to include their views and opinions about online classes and the use of technology during the hard circumstances like Coronavirus pandemic. The following questions were answered by the participants of the study:

1. How do you keep up teaching EFL and support learning by using technologies?
2. How would you improve your teaching through technologies when you run into technical challenges?
3. Describe your teaching condition during Coronavirus pandemic. Do you have any special problems?
4. How does this tech align with your school and class mission and vision?
5. Do you think it is the best way to prepare students for the modern world?
6. Will parents think this tech threatens their child's security?

All of the responses to the questions were transcribed and analyzed after the data collection to gain the required information. Figure 2 shows WhatsApp based Interview and Figure 3 shows the Transcribed Interview data.





Figure 2: Picture of WhatsApp-based Interview

1. Students are the most important part of teaching by tech, they should be familiar with the new tec. so all ways can be useful in order to keep up teaching EFL.

2. in order to be successful, teachers should be up to date in different ways such as TTC classes for new methods.

3. yes I do. Teaching during Coronavirus should be online. some applications are useful for example telegram or whatsapp but some problems appears. one them is traffic of the internet in Iran. the other one is the management of students during online (آنلاين) classes. some students are not interested enough.

4. I'm going to have communication with one the students as agent during Coronavirus in order to give some works. and in a normal situation I'm going to use old method or using only books or papers.

5. it is the good way to have self study or review lessons with no needs to teacher.

6. in my opinion, these days, students are familiar enough with the basic of every kind of tech. so this is not hard to align with tech. it needs some simple introduction.

7. yes I do. it is not the last but this is one of the best way.

8. although different ways are exist that could be searched in the internet and creativity is needfull, but new tech itself is completely enough if all its aspects are known.

9. yes, because of parents' inability to children's train and control.

Figure 3: Transcribed Interview

Data Collection Procedures

In order to achieve the objective of the study, the following data collection procedures were carried out in two interview and questionnaire stages. Stage I. In order to gather the qualitative result of the study, the researcher asked the participants to answer the questionnaire to address the first research question (Are the technology integration and online classes helpful during Coronavirus pandemic situation?) online. Therefore, the researcher prepared the questionnaire in Google Form platform to gather the data. Stage II. In order to collect the reliable information from the EFL teachers to answer the second research question, the interview questions were designed addressing the concerns of teachers in the integration of technologies. In gathering the data, 30 teachers from Baghdad province of Iraq who had online classes during the Coronavirus pandemic agreed to take part in the structured interview. During this stage, each teacher answered the questions individually and voluntarily in the WhatsApp application in order to prevent any virus infection in the face to face interview. All of these participants recorded their responses in the application after the researcher explained the objectives of the study. It is important to mention that, the researcher had neutral position in asking questions and made the interviewee feel comfortable to say any problem and challenge in online classes and usage of technology. Stage III. After gathering the data from the interview and questionnaire, researcher transcribed the recorded voices in order to analyze the data from the participants. In addition to this, the received data from the questionnaires were analyzed.

Data Analysis

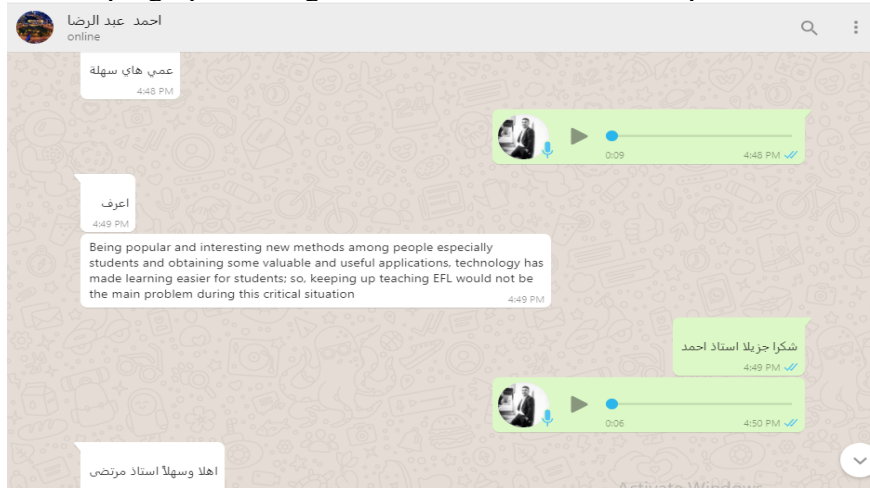
As this research is a mixed-method design, the exploratory sequential mixed-methods was used in a way that the researcher first conducted the qualitative data to gather the participants' opinion then gather the quantitative data to follow up the answers. For the data analysis, transcription of participants' answers to the interview were analyzed for the main theme of the study. In other words, content analysis was considered as an appropriate way to explore the qualitative data driven from the answers. The data were coded and categorized by focusing on the main challenges and problems faced by the EFL teachers' though using technology in online classrooms during Coronavirus pandemic. Findings and Discussion According to this design, findings of the study were categorized into two sections; quantitative and qualitative findings. The quantitative analysis data addressed the first research question on whether the technology integration and online classes were helpful during Coronavirus pandemic situation.

