Moblogging Type and its Relation with Usability and Development Knowledge Management Skills for Blind Students

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Abstract:

The aim of the research was to explore the relation moblogging type (MB) on the usability and development Knowledge Management skills for Blind Students , the research followed a pretest and posttest quasi-experimental design .Participants were 17 blind students from the third semester of the academic year 2015 at the course of Computer Applications in Special Education - SPED 507 - the high diploma in Special Education (Visual Impairment branch) at the Program of Educational Graduate Studies at King Abdel Aziz University . The independent variable was MB type on two different levels : The first level independent variable text moblogging TMB and The second level independent variable audio moblogging AMB , Both quantitative and qualitative data were collected, including Knowledge Management skills test and usability measurement scores . findings indicate that AMB participants performed significantly better than TMB in Knowledge Management skills and There are no statistic significantly difference between the medium range degrees of student average scores for the first experimental group((TMB) and second experimental group (AMB) in the usability measurement for blind student related to MB type .

Keywords: *Mobile blog (moblogging)- Knowledge Management Skills – usability –blind – mlearning*

I. INTRODUCTION

Mobile technology is not only using for individuals interactive but also gaining prominence in education, the application of mobile technologies to learning has the potential to facilitate the active participation of learners in the creation and delivery of content. Mobile technologies can also provide a powerful connection between a variety of formal and informal learning contexts and can help to build a community of learners. However these versatile tools present challenges to educators and learners a like(Anna et al., 2009)

Cochrane (2010) potential of mobile Web 2.0 tools to enhance both the formal and informal teaching and learning environments with a focus upon mobile blogging (moblogging). A comparison of student and teaching staff feedback from each ofthe three projects provided a basis for identifying and illustrating critical successfactors within similar m-learning scenarios. Critical success factorsidentified include the importance of the pedagogical integration of the technology into theCourse assessment, lecturer modelling of the pedagogical use of the tools, the main page of MB included link of a personal pages and classification by student registration. Each posted article is listed

The MB system is useful and it furnishes students with well learning effect in collaborative learning environment, which is working with peers in the classroom and in the field as well as with students from other schools or countries towards a common outcome. In a mobile blog environment, students need not to meet each other but can make the collaboration effort to accomplish the learning goal of the lecture (Huang, et al, 2009).

Huang et al. (2009) design a mobile blog system, which enables mobile bloggers to publishtheir comments in authentic context anytime and anywhere. We show that with the help of the mobile blog system, we can establish a collaborative learning model for students in virtual classrooms. The results revealed from the learning outcome are positive and encouraging regarding the effectiveness of the supported collaborative learning model. In the conclusions, we discuss the findings and applications of the proposed system in collaborative learning.

The blind to be able to benefit from the internet, there should be some kind of technology to help him browse through internet browser, move between the sites, uploading, downloading files, filling out forms, and connecting with the others via Social networking platforms.

Blind depended on mobile not only contact with others but for many life tasking such as get information from internet to employedon the variety of life sides .The blind contact with MB by using screen touch program and listening audio file, they can interactive with MB by writing from touch keyboard or sound recording program.

The differences between mobile devices and desktop computers, different usability considerations must be applied. According to Budiu and Nielsen(2011)the main obstacles to mobile usability are download delays, small screens, and awkward mechanisms for providing input, especially for typing .

Knowledge Management (KMS) skills are important for blind because KMS plays a very important role in improving individual skills and ability, both individual and

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organizational; KMSimproves their competences. The roles of KMSare positively correlated to the values of KMS for individuals and organizations (Cheong &Tsui 2010). KMS is managing key information/knowledge so that it can be easily accessible when needed.,

Priti, (2011) explainKMS benefits to both individual and organizational : Improved productivity and performance; Continuous innovation; Effective decision making; Internal knowledge dissemination; and External information awareness. Thus, the major KMS skills can be characterizedas Life-Long Learning skills; Manage learning skills; Information literacy skills; Networking and collaborative skills; Research and observation skills; Communication & visualization skills; Creative and innovative skills; Latest information and communication technology skills; and Information management skills.

