# The Influence of Institutional Support on Teachers' Attitudes Towards Mobile Learning: An Empirical Study Based on English Teachers in Basic Education

Long Ye[1] , Shiqing Huang[1], and Song Liu[2(✉)]

[1] School of Foreign Studies, Shaoguan University, Shaoguan, China
bobyee@sgu.edu.cn
[2] School of English and International Studies, Beijing Foreign Studies University, Beijing, China
songjay@hnu.edu.cn

**Abstract.** Mobile learning has been utilized to varying degrees in the teaching and learning of various subjects at different stages of basic education, and its application in the English learning has already reached a popular stage. Teachers' attitudes towards mobile learning are crucial, but there are currently few research results on the influencing factors of it. Based on previous research results, the purpose of this study is to explore the relationship between organizational support and teachers' attitudes towards mobile learning. The study used a questionnaire to collect relevant data on the support perceived by 127 English teachers in basic education from three aspects: equipment and facilities, training access, and administrative assistance, as well as their attitudes towards mobile learning. Through statistical analysis of the data, we obtained the following findings. First, support for equipment and facilities does not have a significant impact on teachers' attitudes ($p > 0.05$); second, the training access provided by the organization has a significant impact on teachers' attitudes towards mobile learning ($p < 0.01$); and finally, the impact of administrative assistance on teachers' attitudes towards mobile learning is the most significant ($p < 0.01$). Based on these research findings, the study proposes corresponding educational implications.

**Keywords:** mobile learning · English learning · organizational support · administrative assistance

## 1 Introduction

Mobile learning has become an increasingly popular method of language learning, with numerous studies examining its effectiveness in various contexts. In particular, the use of mobile devices such as smartphones and tablets has allowed learners to access language learning resources at their convenience, anytime and anywhere.. Various approaches and strategies that educators can adopt to enhance mobile learning, including personalized learning systems, self-regulated game-based learning, language learning apps, formative assessment, online informal learning, and effective curriculum design. It was found that mobile learning can improve learning performance and motivation [1].

Many studies have investigated the factors that affect the adoption of mobile learning, including gender, age, work experience, and information technology skills of users [1, 2]. However, teachers often emphasize the crucial role of institutional support in shaping their attitudes and utilization of mobile learning. Institutional support, such as the availability of mobile devices, technical assistance, and training programs, can significantly influence teachers' adoption and integration of learning/teaching methods. Therefore, it is important to consider institutional support as a significant factor in promoting the effective use of mobile learning in education.

The focus of the present study is on English teachers at the basic stage. The primary objective of the study is to investigate the level of institutional support provided to these teachers with regards to their attitudes towards mobile learning. It aims to address a gap in the existing research on the relationship between organizational support and mobile learning.

## 2 Literature Review

### 2.1 Mobile Learning

Mobile learning, also known as m-learning, refers to the use of mobile devices, such as smartphones, tablets, and laptops, to support learning and education. Mobile learning allows learners to access educational resources and materials anytime and anywhere, which can enhance their engagement and motivation. The term mobile learning also encompasses the use of mobile applications, social media, and other digital technologies to deliver learning content and support communication and collaboration among learners and educators [3].

Mobile learning has become a very mainstream learning method, and its effectiveness has been widely verified. One study by Briz-Ponce et al. found that students who used mobile devices for learning tended to have a more positive attitude toward learning and were more likely to engage in self-regulated learning behaviors than those who did not use mobile devices [4]. Hwang and Chang found that the approach was effective in enhancing students' learning attitudes and achievements [5]. Another study found that mobile learning was effective in improving students' learning outcomes and engagement in learning activities [6]. Motiwalla developed a framework and evaluation for mobile learning and found that mobile learning has the potential to provide a unique and effective learning experience, but that further research is needed to determine the most effective strategies for implementing mobile learning [3].

Previous studies have shown that mobile learning is an effective way to learn English. Chen and Chung found that the personalized system was effective in improving students' vocabulary learning outcomes [7]. In a more recent study, Chen and Hsu developed a self-regulated mobile game-based English learning system in a virtual reality environment. It was illustrated that students who used the system demonstrated higher levels of self-regulated learning behaviors, which in turn led to better learning outcomes. Jurkovič investigated online informal learning of English through smartphones in Slovenia. It was found that participants had positive attitudes toward mobile learning and perceived it as a useful and convenient means of learning [8]. Godwin-Jones found that mobile apps

were effective in enhancing learners' language skills and promoting language learning outside of the classroom [9].

