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# Adoption of Mobile Technology for Teaching Preparation in Improving Teaching Quality of Teachers

**Aliff Nawi**
Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam, Brunei
*aliffnawi@yahoo.com*

**Mohd Isa Hamzah**
PhD. Faculty of Education, Universiti Kebangsaan Malaysia, Malaysia
*cher69@gmail.com*

**Chua Chy Ren**
International Graduate Studies College, Kiulap, Brunei.
*chy_ren1987@hotmail.com*

**Ab Halim Tamuri**
Prof., Selangor International Islamic University, Selangor, Malaysia.
*tamuri67@gmail.com*

This study aims to identify the readiness of teachers to use mobile phones for the purpose of teaching preparation. The study also reviewed the level of teachers' satisfaction when using the mobile technology applications developed for the purpose of teaching and learning in the classroom. This study used the mix method to collect data. A total of 31 teachers were involved in answering the questionnaire and seven teachers were interviewed to obtain supportive data. The findings show that the use of applications on mobile phones can help teachers smoothen the lesson preparation. In addition, the use of mobile technology also gives satisfaction to the teachers in enhancing their knowledge in the field of teaching. However, the technical aspects are still a priority and influence the usability aspects of an educational application. The study also revealed that the end users' age factor is important because it affects the frequency and usage of mobile technology in developing their skills. In conclusion, the use of mobile technology among teachers is appropriate and facilitates the teaching activities.

Key Words: mobile technology, mobile application, teaching preparation, teaching, learning

## INTRODUCTION

The Ministry of Education of Malaysia has recommended that teachers have to do the lesson planning and preparation before the school session starts. The writing of teaching preparation by teachers usually will be based on the scope and syllabus stipulated by the

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ministry. This step is important to ensure that the teachers have the complete in structured guidelines to teach in achieving a more effective teaching and learning.

Teachers also need to ensure that the lessons presented during the school sessions particularly in teaching and learning are made based on the preparations. Thus, the early preparation before the teaching process can give a good effect on student learning. Previous research have shown that the good level of teaching preparation can enhance students' understanding of a subject (Azizi et al., 2010; Masnora & Nur Zakiah, 2011; Mohd Aliff & Yusraini, 2014). This suggests that the teaching preparation process should be focused primarily associated with the mastery of the subject content.

**PROBLEM STATEMENT**

There are many aspects that can help teachers to make teaching and learning effective. According to Pinsky et al., (1998), one of the aspects that should be emphasized is the need for teachers to understand their subject content before the teaching and learning session begins. It was proven that a good level of teaching preparation can improve students' understanding of a particular subject (Ahmad Yunus & Ab Halim, 2010: Azizi et al., 2010; Nur Zakiah & Masnora, 2011). However, studies by Abdul Aziz (2012) show that there are Islamic education teachers who are not prepared well in terms of subject content knowledge before their teaching session. This can affect teaching and learning and feared that the teachers cannot achieve the learning objectives.

In addition, the workload of teachers also has negative effects on teaching and learning in schools. A study by Abdul Sukor et al., (2006) found that teachers are burdened with a variety of tasks including clerical, facilitator, motivator, planner, co-curriculum advisor, club leader, uniformed units, sports coach, and data teacher. This resulted affected quality of teaching and learning. Furthermore, a study by Raja Maria (2011) showed that the time constraints faced by the teachers can influence negatively the teaching preparation and this includes searching for references of the subjects they teach.

This situation explains that the existence of various problems, have prevented the teaching preparation in enhancing their teaching skills. Furthermore, the extra workload at school caused time constraints in finding more reference materials other than the textbooks. Therefore, the researcher suggests that mobile technology can help teachers to do preparatory activities before the process of teaching and learning take place. A study by Yaming and Yu-Liang (2011) and the UNESCO report (2012) shows that the use of m-learning can help teachers do the teaching preparation, enhance the skills of trainee teachers, gives parallel and conventional innovation in teaching and learning and support teaching and learning activities. This shows that there is good potential to create teaching preparation materials using the m-learning for teachers of Islamic education.