The need for the study Appears from the student blind needs to development there Knowledge Management by selection which is suitable MB type forblind', TMB or AMB for usability and development Knowledge Management skills .

II. LITERATURE AND THEORETICAL REVIEW

Defining Moblogging (MB)

BM is a method of publishing to a website or blog from a mobile phone or other handheld device. A blog is maintained by using a mobile device , MB has been made possible by technological convergence as blogger , WordPress , Tumblr , Weebly . MB has been able to write, record and upload different media all from a single, mobile device. At the height of its growth in 2006, mobile blog experienced 70,000 blog creations a day and 29,100 blog posts an hour(Cemerlang et al,2006)

Beale (2006) suggest key principles were developed after assessing bloggers' needs. These include:

(1) Mobile client must not interfere with phone functionality
(2) Mobile blog should integrate easily with existing blogs
(3) Client device needs to utilize the multimedia capabilities of a phone and be very easy to use
(4) Client should allow for management activities, such as editing and deleting
(5) Client should use cheap connectivity if available
(6) Client must cope with broken connectivity transparently.

MB helps habitual bloggers to post write-ups directly from their phones even when on the move(Knudsen, Jonathan , 2003).

Blind MB type

The MB one of mobile learning applications that Blinder can be used it, The MB has introduced many services to blind such: Improving Education quality, Reaching the databases, magazines and articles and giving the blind skills that help them to deal with different fields of life.

MB Usability for blind is how well a website fits with a blind user's conceptualization of completing online tasks it supports, Usability test can identify problems that annoy and discourage Mobile application users—problems that are often connected to low conversion rates or sales. These problems can be fixed, but only after, they are identified by observing people using the website.

The blind depended on touch and listening to interactive the content by Text moblogging (TMB) and Audio moblogging (AMB).

The blind depended on touch and listening to interactive the content by two type MB :-

- **Text moblogging (TMB) :**

  The blind contact with the content by Screen reader program such as (Ibsar , Hal , Jaws , Virgo), The screen readers convert the printed text to speech as shown in Figures 1

Figure 1. Text moblogging (TMB)

- **Audio moblogging (AMB)**

  the blind contact with the content by recording speech and blind listening

  Audio – file as shown in Figures 2

Figure 2.Audiomoblogging (AMB)

Table 1 show the different between the two type MB TMB and AMB

MB type	Text moblogging (TMB)	Audiomoblogging (AMB)
File type	Depended on screen reader program	Depended on audio file
File size	Small size file	large size file
listen	Listen by screen reader program	Listen by play audio program
speaker	Listen by more than voice speaker	Listen by only one human speaker
Mobile technology	Hardware :WiFi smartphone Software : blogger	Hardware : WiFi smartphone Software : sound cloud
Design	*Figure 1*	*Figure 2*

Table 1. show compare between TMB and AMB

2-2 Knowledge Management skills (KMS)

According to Professor Paul A. Dorsey of Millikin, University: Knowledge Management is best viewed as based on a set of problem solving skills that have both a logical or conceptual as well as physical or hands-on component. (Avery et al., 2000).

BecKMSan believed that Knowledge Management consists of 8 main steps: "identify, acquire, select, store, share, apply, create and sell." (BecKMSan, 1997).

Allee articulated that Knowledge Management involves four levels: capture, sharing, application andcreation (Allee, 1997)

ChenandHuang(2010) converts the Knowledge Management process into practical teaching methods. Without being limited by a classroom, learners can browse materials and share the experience with others. They can also personalize knowledge organization and save it ,The mobile Knowledge Management learning system offers each student a personal account storing and sharing information. It also records each student's schedule. Knowledge sharing methods should show how many articles users have posted to encourage the exchange and creation of knowledge. Group learning is recommended so that learners can participate in an organized way. Created knowledge has been divided into application of prior knowledge and exploration of new knowledge.

KMSis best viewed as based on a set of problem solving skills that have both a logical or conceptual as well as physical or hands-on component. (Avery et al., 2000).

