Mobile Learning in Developing Countries

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Version: Version of Record

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M-Learning Applications

Teaching and Learning

M-learning can complement other teaching and learning methods and be used in workplace training. It can also be used in remote and low-resource settings. It is effective for both formal and non-formal education. The following sections provide examples of how m-learning can be used in different educational contexts.

Transmitting Content

Use lectures, seminars, books and handouts. Web pages and computerized applications such as learning management systems and devices. Use m-learning to deliver content in smaller, more manageable chunks. Support students in learning, develop methods that can be used in a classroom setting, and focus on blended learning approaches. It can also be used to develop and support interaction and discourse among students who have never met each other, or that have, face to face.

M-learning can also provide a range of content transmittal choices, but delivered in smaller, more manageable chunks, such as daily or weekly topics, units and resources. Multiple choice quizzes will enable feedback. Knowledge and understanding of the learner. Following links to selected websites. Glossary, vocabulary information. A course or a series of courses.

An attention to subjectivity and context is possible using m-learning devices, or "improving the context". It’s developing content that is suitable for the learner and context. The context is thus, a mixture of the learner and the content.

Quality assurance is a key feature. A number of processes and strategies are used in validating content for technology-supported learning. These processes will be independent of the learning approach. Content rather than replacing them completely.

Shared Discussion

Use lectures, seminars, books and handouts. Web pages and computerized applications such as learning management systems and devices. Use m-learning to deliver content in smaller, more manageable chunks. Support students in learning, develop methods that can be used in a classroom setting, and focus on blended learning approaches. It can also be used to develop and support interaction and discourse among students who have never met each other, or that have, face to face.

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M-learning is an "anytime, anywhere" way to learn that enlarges access to education for all

**INTRODUCTION**

M-learning has developed widely in Europe, the United States and parts of East Asia, conventionally as mobile learning, and not necessarily as a form of mobile learning. The term is often used to describe the specific mobile learning applications, such as training or education, that are delivered to mobile devices, typically smartphones or tablets, using mobile networks or wireless technologies. M-learning can use any combination of mobile devices, including smartphones, tablets, laptops, and even smart watches, to deliver content to learners in a variety of settings, including schools, workplaces, and homes. M-learning is often used to deliver information or training to learners in remote or rural areas where traditional learning environments are not available. M-learning can also be used to support learners with disabilities, such as those with hearing or visual impairments, by providing accessible content and delivery methods.

**USER INTERFACE AND DATA ENTRY**

Handheld mobile devices provide a great deal of flexibility in accessing and managing information. They can be carried anywhere, and their small size and portability make them ideal for learners who need to access information on the go. M-learning applications can be developed for a variety of mobile devices, including smartphones, tablets, and laptops, to provide learners with easy access to educational content.

**POWER SUPPLY**

M-learning applications can be powered by rechargeable batteries, which are often used to provide learners with access to information while they are away from their homes or workplaces. M-learning applications can also be used to deliver content to learners who do not have access to a power source, such as learners in remote or rural areas.

**INFRASTRUCTURE, TECHNOLOGY AND HARDWARE**

M-learning applications can be delivered to learners using a variety of technologies, including mobile networks, wireless technologies, and cloud computing. M-learning applications can be delivered to learners using mobile networks, such as 3G, 4G, or 5G, or using wireless technologies, such as Wi-Fi or Bluetooth. M-learning applications can also be delivered to learners using cloud computing, which allows learners to access educational content from any location.

**IMPLEMENTATION STRATEGIES**

When implementing M-learning applications, consider the following guidelines:

1. **Identify the target audience**
   - Identify the learners who will benefit from M-learning applications.
   - Consider the learners' needs, preferences, and learning styles.

2. **Design the content**
   - Design educational content that is engaging and accessible.
   - Consider the learners' level of prior knowledge and their learning goals.

3. **Select the delivery platform**
   - Select a delivery platform that is compatible with the learners' devices.
   - Consider the learners' needs and preferences when selecting a delivery platform.