In order to realize this proposal, the researchers will develop a mobile technology application that comes with e-Content, considering the needs of Islamic Education teachers, to help them in the Islamic education teaching preparation activities. With a special design that is loaded via mobile phones, teachers can access information anytime

and anywhere. This fits perfectly with the concept of learning all the time with easy-access through mobile devices such as mobile phones, PDAs, Pocket PCs and tablets.

**Research Objective**

The objectives of this study are to:

i) Develop a mobile technology application through the mobile phones for the use of teachers to help them in the teaching preparation activities

ii) Identify to which extent this application of mobile technology can help teachers to improve teaching quality.

iii) Examine the level of satisfaction of teachers in the use mobile technology applications developed for the purpose of teaching and learning in the classroom.

**METHOD**

*Instructional Design Approach*

This study uses the ADDIE instructional model adapted from Gagne et al. (2005) to develop mobile technology applications for the use of Islamic education teachers. The ADDIE model was chosen because this model has well-organized and structured components from one step to the next step. The important components in the model ADDIE are the steps of analysis, design, develop, implement and evaluate in order to facilitate the process of producing effective mobile technology applications. According to Gustafson and Branch (2001), this model is also the basis of other models.

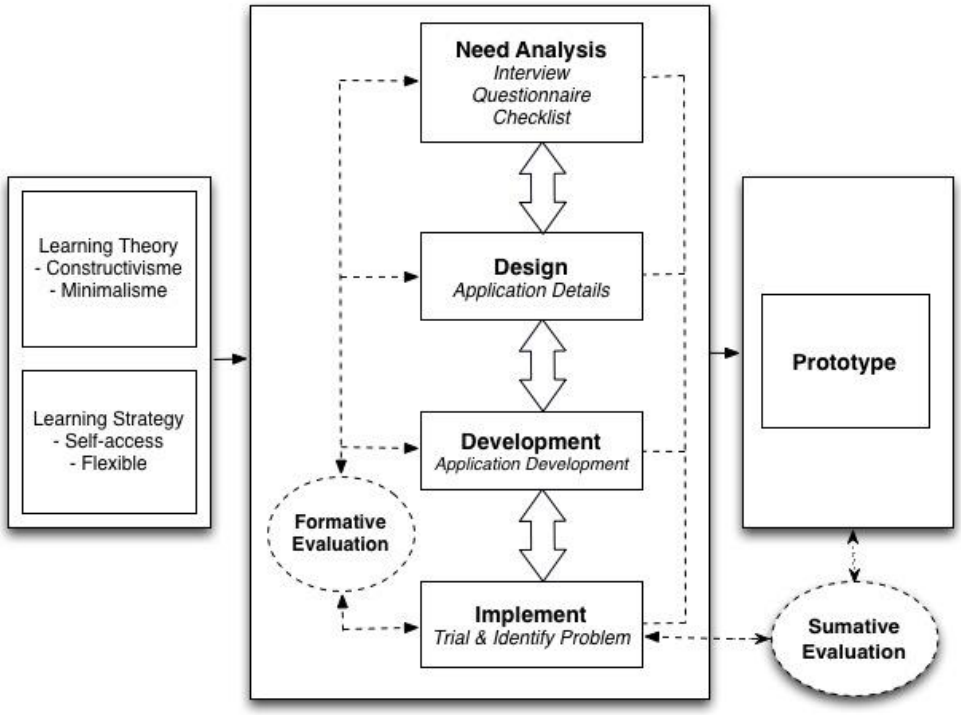


Figure 1: Adaptation of the ADDIE instructional model. Source: Gagne et al. (2005)

Figure 1 above explains the important stages in the construction of mobile technology applications. In addition, the priority aspects such as the content, learning theory and learning strategies are taken into account in analysing and designing. The researchers applied the constructivist and minimalism theory as the learning theory. While independent and flexible learning strategies are embedded in the application throughout the designing and development phase.

*Research Evaluation*

Sample

This study involved 31 teachers who teach Islamic education at the secondary school level. Selection of respondents was based on voluntary methods and has features in common, which all of them own a mobile phone. Input and evaluation questionnaires used as a method to assess the extent to which the use of mobile technology helps the teachers in their teaching preparation. A pilot study was conducted to test the reliability before the final research done.