## 2.2 Institutional Support and Teachers' Attitudes Towards Mobile Learning

It has been approved that determinants of mobile learning includes perceived usefulness, ease of use, and attitude significantly influence the intention to use mobile learning [1, 4]. Most of the existing research results on the attitude of mobile learning or the use of mobile learning are focused on the perspectives of teachers and learners [3], and only a very limited amount of studies focus on the institutional level.

Institutional support refers to the resources, policies, and practices provided by an organization or institution to support the success of its members or stakeholders [10]. This can include a wide range of support, such as financial resources, facilities and equipment, access to training and professional development opportunities, mentoring and coaching, administrative assistance, and other forms of support designed to help individuals or groups achieve their goals within the institution. The level of institutional support can have a significant impact on the success of individuals and groups within the organization, and is an important factor to consider when evaluating the overall effectiveness of an institution or organization.

Teachers' attitudes towards mobile learning are crucial in ensuring its success in educational institutions. Overall, the literature suggests that institutional support is crucial in ensuring the successful adoption and use of mobile learning. Joo et al. found that institutional support positively influenced learner persistence and that learners who perceived high levels of institutional support were more likely to persist in their learning [10]. Mettis and Väljataga also proved that institutional support positively influenced the success of mobile learning, and teachers' attitudes towards mobile learning were also positively impacted by the institutional support they received [11]. Some research results have shown that institutional support positively influenced teachers' attitudes towards mobile learning, learner persistence, flow experience, and student teachers' interest in educational technology [12–14].

## 3    Research Methods

### 3.1    Research Framework

The purpose of this study is to explore the impact of organizational support on English teachers' attitudes towards mobile learning. As the research framework shown in Fig. 1, this study specifically aims to answer the following research question: What are the impacts of perceived institutional support of facilities and equipment, access to training, and administrative assistance on teachers' attitudes towards mobile learning?

### 3.2    Participants

A total of 127 elementary and middle school English teachers from Guangdong Province, China, were recruited through online platforms to participate in this study. The average
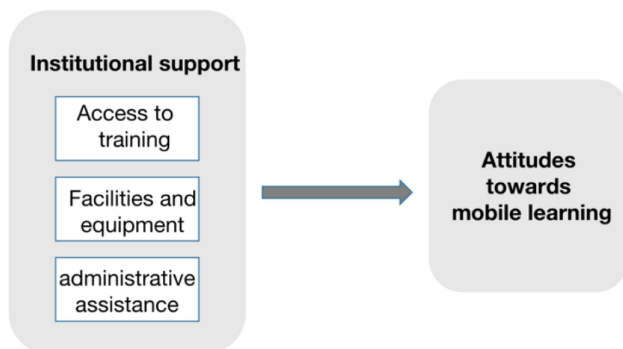
**Fig. 1.** Research framework of the study

age of the teachers was 34.9 years, with the youngest being 21 years old and the oldest being 56 years old. Of the participants, 81.1% (103) were female, while 18.9% (24) were male. All teachers had prior experience utilizing mobile learning techniques to enhance their students' English language skills, with access to reliable mobile networks and devices to facilitate the process.

### 3.3 Measures

This study employed four self-designed scales as measurement tools to gather data on relevant variables. The first scale evaluated teachers' perceived support for facilities and equipment for mobile learning provided by their schools, consisting of three items. One example of an item is: "I can sense that the school offers dependable facilities and equipment support for mobile teaching". The scale was designed using a five-level Likert scale, with good internal consistency ($\alpha = 0.86$) and factor loadings greater than 0.7 for all items.

The second scale evaluated teachers' perceived support for access to training on mobile learning provided by their schools, consisting of three items. One example of an item is: "The mobile learning training provided by the school is effective". The scale also utilized a five-level Likert scale design, with satisfactory internal consistency ($\alpha = 0.91$) and factor loadings greater than 0.7 for all items.

The third scale consisted of four items and measured teachers' perception of administrative assistance from their schools. One example of an item is: "I can perceive that school administrators place great importance on the application of mobile learning in English subjects". The scale utilized a five-level Likert scale design, with satisfactory internal consistency ($\alpha = 0.93$) and factor loadings greater than 0.7 for all items.