4. **Develop the assessment strategy**
   - Develop assessments that are aligned with the learning outcomes.
   - Consider the learners' needs and preferences when selecting assessment strategies.

5. **Evaluate the effectiveness of the M-learning application**
   - Evaluate the M-learning application using qualitative and quantitative methods.
   - Consider the learners' needs and preferences when evaluating the effectiveness of the M-learning application.

6. **Secure the content**
   - Secure the content to protect it from unauthorized access.
   - Consider the learners' needs and preferences when securing the content.

7. **Monitor the feedback**
   - Monitor the feedback from learners to improve the M-learning application.
   - Consider the learners' needs and preferences when monitoring the feedback.

**APPLICATION PROGRAMS**

M-learning applications can be delivered to learners using a variety of applications, such as mobile apps, web apps, or desktop apps. M-learning applications can be delivered to learners using mobile apps, which are designed specifically for mobile devices, or web apps, which are designed for web browsers.

**TECHNOLOGICAL CONSTRAINTS**

M-learning applications can be limited by technological constraints, such as network connectivity, hardware limitations, and software limitations. M-learning applications can be limited by network connectivity, which can affect the delivery of content to learners. M-learning applications can be limited by hardware limitations, such as the size and power of mobile devices, which can affect the delivery of content to learners. M-learning applications can be limited by software limitations, such as the availability of educational content, which can affect the delivery of content to learners.

**CONCLUSION**

M-learning is a powerful tool for delivering educational content to learners in a variety of settings. M-learning applications can be used to deliver educational content to learners who do not have access to traditional learning environments, such as learners in remote or rural areas. M-learning applications can also be used to deliver educational content to learners who do not have access to a power source, such as learners in remote or rural areas. M-learning applications can be used to deliver educational content to learners who do not have access to a power source, such as learners in remote or rural areas.
M-learning is an “anytime, anywhere” way to learn that enlarges access to education for all

INTRODUCTION

M-learning has developed widely in Europe, the United States and parts of East Asia, certainly in English and, to a varying extent, in Nigeria, Singapore, Thailand and Vietnam. Despite some concerns about the suitability of mobile phones for teaching and learning, there is now a widespread understanding of the potential of mobile devices for enhancing education. In some cases, mobile devices have replaced traditional textbooks, and in others supported learning in parts of the world where traditional classrooms have never existed.

At present, M-learning has developed mainly in Europe, the United States and in some developing countries. In some of these regions, it has become an important part of the education system. However, in developing countries, mobile technologies potentially deliver educational opportunities not available with traditional learning methods. M-learning is an “anytime, anywhere” way to learn that enlarges access to education. It is a way to learn that is not constrained by time or place. It is a way to learn that is not constrained by cost. M-learning can complement other forms of education, whether in formal or informal settings.

M-learning can complement other teaching and learning methods or replace them.

MOBILE SYSTEMS AND CHALLENGES

Handhelds at all mobile devices

• Are about the same size and weight as a personal digital assistant.
• Usually have a screen in “face-up” orientation, making it difficult to see in some locations.
• Have connectivity issues on the road.
• Are usually used as an add-on to a desktop or laptop.
• Have a mobile interface or a “pedagogical” presence.
• May have presses and buttons on the screen.

INFORMATION STORAGE AND MEMORY

• Handhelds are an example of the most portable and inexpensive, but cost-efficient computing experience. Accessing software programs comparable to desktops is a dream to experience. At times, the nature of mobile computing is more expensive and scarce, alongside desktop and laptop computers.

POWER SUPPLY

• Cannot handle the power efficiently more than that of their predecessors.
• Access to emergency batteries can also be a challenge to all mobile devices.
• Have limited and variable power supply, making it difficult to use in remote or challenging environments.

SOFTWARE PROGRAMS

• A software program like an Internet browser for a desktop or laptop is not available for mobile devices.
• The software program is designed for a desktop or laptop, and cannot be used on a mobile device.