Data Analysis (Quantitative)

The data collected from the questionnaires were analysed using the Statistical Package for the Social Sciences (SPSS) version 20 software. Only descriptive statistics were used to get the mean and percentage based on data collected. For the purposes of interpretation of the application assessment, researchers used a five point Likert scale rated from 1 to 5, where 1 = Strongly disagree, 2 = Disagree, 3 = Slightly disagree, 4 = Agree and 5 = Strongly agree. Respondents were asked to indicate one of the numbers to show their agreement to the statements relating to the application. The researchers used the mean scores interpretation of Jainabee and Jamil (2009) and score results obtained were interpreted as follows: 4:21 to 5:00 shows the mean scores of respondents agreed very highly, 3:41 to 4:20 min indicating approval of the high level, a mean of 2.61-3.40 shows that they agree on a medium scale, a mean of 1.81-2.60 showed that the agreement was low and mean agreement of 1.00-1.80 as very low levels.

Data Analysis (Qualitative)

Qualitative research design involved interviews of 7 teachers based on the individual interview protocols provided by the researchers. All the audios of the interviews were recorded. All the verbal responses of the participants were transcribed and analysed using NVivo 8 software. The qualitative method in this study was as a follow-up to refine the findings of the questionnaire. According to Creswell and Clark (2007), the use of qualitative methods is effective to get the detailed information to provide in-depth understanding of a research problem. The combination of quantitative and qualitative findings is able to clarify and increase the understanding of the research problem.

**FINDINGS**

*Mobile Technology Applications*

Figure 1 below shows the results of the mobile technology application design that has been developed. This mobile technology application was developed using the Learning Mobile Author version 4, which can be downloaded for free on the website. The mobile phones that support this mobile technology application for teachers includes Blackberry, Nokia, Samsung, HTC and mobile phones with Java ME 2.0 software. The design and development of mobile technology application were based on the ADDIE instructional model because it is suitable to any kind of learning.

Figure 4: The design of mobile technology applications

*The Quality of Teaching Preparation Level*

Perceptual aspects of teaching quality were assessed based on a number of predetermined factors. Table 1 below shows the level of the quality on teaching preparation. Among the factors that play a role in influencing the quality of teaching, including the teaching preparations are these application provides quick information, help to strengthen the existing knowledge of users, the appropriateness of making this application as teaching aids, to meet the needs of teaching, can be used in teaching assignments, appropriate as a reference, to help smoothen the process of planning for teaching and help teachers prepare their questions for the students.

Table 1: Evaluation of the quality of teaching preparation

| *Item* | *Percentage (%) f* | | | | | *Mean* |
|---|---|---|---|---|---|---|
| | StD | D | SD | A | SA | |
| This application is suitable to be used as reference material. | - | - | 3.2 (1) | 41.9 (13) | 54.8 (17) | 4.52 |
| This application is suitable to be used as teaching preparation. | - | - | - | 38.7 (12) | 61.3 (19) | 4.61 |
| I can refer to needed information quickly. | - | - | - | 48.4 (15) | 51.6 (16) | 4.52 |
| This application helps to strengthen the existing knowledge of the user. | - | - | 6.5 (2) | 38.7 (12) | 54.8 (17) | 4.48 |
| The use of this application fits the teaching needs of the teachers. | - | - | - | 61.3 (19) | 38.7 (12) | 4.39 |
| This application can be applied in the teaching assignments. | - | 3.2 (1) | 3.2 (1) | 45.2 (14) | 48.4 (15) | 4.39 |
| This application can smoothen the teaching preparation process. | - | - | 3.2 (1) | 48.4 (15) | 48.4 (15) | 4.45 |
| The question bank helps the teachers to prepare questions easily. | - | 9.7 (3) | 6.5 (2) | 41.9 (13) | 41.9 (13) | 4.16 |
| Total | | | | | | 4.44 |

The Table 1 above shows the level of the quality on teaching preparation. As overall, the application of mobile technology can help teachers in increasing the level teaching preparation. This can be seen based on the overall mean score level which was very high (mean = 4.44). However, there is one item that obtained only the highest level, the item 8, which is related to the use of question banks provided in the application.