Quantitative Results

Data from the questionnaire showed that teachers' access to the computer devices in their homes were categorized as good or very good. However, students' access to computer sources was either mild or poor. While 83% of the respondents reported using computers for personal use between 2 to 6 hours a week for online classes, 17% reported using computers less than 2 hours a week, if at all. Subsequently, findings of the study showed that teachers' accessibility to the technology devices are acceptable in order to teach online during Coronavirus but students' lack of accessibility reported by the teachers can be conflicting for the teachers. Moreover, the manner of technology integration was checked through the questionnaire. Most of the teachers reported that

technology integration during Coronavirus pandemic can be helpful in many ways and can be used as an important instructional device. Based on the results from the questionnaire, respondents showed that teachers' access to the computer devices in their homes were categorized as good or very good. For example, technology integration can be instructional in order to use for drills, practice and remediation. In addition to this, technology integration in online classrooms can be communicative by means of interaction between teachers and students. In conclusion, technology integration can be evaluative for students to show their actual performance during the Coronavirus pandemic

Qualitative Results In order to answer the second research question that focuses on the challenges faced by the teachers, 30 EFL teachers were interviewed through online platform (WhatsApp Application) to avoid any face-to-face Coronavirus infection. Based on their responses, some teachers tend to rely on the online classrooms rather than face to face classrooms to teach during the Coronavirus pandemic. One of them mentioned that the online classes has made learning easier for students. "Being popular and interesting new methods among people especially students and obtaining some valuable and useful applications, technology has made learning easier for students; so, keeping up teaching EFL would not be the main problem during this critical situation."



In addition, the online classes get teachers to improve their skill and knowledge in the usage of technology. "Being updated and keeping in touch with specialist or passing some TTC courses related to improving teaching through technologies during running into technical challenges would be the best way in solving technical problems." "Although I have some trouble in connection and using these technologies in an appropriate way, I adopt several pre-planned materials according to the internet search and using other shared information from other teachers in our language school group In terms of the issues encountered in using technology to conduct online classes, one of the teachers mentioned the limitation in terms of internet connection as an issue. "Although the problems during this force majeure condition are not unobservable but decrease the teaching process, one of the main problems is the speed of internet in our country (Iraq)." Moreover, other teachers mentioned that: "Online learning has some problems like lack of learners' awareness toward materials. I think EFL learners cannot concentrate on the materials that we send them. Additionally, although computer aided systems are very well-known for evaluation, reliability of learners' answers can be under question in some parts. "Some of the learners may have problem in accessing to the internet because they don't have cellphone or other devices to be online in the classrooms for themselves and using parents' devices cannot be effective. The teachers were also asked on how the integration of technology align with the school and class mission and vision. They responded that it encouraged students to become problem-solvers and prepare students for the 21st century learning environment. "One of the goals of great learning environments should always be empowerment of students, in this critical situation, perusing some points in Google related to technology, can help students to achieve their goals and find the answer of their problems and questions." "Admittedly most school mission and vision statements are enigmatic and ambiguous but they are not unsolvable because students are familiar enough with the basic of every kind of tech. so, not only this is not hard to align with tech but also just some simple introductions are needed. "21st century skills, call them what you like but we have to be focused on preparing students for the modern world. Whenever possible we want to get students engaged with technology that is closer to the cutting edge perhaps more importantly, we want to be sure we are facilitating in ways that push students to cognitively travel the landscape of the modern world. The teachers were also asked on their views on whether the parents think the technology threatens their