Priti,(2011) explain KMS can be distinguished with the following characteristics:

- It focuses on personal knowledge;
- It refers to knowledge, which is important to an individual in personal, working and social capacities;
- It is the management of personal knowledge to make it easily accessible and usable; • It is the foundation for organizational knowledge management;
- It emphasizes the importance of KMS in order to improve organizational productivity; and, It is an ongoing activity KMS can provide the following benefits to an individual blind :
- Individuals can recognize their own value and consequently make better decisions for self-development;
- Individuals are better equipped to work and be more productive;
- KMS enables knowledge-based and informed decision-making;
- Employees feel motivated if given KMS tools and methods to make their lives easier and them more employable;
- It makes people innovative and think critically;
- KMS identifies the personal knowledge and skill gaps and builds on capacities;
- KMS manages personal human capital for professional excellence (Mart & Enache 2008; Cheong &Tsui 2010).

The research organizes the Knowledge Management skills process into seven KMS skills in the proposed KMS framework by Dorsey (2001). KMS skills are: (1) Retrieving information, (2) Evaluating information, (3) Organizing information, (4) Collaborating around information, (5) Analysing information, (6) Presenting information, (7) Securing information.

The reason for choosing this framework by Dorsey (2001) is that the researcher believes that individuals are more likely to benefit from technologies, and minimize the challenges of using technologies if they optimize these skills properly. It is obvious that not all barriers and challenges of using technologies canbe solved by KMS skills, because some of challenges are out of the control of employees.

The researcher designed tasks Knowledge Management skills for blind two Task choice was guided by the researcher knowledge and experience with blind and in the view of studies. The tasks were: Google Maps by voice Searching.

2-3 MB Usability

Any system designed for people should be easy to use, easy to learn, easy to remember, and helpful to users. John Gould and Clayton Lewis recommend that designers striving for usability follow these three design principles (Gould, Lewis,1985) , Usability is how well a website fits with a blind user's conceptualization of completing online tasks it supports(Babu , 2011) such as user friendly and easy to use.

Bevan (2008) suggests that the definition of usability can be extended to encompass user experience by interpreting satisfaction as including:-

(1) Likability: the extent to which the user is satisfied with their perceived achievement of pragmatic goals, including acceptable perceived results of use and consequences of use;

(2) Pleasure: the extent to which the user is satisfied with the perceived achievement of hedonic goals of stimulation, identification and evocation (Hassenzahl 2003) and associated emotional responses, for example Norman's (2004) visceral category;

(3) Comfort: the extent to which the user is satisfied with physical comfort; and

(4) Trust: the extent to which the user is satisfied that the product will behave as intended.

An effective usability test has to be able to elicit feedback from users about whether they use an application without (or almostwithout) difficultyand how they like using the application, as well as evaluate levels of task performance achieved by users (Wichansky, 2000), however we believe that it should be seen as an important attribute of a mobile system, when used in a certain context. This interpretation complies with the definition given inthe documentation of the ISO standard, ISO 9241-11:"Usability: the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." (Bevan 2001)

As Jakob Nielsen puts it in Mobile Usability, "It's neither easy nor pleasant to use the Web on mobile devices"(Nielsen,2009).

Dillon (2001), while sharing the view that a move beyond usability is needed in the design and evaluation of E-Systems, suggests that an emphasis on three key issues of users 'interaction with E-Systems is also required:

(1) Process: what the user does, for example navigation through a website, use of particular features, help, etc. This allows the development of an understanding of users' moves, attention and difficulties through an E-System;

(2) Outcomes: what the user attains, for example what constitutes the goal and end of the interaction. This allows an understanding of what it means for the user to feel accomplishment or closure with the E-System

(3) Affect: what the user feels; this includes the concept of satisfaction from the definition of usability, but goes beyond that to include all emotional reactions of users, which might be empowered, annoyed, enriched, or confident. This allows the development of an understanding of users' emotional interaction with E-Systems and what interaction means for users .