*Teachers' Satisfaction Levels*

Table 2 below shows the respondents' assessment on aspects of user satisfaction which includes a number of criteria, including feeling happy using the application, saving time, in accordance with user requirements, increased understanding of the topic, would like to use again and recommendations to others.

Table 2: Evaluation of the aspect of user satisfaction

| *Item* | *Percentage (%) f* | | | | | *Mean* |
|---|---|---|---|---|---|---|
| | StD | D | SD | A | SA | |
| I feel good about using this application. | - | - | 3.2 (1) | 41.9 (13) | 54.8 (17) | 4.52 |
| The usage of this application saves time. | - | 3.2 (1) | - | 38.7 (12) | 58.1 (18) | 4.52 |
| This application fits the needs of the user. | - | - | 3.2 (1) | 45.2 (14) | 51.6 (16) | 4.48 |
| This application helps to improve the understanding towards my field of teaching. | - | - | 3.2 (1) | 45.2 (14) | 51.6 (16) | 4.48 |
| Given an opportunity, I would like to use other applications made in the same form (mobile). | - | 3.2 (1) | - | 22.6 (7) | 74.2 (23) | 4.71 |
| I would recommend to a friend to use this application. | - | - | - | 25.8 (8) | 74.2 (23) | 4.74 |
| Total | | | | | | 4.58 |

Generally, all the criteria of the user satisfaction aspect were very high. The overall mean score findings also showed that the respondents agreed that the users are satisfied with this application (mean = 4.58). This indicates that the developed application has met the user satisfaction level based on the total mean scores which are at a very high level.

*The Interview Findings*

There are three main themes that have been identified by researchers in the analysis of interview data. The explanations are as follows;

i) Innovation Material

The interview results show that the majority of teachers (n=7) agreed that the application developed will help them in the process of teaching and learning. According to GPI3 respondent, an application via their mobile phone is "an innovation" to help teachers and "facilitate teaching and learning in the present and future." This clearly shows that the use of mobile technology is described as futuristic and advanced compared to the use of other materials.

In addition, there are respondents who stated that the use of application via their mobile phones can facilitate the teaching preparation activities. According to respondents, GPI5 and GPI7, the application via mobile phone "helped teachers" in doing their teaching preparation. They were "satisfied" with the application developed because it is "user friendly."

ii) Increase the Knowledge

The use of mobile technology as a material to help teachers in their teaching preparation has good benefits such as increase knowledge in the field of teaching. According to GPI7, the application via mobile phone "*helped*" him in reading and "*increased the knowledge*" in his preferred subject.

Furthermore, the "*small size*" and "*user friendly*," is appropriate for teachers to do their "*references*" (GPI2). In addition, GPI4 stated that the use of via mobile phone application is "*simple and appealing*" because it can be "*taken wherever*..." GPI4 says;

*"This application helped me in looking for references at the time I wanted. Via mobile phone also enabled me to learn because I bring my mobile phone wherever I go..."*

iii) Problems and Issues

There are a number of issues identified during the interviews. Among them is the issue of the teachers' age. GPI2 stated that it is "*inappropriate*" for the older teachers to use mobile phones as a teaching preparation because of the "*small font size*." Furthermore, GPI1 and GPI6 respondents noted that a mobile phone application for teaching preparation is "*more appropriate*" to "*young teachers*" because it is parallel with the "*current development*."

In addition, there are respondents who claimed that the use of a computer is easier than using a mobile phone. According to GPI4, he "*prefers*" to use "*computers*" to carry out preparations because he is "*used*" to it and it is "*suitable*" for him. On the other hand, GP5 suggested that the researchers build applications that can "*accommodate all the mobile phones*" like the iPhone, iPad and other tablets.

For the contents of the application as well, GP3 suggested that researchers "*add more titles*" as in the textbooks. Meanwhile, GP6 recommended that a variety of media such as "*audio*" and "*video*" are included which can also be used independently by students.