children's security. One of the teachers mentioned that parents appreciated the teachers informing the parents the technology used in advance so that parents can explore and understand the benefits of the tools. "Perceptions can become reality and as a parent, they are leery of the threats that can gain access to their children via technology. Teachers should be sure that their use of technology is indeed safe for their students but it is smart to get out ahead of the massaging with parents, especially if they are teenagers. Most of the parents appreciate when the teachers of their children communicate well ahead time and if there is a tech tool that might cause apprehension from parents giving them a chance to investigate in advance can be very helpful?" Another teacher stated that parents were positive about the integration of technology through online classes. "Parents' belief about the online classrooms in the coronavirus condition are positive. Because of the hard situation that we have, they are more likely to use these kinds of classes for their children to prevent them from infection The present study aimed at exploring the integration of technologies in online classes used by Iraqi teachers during Coronavirus pandemic situations. Most particularly, it aimed at exploring the challenges faced by Iraqi teachers when integrating technology to conduct online classes during a pandemic situation. According to the results of the study, Iraqi EFL teachers preferred conducting online classes though the usage of technologies during the Coronavirus pandemic. This finding is in line with multiple studies (Che Musa, Azman, & Koo, 2012; Yadov, Gupta, & Khetrapal, 2018; Adnan et al., 2019, Pital, 2020). According to the mentioned studies, technology devices, or more practically online classrooms can be regarded as a useful alternative in difficult and unanticipated situations. Therefore, technology integration is perceived as the most direct and effective way to maximize the learning opportunity for EFL learners and minimize the learning problems Although it can be effective for this critical situation, all unanticipated usage of technologies can bring some troubles and problems for instructors, learners, or administrators. As Huang, Wu and Chen (2012) discussed, technology helps teachers to make positive attitude toward teaching and learning, but the problems such as lack of time management, effectiveness of the evaluation, learners' attention toward learning, and also material development should be considered to decrease the errors and mistakes by the learners and teachers. In the light of this study, we can reveal that all technology-based classrooms have problems but both teachers and learners should pay attention to it and handle it to make it more effective.

Conclusion

This study explored the challenges of ELT teachers in integrating technology into online classrooms during the coronavirus pandemic in some Iraqi classrooms. The results revealed that teachers favored it and had a positive attitude toward teaching English language by using technology and internet in this critical situation and believed that having online classes (being at home) instead of traditional ones (going to school) is better than not having classes. Regarding teachers' experiences holding all online classes under this circumstance, it was quite challenging at the beginning. However, it helps students to get more information and also build their self-confidence in keeping up with their lessons in this critical situation. Moreover, interview results revealed that teachers reported different challenges in implementing online classes and seemed they need assistance related to teaching such as the speed of internet in Iraq as the main problem. Some teachers claimed that being updated or passing some TTC courses related to improving teaching through technologies during running into technical challenges and using the internet to increase their knowledge of technology in teaching would be helpful during this critical situation. The findings of the present study have a few implications. They call for more attention to teacher technology courses. Teachers need to be taught on the integration of technology for online classrooms to use in critical circumstances. Teachers are the most important agent in the educational reform (Ogilvie & Dunn, 2010) yet their role is often overlooked (Ogilvie & Dunn, 2010). It is agreed by many researchers, practitioners, and policy makers in the field of education that teacher professional development would definitely lead to improved students learning results (Tajeddin & Rezanezhad, 2019). Then, not only it is crucial for teachers to increase their knowledge but also it is essential for them to learn different ways of teaching methods in systematic ways. The findings indicated that many teachers believed their responsibility for helping learners during this critical circumstance, is not just using technology; it is viewed as an improvement related to English language learning. Teaching is the first needed and crucial point and platform to provide language teachers with effective education. Nevertheless, this study had a number of limitations, which may affect generalizability of the results. Clearly, this study has some fruitful and tangible pedagogical implications for language teachers, EFL students, and material developers. Firstly, language teachers should do their best to enhance students' performance by using technologies in absence of schools such as during the Coronavirus pandemic. Moreover, the findings of this study might provide new insights for schools' authorities into online classrooms and take every opportunity to create a cooperative atmosphere in