Catalin et al.(2013) show Usability applies to several layers of a mobile system and acts differently, being highly dependent on a user education in terms of mobile systems. The layers to which usability applies are:

(1) user - mobile device interactions; how the buttons are positioned; what are the nearest functions that can be made with a single push of a button describing the ergonomic characteristic;

(2) operating system's usability; how well the OS manages applications, resources; what features can easily be of service when special functionalities are needed; how fast tends to respond to user-device interactions;

(3) user controls diversity; the power to cover as many requirements as needed by offering users controls that can implement not only basic functionalities but also combining between them in order to achieve complexity with high usability;

(4) data validation is another layer that is strictly dependent on the usability metric, that being closely related also with the general security level.

There are several advantages of performing usability testing of MB applications (e.g., Gose,Riddle,2014 ; Peterson, 2013) and There are various guidelines for usability testing of MB , Both accessibility and usability are necessary to derive the intended utility of Mobile website

Usability testing is often thought of as a method for finding flaws in a Mobile application such as : Questioners , focus group , prototype Test , Card sorting and heuristic usability but it also reveals what works. In a usability test, blind who are representative of the target audience are given realistic tasks to perform with the Mobile application , and what they do and what they say are observed by a research .

Bevan, (2008) suggest Methods for usability can be grouped into the following categories:

- Automated checking of conformance to guidelines and standards
- Evaluations conducted by experts
- Evaluations using models and simulations
- Evaluation with users or potential users
- Evaluation of data collected during E-System usage.

MB and Theory of learning

Cognitive learning theory – Theory of learning which states that learning involves the use of memory, motivation, thinking, and reflection (Ally, 2005).Andthe theory of Connectives based on a critique of previous main-stream learning theories synthetically labelled as Behaviorism, Cognitivistand Constructivism (Siemens, 2004).

Objectives of the Research

The major aim of the research was to investigate the possible relation between MB type and development Knowledge Management and usability for blind.

The need of Research

The need of Research was importance to the following :-

1 research may help MB designers by providing them suitable MB type for blind that may result is shift in technology utilization

2 The usability is aimed at assessing the features usability by improving the usability for blind

3 The necessity of knowledge skills for blind from several needs: social, educational, creative, professional and informative.

4 The Research supplies model that can be implemented inside different firms

5 To help the blind acquire the knowledge they share together ,putting aside their specialization ,graduation to developing their skills

6 The Research is an attempt to cope with the world contemporary attitudes in the using Innovation Assistive Technology for blind and many recommendations of conferences and Studies (Ally& Prieto-Blzquez,2014 ; Boeckers, 2013,Tutty& Martin , 2014)).

Research Questions:

The major aim of the research was to investigate the possible relation between MB type and development Knowledge Management and usability for blind so this research seeks to answer the following Questions:

1 What is the effect of the MB type (TMB /AMB) on development Knowledge Management for blind student ?

2 What is the effect of the MB type (TMB / AMB) on the usability for blind student?

Research hypotheses

- **H1:** There are statistically significant difference at 0.05 level between the medium range degrees of student average scores for the first experimental group((TMB) and second experimental group (AMB) in the Knowledge Management skills test for blind student related to the MB type
- **H2:** There are statistically significant difference at 0.05 level between the medium range degrees of student average scores for the first experimental group (TMB) and second experimental group (AMB) in the usability measurement for blindstudent related to the MB type

III. METHODOLOGY

3-1 Participants

The research final sample contains 17 blind students from the third semester of the academic year 2015 at the course of Computer Applications in Special Education - SPED 507 at the high diploma in Special Education – Visual Impairment at the Program of Educational Graduate Studies at King Abdel Aziz University .

All participants signed ethics consent and acceptable use agreements for the purposes of the research.