**DISCUSSION**

In general, the quality of teachers' preparation when using mobile technology applications has increased. This is due to the obtained findings that were very high. The findings also showed that the teachers felt positive that this application can help them improve the quality of teaching. This agrees with the research by Saleha and Nor Idayu (2011) which shows that the development of an application to be said a success, should be able to strengthen the existing knowledge of users. This can enable teachers to refer to the newly developed material, but at the same time not ignoring the textbooks as the major reference.

The same goes to the level of user satisfaction aspect of this mobile technology application. The results showed that the mean score of respondents on the consent of the user satisfaction for this application is at a very high level (mean=4.58). This shows that the respondents are very satisfied with the developed application. These findings are in line with the study by Mohd et al. (2013) and Sreerambhatla (2010) which showed that the level of user satisfaction will increase as the developed mobile application is in accordance with the needs of the target group. In fact, a study by Norman (2004) also showed that the users will feel happy and fun when using an application that has the characteristics of good usability.

In addition, the level of consumer satisfaction also depends on the impact derived from the applications used. In fact, a good level of satisfaction also increases the rate of application interactivity (Mohd Aliff et al., 2013). The study by Nur Aizya (2004) and Rosmaria (2003) showed that the factor of consumers' motivation also has a good effect

when the application is used to give satisfaction to them. Satisfaction obtained by the user includes recommending the usage of the application to others (Georgieva et al., 2011; Nawi et al., 2015).

## CONCLUSION

In developing an application especially for the teachers to improve their skills in teaching, a variety of factors should be given careful consideration. It is important to ensure that applications are developed to meet the teaching and learning objectives outlined by the ministry. One of the ways to achieve the purposes set, ADDIE instructional model has been applied in the development of this mobile technology application. Application of this instructional model is important that materials are developed to meet the needs of teachers and achieve full user satisfaction.

The study also revealed that the use of mobile technology among teachers is influenced by several aspects. The first is an appropriate level of consumers' age. The older teachers do not like to use the mobile technology due to the small fonts which are difficult to read. They prefer to use the computers that are much bigger and easier to use than a cell phone. This is supported by Croop (2008) who stated that the younger generation or called as the generation Y (born from 1980 to 1995) adapts better to technology oriented materials compared to the generation X (born from 1960 to 1980). This group is the earliest group that was exposed and grew with technology and communication materials that made it easier for them to adopt mobile technology in their learning culture.

## RECOMMENDATION

Overall, this study found that the developed application successfully passed the optimal level of usability. Although, there are several issues that arise nevertheless, those issues are isolated and the quality of the application can still be further enhanced for the teachers' use. However, the developed application successfully maintained the characteristics of mobile learning method of learning anytime and anywhere.

It is hope that by developing the applications will help the teacher to enhance understanding of Islam Hajj and Umrah topics as well as in to make teaching more efficient preparation. Since the elements in m-learning applications are portable, readily available and easy to use is embedded, the application gives access to the diversification of teacher preparation at the same time not alienating the textbooks provided by the ministry. Also, it is hoped that the use of mobile technology application is extended in the future to increase the teachers' competency and standart outlined by the ministry.

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**REFERENCES**

Abdul Sukor Shaari, Abd Rahim Romle & Mohamad Yazi Kerya. (2006). *Burden of Primary School Teachers.* National Seminar Paper on Leadership and Management School. Organized by Universiti Utara Malaysia. 12-14 Februari. Retrieved from http://repo.uum.edu.my/80/1/beban_tugas.pdf

Ahmad Yunus Kasim & Ab Halim Tamuri. (2010). *Pedagogical content knowledge of teaching the faith: A case study of excellent teachers of Islamic Education*. Journal of Islamic & Arabic Education, 2(2): 13-30. Retrieved from http://journalarticle.ukm.my/780/1/17.pdf

Azizi Yahaya, Rosnani Mohd Nor, Sharifuddin Ismail & Amir Hamzah Abdul. (2010). *The effectiveness of teaching and learning among teachers in technical subjects*. Research Report. Faculty of Education, Universiti Teknologi Malaysia. Skudai, Johor.

Croop, F. J. (2008). *Student perception related to Mobile Learning in Higher Education*. PhD Dissertasion, Graduate Faculty of the School of Education, Northcentral University.