educational centers and institutions. In addition, they can assist language learners in performing their responsibilities and support them by attending their problems and helping them in adapting to technological demands and potential pressures in language settings. The findings seem to yield fruitful results for course book designers and material developers. Course book designers and material developers should incorporate more motivational and self-regulated learning strategies by providing clear, practical examples in future teacher's books in order to use in online classrooms specially in hard situations such as Coronavirus pandemic circumstances. In addition to all the above and on the basis of the findings obtained in this study, the research topics such as motivational strategies, reflective teaching, criticism of online classrooms in coronavirus pandemic can be suggested to be investigated by other researchers.

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Appendix

The Challenges of the Iraqi English language teachers from the Autonomous learning during COVID 19 pandemic Please tell us about yourself :Your Department: Course(s) Taught: Gender _____: Male _____ Female Age _____: Total number of years teaching _____ .Classification (check one) Instructor/Lecturer _____ Assistant Professor _____ Associate Professor _____ Professor _____ Other _____ We would like to ask you some questions regarding your Technology Implementation challenges. Please answer the questions that apply to you, and your experience with the Autonomous learning during COVID 19 pandemic. Indicate how strongly you agree or disagree with the following statements

1. Technology Implementation Increases academic achievement.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

2. Technology Implementation *Does not* result in students neglecting important traditional learning resources (e.g., library books).

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

3. Technology Implementation Is effective because I believe I can implement it successfully.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

4. Technology Implementation Promotes student collaboration.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

5. Technology Implementation *Does not* make classroom management more difficult.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

6. Technology Implementation Promotes the development of communication skills (e.g., writing and presentation skills).

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

7. Technology Implementation Is a valuable instructional tool.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

8. Technology Implementation *Is not* too costly in terms of resources, time and effort.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

9. Technology Implementation Is successful only if teachers have access to a computer at home

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

10. Technology Implementation Makes teachers feel more competent as educators.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

11. Technology Implementation Is successful only if there is adequate teacher training in the uses of technology for learning.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

12. Technology Implementation Gives teachers the opportunity to be learning facilitators instead of information providers.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

13. Technology Implementation Is successful only if computers are regularly maintained by technical staff.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

14. Technology Implementation *Does not* demand that too much time be spent on technical problems.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

15. Technology Implementation Is successful only if there is the support of parents.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

16. Technology Implementation Is an effective tool for students of all ability.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

17. Technology Implementation Is necessary because students *will not learn* computer skills on their own, outside of school.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

18. Technology Implementation Enhances my professional developmen

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

19. Technology Implementation Eases the pressure on me as a teacher.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

20. Technology Implementation Is effective if teachers participate in the selection of computer technologies to be integrated.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

21. Technology Implementation Helps accommodate students' personal learning styles.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

22. Technology Implementation Motivates students to get more involved in learning activities.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

23. Technology Implementation *Should not* reduce the number of teachers employed in the future.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

24. Technology Implementation *Does not* limit my choices of instructional materials.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

25. Technology Implementation Requires software-skills training that *is not* too time consuming.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

26. Technology Implementation Promotes the development of students' interpersonal skills (e.g., ability to relate or work with others).

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

27. Technology Implementation *Will not* increase the amount of stress and anxiety students experience.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

28. Technology Implementation Is effective only when extensive computer resources are available.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

29. Technology Implementation *Is not* difficult, even though some students know more about computers than many teachers do.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

30. Technology Implementation Is only successful if computer technology is part of the students' home environment.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

31. Technology Implementation Requires *no extra time* to plan learning activities.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

32. Technology Implementation Improves student learning of critical concepts and ideas.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |

33. Technology Implementation becomes more important to me if the student does not have access to a computer at home.

| Strongly disagree 1 | Disagree 2 | Neutral 3 | Agree 5 | Strongly agree 5 |
|------------------------|---------------|--------------|------------|---------------------|
| | | | | |