3-2 Independent variables

There are two independent variables in the present research. The first level independent variable TMB and The second level independent variable AMB

3-3 dependent variables

The two dependent variables evaluated by this research were blind: development Knowledge Management skills and usability for blind

3-4 Experimental Design

A pretest and posttest quasi-experiment designof the research was based on a quasi-experiment design research that employed a two factorial design. It was designed to examine the effects The independent variables were the twomodels of the MB and the dependent variable was development Knowledge Management skills and usability for blind(Table2)

type Blogging	MB type AMB)(AMB)	TMB(TMB)
group	Group 2	Group 1
No.	8	9
dependent variables	development management,	knowledge usability

Table 2. Quasi-Experimental Design

1.5. Data analyses

SPSS statistical package was employed to carry out these analyses, To answer the research questions, descriptive analyses were used to Shapiro-Wilk for Tests of Normality, And Mann-Whitney (U) - 2 independent samples Test for compare between the experimental groups (TMB and AMB) with respect to Knowledge Management skills and usability for blind.

IV. PROCEDURES

Procedures of the research were followedthrough an instructional design model (The ADDIE Model) which includes five main stages. (Fig. 3). The researcher modified the minor steps of the main stages depended on Elgazzar (2013) ISD model for developing eLearning environments

These procedures could be shown as follow

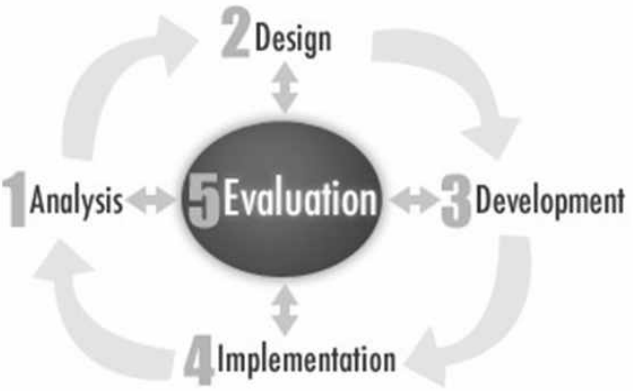

Figure 3 : ADDIE Model

4.1. The First Phase : Analysis

4.1.1. Adopt or establish ISD's standard for M-Learning Environment

4.1.2 Analyze targeted blind' characteristics, previous learning, pre-requisite learning, Knowledge Management skills.

4.1.3. Identify instructional needs for the M-Learning environment through normative needs, content analysis, or needs' Assessment.

4.1.4. Analyze available digital resources, Learning Content, Blog Management System (BMS), and available Learning Objects (LO), obstacles, and Limitations

Each of group that are classified according to the MB was divided into two group, one TMB and the other AMB.

4.2. The second Phase: Design

4.2.1 Design M-Learning environment's components:

- Driving instructional objectives-IO in ABCD format (Based on needs), analysis of IO and sequencing their instructional hierarchy.
- Identifying content elements for IOs and group them in modules/lessons.
- Design learning experiences: resources and activities, learner's self or group
- Interactions, possible blending, Mobile web links, and role of teacher/tutor for each objective.
- Choosing alternative elements of multimedia for learning experiences in resources and activities, and make their final multimedia selections.
- Designing message and storyboards for the selected media for resources and activities.
- Designing navigation techniques, instructional control, and learner interface.
- Designing for learning/ instructional models, design variables, learning theories, collaboration/cooperation, content structures, Gagne's [14] events, or any design innovations.
- Select and design synchronous/asynchronous communication tools in/out environment.
- Design learners' registration and management, grouping and learners 'support systems.

4.2.2 Design eLearning Environment's information and components' layout :

- Design layout of components, navigation, guides and help, glossaries, and M-Learning environment open/closed access.
- Design basic information: label, banner, logo, developers, and etc.

4.2.3 Design Evaluation and Tests: KMS and UM .

- **Knowledge Management skills test**

  KMS test was developed, based on the objectives and content course by the researcher to examine blind students' knowledge management.

  The KMS test Content blit by revised a variety of practical Arabic studies which, in turn,designed tests to measure the Knowledge Management skills And theoretically it included KMS , the skills that relate to the ability of know mony by voice search .

  The Expert (specialists within the field of instructional technology and in Special Education – Visual Impairment) validity was achieved through the cooperation of an experienced blind instructor and it The consisted of parts: vocabulary, grammar, listening, reading, and writingthe total for each section was 60, with a total score of 60.