Georgievaa, E. S., Angel S. Smrikarova, A. S., Georgieva, T. S. (2011). *Evaluation of mobile learning system*. Procedia Computer Science 3: 632–637.

Masnora bt Haji Sepikun & Nur Zakiah Hani bt Kamarolzaman. (2011). *The effectiveness of monitoring the teaching and learning process at Polytechnic Port Dickson - A Case Study in the Department of Electrical Engineering*. Research report, Department of Research and Innovation Unit & Electrical Engineering, Polytechnic Port Dickson, Selangor. Retrieved from http://www.polipd.edu.my/v3/sites/default/files/20111007_zakiah_masnora.pdf

Mohd Aliff Mohd Nawi, Ezad Azraai Jamsari, Adibah Sulaiman & Mohd Isa Hamzah. (2013). *Development and evaluation of ning social network for teaching training online surveillance*. Turkish Online Journal of Distance Education, 14(1): 245-255. Retrieved from http://tojde.anadolu.edu.tr/tojde50/pdf/article_21.pdf

Mohd Aliff Mohd Nawi & Yusraini Ramlan. (2014). *A Study on the Strategies and Practice of Teaching Among Trainee Teachers During Teaching Training*. The Online Journal of Islamic Education, 2(1): 1-6 Retrieved from http://ojie.um.edu.my/filebank/published_article/6052/Article_1_V2_I1_Jan2014.pdf

Nawi, A., Hamzah, M.I. & Abdul Rahim, A. A. (2015). *Teachers Acceptance of Mobile Learning for Teaching and Learning in Islamic Education: A Preliminary Study*. The Turkish Online Journal of Distance Education. 16(1): 184-192. Retrieved from http://tojde.anadolu.edu.tr/yonetim/icerik/makaleler/1043-published.pdf

Mohd, N. M. A., Jamsari, E. A., Sulaiman, A. & Hamzah, M. I. (2013). Development and evaluation of Ning Social Network for teaching traning online surveillance. *Turkish Online Journal of Distance Education*, 14(1), 74-78. Retrieved from http://tojde.anadolu.edu.tr/tojde50/pdf/article_21.pdf

Nur Aizya Mappissammeng. (2004). *Sikap pelajar terhadap penggunaan perisian kursus matematik dalam pengajaran dan pembelajaran*. Prosiding Seminar Aliran Terkini Pengajaran Sumber & Teknologi Maklumat 2004, pp. 177- 194.

Raja Maria Diana Raja Ali. (2011). *Faktor-Faktor Yang Mendorong Tekanan Kerja (Stres) dalam Kalangan Guru-Guru Sekolah Menengah Pasir Puteh*. Tesis Sarjana, Fakulti Pendidikan dan Bahasa, Universiti Terbuka Malaysia.

Rosmaria. (2003). *Pembangunan perisian pengajaran dan pembelajaran berbantukan Komputer (PPBK): Adab menjaga fitrah lelaki dan perempuan*. Projek Sarjana Pendidikan. Universiti Kebangsaan Malaysia.

Yaming Tai & Yu-Liang Ting. (2011). *Adoption of Mobile Technology for Language Learning: Teacher Attitudes And Challenges.* The Journal of the JALT CALL SIG, 7(1): 3-18. Retrieved from http://journal.jaltcall.org/articles/7_1_Tai.pdf