Finally, the fourth scale evaluated teachers' attitudes towards mobile learning, consisting of four items. One example of an item is: "I believe that mobile learning is essential in English language education". The scale utilized a five-level Likert scale design, with good internal consistency ($\alpha = 0.82$) and factor loadings greater than 0.7 for all items.

### 3.4  Data Collection and Analysis

For data collection, online questionnaires were distributed in this study. Along with the four variable scales being measured, the questionnaires also collected demographic information such as gender and age of the participants. The questionnaire was distributed in August 2022, with participants informed of its purpose and guaranteed protection of their personal privacy. After data collection, Excel and SPSS 24 were utilized to initially organize the questionnaire data. The study primarily utilized SPSS 24 for descriptive analysis, correlation analysis, credibility analysis, reliability analysis, and linear regression analysis of the data.

### 3.5  Control Variables

Previous studies have shown that gender and age may have an impact on mobile learning [2]. Based on these findings, the current study included participants' gender and age as control variables.

## 4   Research Results

### 4.1  Descriptive Analysis

Table 1 presents the descriptive data analysis results of each variable in the research framework. Overall, the values for all four variables were higher than the midpoint. The mean value of access to training (ATT) was as high as 4.33, and the mean values for the other three variables were very close, with facilities and equipment (FE) averaging 4.00, administrative assistance (AA) averaging 4.010, and attitudes towards mobile learning (ATML) averaging 4.08. Their standard deviations ranged from 0.42 to 0.78. These results indicate that the participants perceived significant support for mobile learning from their schools, and they held positive attitudes towards mobile learning. Overall, the normality of the data was good, except for FE's Kurtosis value, which was greater than 1. The Skewness and Kurtosis values for all other variables were less than 1, ranging from 0.632 to 0.013.

**Table 1.**  Descriptive statistics of the variables

| Variable | Mean | Std. Deviation | Skewness | Kurtosis |
|----------|------|----------------|----------|----------|
| ATT | 4.303 | .4678 | −.137 | −.571 |
| FE | 4.000 | .7792 | −.013 | −1.540 |
| AA | 4.010 | .4235 | −.414 | .564 |
| ATML | 4.077 | .4633 | −.632 | .287 |

**Note:** ATT, access to training; FE, facilities and equipment; AA, administrative assistance; ATML, attitudes towards mobile learning

**Table 2.** Correlations of the variables

|      | ATT      | FE       | AA       | ATML |
|------|----------|----------|----------|------|
| ATT  | 1        |          |          |      |
| FE   | .446[**] | 1        |          |      |
| AA   | .411[**] | .347[**] | 1        |      |
| ATML | .507[**] | .405[**] | .703[**] | 1    |

Note: [**] Correlation is significant at the 0.01 level (2-tailed).

## 4.2  Correlation Analysis

Table 2 shows the correlation relationships among all variables. Overall, the variables exhibited moderate correlations, with correlation coefficients ranging from 0.347 to 0.703. The significance of the correlations between all variables was highly significant (p < 0.01).

## 4.3  Hierarchical Regression Analysis

According to the research framework, we constructed two models. Model 1 was used to test the impact of control variables on ATML, and the equation of the model is:

$$ATML = \beta_0 + \beta_1 Age + \beta_2 Gender \tag{1}$$

**Table 3.** Results of regression analysis with attitudes towards mobile learning as independent variable

| Models    |          | Unstandardized Coefficients | | Standardized Coefficients | t      | Sig  |
|-----------|----------|-------|-----------|-------|--------|------|
|           |          | B     | Std. Error | Beta  |        |      |
| Model 1   | Constant | 3.876 | .264      |       | 14.679 | .000 |
|           | Age      | −.004 | .005      | −.062 | −.704  | .483 |
|           | Gender   | .179  | .104      | .152  | 1.712  | .089 |
| Model 2   | Constant | .181  | .365      |       | .495   | .621 |
|           | Age      | .003  | .003      | .045  | .735   | .464 |
|           | Gender   | .040  | .072      | .034  | .564   | .574 |
|           | ATT      | .227  | .070      | .230  | 3.228  | .002 |
|           | FE       | .065  | .041      | .109  | 1.586  | .115 |
|           | AA       | .623  | .074      | .569  | 8.395  | .000 |