- **The Usability measurement**

  This scale is scored on a 70 items for Usability by Likert scale, Responses to these items were made on a Likert-type scaleranged as follow: 1 "Strongly Disagree", 2 "Disagree", 3"Neutral", 4 "Agree", and 5 " Strongly Agree" , therefore, the total score for the test was 140. The overall Cronbach's a of the UM was 0.79 some interesting studies on the usability testing of mobile applications.

4.3. The third Phase :Develop

4.3.1. Produce M-Learning environment components:-

- Accessing/obtaining available media, resources, activities, and learning objects.
- Modifying or producing multimedia, resources, activities, and other components.
- Digitization and storing multimedia elements.

4.3.2. Produce M-Learning environment's information and components layout.

4.3.3. Produce M-Learning environment prototype:

- Upload or link eLearning environment' components and external links.
- Setup lessons/modules, communication tools, and learners' registrations and grouping
- Finalize prototype and make it ready for formative evaluations

4.4. The fourth Phase : Implementation

Before starting the experiment, the researcher arranged several meetings and discussions to help the blind understand the research procedures,The researcher designed 4-week lesson plans and course activities for first semester.

This research adopted a pretest and posttest quasi-experimental design with two research groups' students completed KMS test as pretest at the beginning of the semester (week 1). Afterward, they completed the three tests (KMS, U M) and interviews as posttests the experimental group. Figure 4 describes the data collection time line for this research.

Meeting Pre- KMS TMB & AMB Activity Post-(KMS& UM)

Figure 4. The procedure of the experiment

4.5. The fifth Phase : Evaluation

KMS and UM post-test was implemented in this phase, in addition to monitoring results and Transferring them into a program SPSS 17.0,Then making statistical processes, analyzing and discussing results, as this will be mentioned later in this research.

Pre application Results showed that by using SPSS program to verify the natural distribution of the KMS pre-test for experimental groups by using Shapiro-Wilk Test results for natural distribution of KMS pre- test scores($p>0.05$) The result shows analysis outcomes: in the experimental groups, there is no significant difference at the 0.05 level from the natural distribution for KMS pre-test scores.

According to these results, the data is natural distribution; hence, Mann Whitney parametric test was calculated by SPSS to complete results analysis Table 3 displays Mann-Whitney test results, rank mean values for both groups (TMB and AMB), Z test statistical values, and observed significance.

MB type Group	N	Mean Rank	Sum of Ranks	Z	U
TMB Group 1	9	9.33	84.00	.290	33.00
AMB Group 2	8	8.63	69.00		
total	17				

Table 3. Mann-Whitney U Test between TMB and AMB

Analysis finding showed sig=0.81. This means that there is no statistically significant differences at the 0.05 level between two groups of mean ranks TMB and AMB in the KMS pre-test scores, Pre-implementation of the KMS refers to Homogeneity and equality of the two groups of research because the two groups have the same experience because they the first time they go through this MB experience

The actual application of the experimental study of the research show in Figure 5

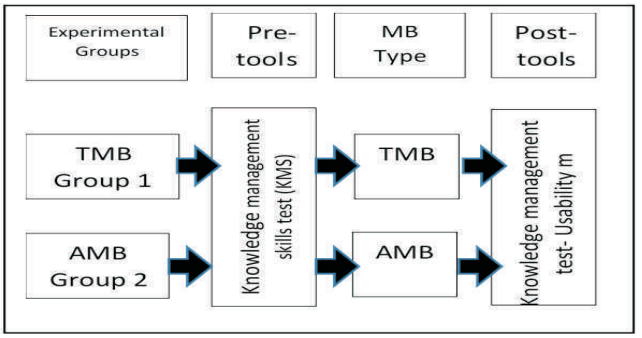

Figure 5. Experimental Treatments Design

V. RESULTS AND DISCUSSION

1- What is the effect of the MB type (TMB / AMB) on development Knowledge Management for blind student ?

Results showed that by using SPSS program to verify the natural distribution of the KMS test for experimental groups by using Shapiro-Wilk Test Post- test scores($p>0.05$) The result shows analysis outcomes: in the experimental groups, there is no significant difference at the 0.05 level from the natural distribution for KMSPost-test scores.