**Turkish Abstract**

**Öğretmenlerin Öğretme Kalitelerinin Geliştirilmesinde Mobil Teknolojilerin Öğretmen Yetiştirmede Kullanımı**

Bu çalışma öğretmenlerin öğretim sürecinde mobil telefonları kullanmaya hazır olma durumlarını ortaya çıkarmayı amaçlamaktadır. Çalışma aynı zamanda öğretmenlerin öğretme ve öğrenme için özel olarak hazırlanan uygulamaları kullanmadaki memnuniyet düzeylerini ölçmüştür. Veri toplamada mix metod kullanılmıştır. Toplam 31 öğretmenden nicel veri toplanmış, yedi öğretmenle görüşme yapılarak destekleyici veriler elde edilmiştir. Bulgular mobil telefonlardaki uygulamaların kullanılmasının öğretmenlere derse hazırlanmada yardımcı olduğunu ortaya çıkarmıştır. Ayrıca, mobil teknolojilerin kullanımı öğretmenlerin öğretim konusundaki bilgilerini artırarak öğretmenlere doyum vermektedir. Fakat teknik konular hala öncelikli bir konumda ve eğitsel uygulamaların kullanım yönünü etkilemektedir. Bu çalışma ayrıca kullanıcıların yaşının önemli bir faktör olduğunu göstermektedir çünkü becerileri geliştirmede mobil teknolojilerin kullanımı ve sıklığı yaştan etkilenmektedir.

**Anahtar Kelimeler:** mobil teknoloji, mobil uygulama, öğretmen yetiştirme, öğretim, öğrenme

**French Abstract**

**L'Adoption de Technologie Mobile pour Enseigner Préparation dans Amélioration de Qualité Enseignante de Professeurs**

Cette étude a pour but d'identifier l'empressement de professeurs pour utiliser des téléphones portables pour le but de préparation enseignante. L'étude a aussi passé en revue le niveau de la satisfaction des professeurs en utilisant les applications technologiques mobiles développées pour le but d'enseignement et l'apprentissage dans la salle de classe. Cette étude a utilisé la méthode de mélange de rassembler des données. Un total de 31 professeurs a été impliqué dans la réponse au questionnaire et sept professeurs ont été interviewés pour obtenir des données de soutien. Les

découvertes montrent que l'utilisation d'applications sur des téléphones portables peut aider des professeurs smoothen la préparation de leçon. De plus, l'utilisation de technologie mobile donne aussi la satisfaction aux professeurs dans l'amélioration de leur connaissance dans le domaine de l'enseignement. Cependant, les aspects techniques sont toujours une priorité et influencent les aspects de facilité d'utilisation d'une demande(application) éducative. L'étude a aussi révélé que le facteur d'âge des utilisateurs finaux est important parce qu'il affecte la fréquence et l'utilisation de technologie mobile dans le développement de leurs compétences. Pour conclure, l'utilisation de technologie mobile parmi des professeurs est appropriée et facilite les activités enseignantes.

**Mots Clés:** technologie mobile, application mobile, enseignant préparation, enseignement, apprentissage

**Arabic Abstract**

**اعتماد تكنولوجيا الهاتف النقال لإعداد التدريس في تحسين جودة التعليم للمعلمين**

واستعرضت .وتهدف هذه الدراسة إلى التعرف على استعداد المعلمين على استخدام الهواتف المحمولة لغرض إعداد التدريس الدراسة أيضا مستوى رضا المعلمين عند استخدام تطبيقات تكنولوجيا الهاتف النقال وضعت لغرض التعليم والتعلم في الفصول وشارك ما مجموعه 31 المعلمين في الإجابة على الاستبيان .استخدمت هذه الدراسة المنهج المزيج لجمع البيانات .الدراسية وأظهرت النتائج أن استخدام التطبيقات على الهواتف .وأجريت مقابلات مع سبعة مدرسين للحصول على بيانات داعمة وبالإضافة إلى ذلك، فإن استخدام تكنولوجيا الهاتف النقال كما يعطي .المحمولة يمكن أن تساعد المعلمين تنعيم إعداد الدرس ومع ذلك، فإن الجوانب التقنية لا تزال أولوية وتؤثر على الجوانب .الرضا للمعلمين في تعزيز معارفهم في مجال التدريس وكشفت الدراسة أيضا أن عامل السن للمستخدمين النهائيين "مهم لأنه يؤثر على وتيرة واستخدام .قابليتها للتطبيق التعليمي في الختام، واستخدام تكنولوجيا الهاتف النقال بين المعلمين مناسب ويسهل الأنشطة .تكنولوجيا الهاتف النقال في تطوير مهاراتهم .التعليمية

الكلمات الرئيسية: تكنولوجيا الهاتف المحمول، تطبيقات الهاتف المتحرك، وإعداد التدريس والتعليم والتعلم