**Note:** ATT, access to training; FE, facilities and equipment; AA, administrative assistance

Model 2 was used to investigate the impact of three independent variables in the research framework on ATML, and the equation of the model is:

$$ATML = \beta_0 + \beta_1 Age + \beta_2 Gender + \beta_3 ATT + \beta_4 FE + \beta_5 AA \qquad (2)$$

Results of regression analysis are shown in Table 3. Firstly, the analysis results of Model 1 showed that age and gender had no significant impact on ATML, with β values of −0.004 and 0.179, respectively, and significant levels above 0.05. From Model 2, it can be seen that the effect of AA on ATML was the most significant (β = 0.569, p < 0.01). In addition, ATT also had a significant impact on ATML (β = 0.230, p < 0.01). However, FE did not have a significant impact on ATML (β = 0.065, p > 0.05). The adjusted R square value of Model 2 was 0.563, demonstrating excellent predictive power.

## 5  Discussion

This study explores the impact of organizational support on English teachers' attitudes towards mobile learning through a survey of teachers at the basic education stage. By conducting statistical analysis on the collected data, the following findings were obtained.

We found that gender and age do not significantly affect teachers' attitudes towards mobile learning. The data collected in this study shows that the perceived support from the organization is at a relatively high level, and there is no significant difference in these values across gender and age. This result is inconsistent with previous research findings [2].

It's also found in the present study that different dimensions of organizational support have different impacts on English teachers' attitudes towards mobile learning. Some previous studies have explored the relationship between organizational support and mobile learning, and some of the results show a positive correlation between organizational support and teachers' attitudes towards mobile learning [11–13]. In the current study, organizational support was divided into three dimensions: access to training, facilities and equipment, and administrative assistance, and some new findings were obtained.

Firstly, the results indicate that facilities and equipment does not significantly affect English teachers' attitudes towards mobile learning. This may be because the schools surveyed already have adequate facilities. Almost all elementary schools are connected to the internet, and 4G or 5G signals cover almost all schools, with teaching equipment such as computers, multimedia devices, and interactive electronic whiteboards. Another important reason is that teachers and students largely do not rely on school equipment for mobile learning. Teachers and students basically use their own mobile devices such as phones, tablets, and laptops for mobile learning.

Secondly, our research found that administrative assistance has the most significant impact on English teachers' attitudes towards mobile learning. In today's highly developed internet and mobile communication facilities, it is becoming increasingly important to organize and manage teachers and students to use mobile learning for subject teaching or learning. School administrators can significantly improve teachers' attention and attitudes towards mobile learning by effectively organizing and managing the use of mobile learning by teachers and students, providing administrative and policy support and rewards.

Finally, our data shows that English teachers' attitudes towards mobile learning are also significantly influenced by access to training. The close relationship between ICT ability and mobile learning has been widely proven [15, 16]. The software and tools used by teachers and students for mobile learning are diverse and constantly updated. Therefore, teachers guiding students to use mobile learning need continuous training from the school to learn new software tools and newly developed features.

Based on the above research findings, this study proposes the following educational implications. Firstly, school administrators should provide better services for teachers' and students' mobile learning. Schools should study relevant theories and management knowledge related to mobile learning, develop a mobile learning method that suits their own school, and establish correct rules and regulations to regulate mobile learning. When necessary, encourage and reward teachers to improve students' subject learning effects through mobile learning. Secondly, school administrators should regularly invite technical experts, theoretical experts, and outstanding individuals in mobile learning to provide new technology and theoretical training for teachers, so that teachers can better use mobile learning to serve subject teaching.

It is worth noting that this study has the following limitations. Firstly, the sample size of this study is limited and mainly based on English teachers. Therefore, the findings of these studies may not necessarily apply to a more diversified group of teachers. In addition, the variables related to organizational support included in this study are only three, but in reality, organizational support may include more dimensions. We are still unsure of the impact of other possible dimensions on teachers' attitudes towards mobile learning. Finally, this study was conducted during the COVID-19 pandemic, and offline classroom teaching in schools during this period was greatly affected, which emphasized the importance of online learning methods such as mobile learning. This may also be one of the important reasons why administrative assistance has such a significant impact on teachers' attitudes towards mobile learning in this study. We are not sure whether this influence will continue to exist after the pandemic ends. Therefore, we hope that more researchers can join the study of this issue, and constantly obtain more comprehensive findings through more diverse research samples and related variables. At the same time, we also hope that follow-up studies after the pandemic can continue to examine whether organizational support will have new changes on teachers' attitudes towards mobile learning.

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