According to these results, the data is natural distribution; hence, Mann Whitney parametric test was calculated by SPSS to complete results analysis Table 4 displays Mann-Whitney test results, rank mean values for both groups (TMB and AMB), Z test statistical values, and observed significance.

MB type Group	N	Mean Rank	Sum of Ranks	Z	U
TMB Group 1	9	8.67	78.00	.291	33.00
AMB Group 2	8	9.38	75.00		
total	17				

Table 4. Mann-Whitney U Test between TMB and AMB

Analysis finding showed sig=0.04. This means that there is statistically significant differences at the 0.05 level between mean ranks TMB and AMB in the KMS test scores to AMB Group 2

From the Mann-Whitney U Test result shown in Table 4, it can be discovered that KMS in AMB is higher than TMB . Therefore, AMB designed in MB can be easily recognized by blind users with their KMS.andmost Arabic screen reader need more qualitative in speech text in TMB , there is no wrong speech text in AMB

So the the validation of hypothesis is accepted.

2- What is the effect of the MB type (TMB / AMB) on the usability for blind student?

Results showed that by using SPSS program to verify the natural distribution of the UM test for experimental groups by using Shapiro-Wilk Test scores($p>0.05$) The result shows analysis outcomes: in the experimental groups, there is no significant difference at the 0.05 level from the natural distribution for **usability** scores.

According to these results, the data is natural distribution; hence, Mann Whitney parametric test was calculated by SPSS to complete results analysis Table 5 displays Mann-Whitney test results, rank mean values for both groups (TMB and AMB), Z test statistical values, and observed significance.

MB type Group	N	Mean Rank	Sum of Ranks	Z	U
TMB Group 1	9	8.39	75.50	.532	30.5
AMB Group 2	8	9.69	77.50		
total	17				

Table 5. Mann-Whitney U Test between TMB and AMB

From the Mann-Whitney U Test Analysis finding showed sig=0.60 This means that there is no statistically significant differences at the 0.05 level between mean ranks TMB and AMB in the UM scores ,Because MB platform offers the capability to use a phone for administration, editing and writing from a phone or smartphone browser. There are services and platforms which present different versions of a blog administration interface based on user agent.

So the the validation of hypothesis is accepted.

And Mobile blogging also promotes the dissemination of ideas and perspectives of younger people, who previously have not had as many easily accessible platforms to present their views (Rigby, 2008).

VI. LIMITATION OF THE STUDY

Key limitations to the study are: the use of pretest and posttest quasi-experiment design that employed a two factorial design.

It was designed to examine the effects The independent variables were the twomodels of the MB and the dependent variable was development Knowledge Management skills and usability for blind, the limitations of the study organized and, applied to two groups of blind students (Program of Educational Graduate Studies):

- TMB Experimental group 1 (9) students.
- AMB Experimental group 2 (8) students

AMB participants performed significantly better than TMB in Knowledge Management skills and There are no statistic significantly difference between the medium range degrees of student average scores for the first experimental group((TMB) and second experimental group (AMB) in the usability measurement for blind student related to MB type .

VII. RECOMMENDATION AND FUTURE RESEARCH

Recommendations for future research stemming from the current studyMB can also improve educational outcomes and enhance the quality of instruction for blind , It is essential to develop and adopt MB tools to evaluate the usability of mobile applications , So far, most usability studies of blind MB deal with text and audio . Few studies have focused on usability testing of MB type applications. This raises an interesting and even more challenging researchQuestion: how can usability of MB applications be evaluated effectively?

As the study has shown a significant effect for AMB type in the mobile learning environment, future studies of this nature could be similar in construction to the current studywould be to design and validate a contemporary instrument for measuring self-regulation.

VIII. CONCLUSION

It can be concluded from the present research that the effects of MB transformative IT mobile instructional strategy, this study provides evidence of suitable MB type (TMB/AMB) .the AMB is suitable for blind because Arabic screen reader (text to speech) must be development .

IX. ACKNOWLEDGEMENTS

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