SYNCHRONISATION AND BACK-UP

• Synchronisation of data is not a feature that is available on mobile devices.
• Back-up of data is not a feature that is available on mobile devices.

OPERATING SYSTEMS

• Mobile devices with an operating system that is not run on its integrated operating system.
• Apple devices do not support desktop applications.
• Windows devices are limited to desktop applications.

INTRODUCING M-LEARNING

M-learning is a new and challenging way to learn. M-learning has developed mainly in Europe, the United States and in some developing countries. In some of these regions, it has become an important part of the education system. However, in developing countries, mobile technologies potentially deliver educational opportunities not available with traditional learning methods.

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**MOBILE SYSTEMS AND CHEAP DEVICES**

Handhelds at all mobile phones:

- Are about the same size and weight as a personal mobile.
- Have a screen and keypad, and a memory card slot.
- Connect to the Internet via various methods.
- Can be used in standalone mode or connected to a computer.
- Can be used for voice calls and SMS.
- Can be used to access the Web and download applications.
- Can be used for games and entertainment.
- Can be used for education and training.
- Can be used for social networking.
- Can be used for communication.
- Can be used for remote work.
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M-LEARNING APPLICATIONS

TEACHING AND LEARNING
M-learning can complement other teaching and learning methodologies such as distance learning. It can enable students to learn at their own pace. Learning environments will have to adapt to the challenges it brings, and new types of learning will be necessary.

SHARED DISCUSSION

Use student discussion during seminars, discussions and tutorials, perhaps even in classroom settings. This will facilitate a more collaborative learning environment.

USE STUDENT DISCUSSION

Professional, informal and social learning environments will benefit from the use of m-learning technologies. These can include web conferencing, email, cell phones and other mobile devices.

FURTHER MATERIALS

BIBLIOGRAPHY


WEBSITES


EDUCATIONAL ARTICLES


KNOWLEDGE SERIES

MOBILE LEARNING IN DEVELOPING COUNTRIES

Mobile Learning in Developing Countries

John Traxler, Teaching and Learning Research Fellow, Centre for Learning and Teaching, University of Wolverhampton, U.K.

Agnes Kublakul-Hulme, Senior Lecturer in Educational Technology, Institute of Educational Technology, The Open University, U.K.

The Knowledge Series is a topical, start-up guide to distance education practice and delivery. New titles are published each year.

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M-learning is one of the most promising of these new technologies, and it is clear that the use of mobile devices is likely to become widespread. The rapid growth of m-learning in developing countries is a result of the widespread use of mobile devices, especially cell phones, which provide a low-cost and accessible way to access educational materials. Mobile devices can be used to provide a variety of learning experiences, including access to educational resources, social networking, and communication with teachers and peers.

MOBILE LEARNING IN DEVELOPING COUNTRIES

A TOPICAL, START-UP GUIDE TO DISTANCE EDUCATION PRACTICE AND DELIVERY

Mobile Learning in Developing Countries

John Traxler, Teaching and Learning Research Fellow, Centre for Learning and Teaching, University of Wolverhampton, U.K.

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TEACHING AND LEARNING

M-learning can complement other teaching and learning approaches or replace them, and can contribute in its own right to other methods. It can also tie in non-student and peer support to student support, such as

- Personal care, feedback, and interaction
- Maintaining and guiding

- Supporting students in the classroom
- Course administration and management
- Institutional quality assurance

Some negative aspects of learning include the possibility that students may feel

- Pressure to learn or train anywhere, at any time
- Conditions which take away technology from their own use
- Decision which make it impossible, such as and issues around privacy

These make up the professionals and develop a virtual tool.

TRANSMITTING CONTENT

Localisation, features, tools and climates. Web pages and computer-based learning packages from teacher to student, as a guide. M-learning offers a range of content transmission choices, but delivered in smaller packages, such as

- Daily in-class key points, reminders, and activities
- Multiple-choice quizzes with immediate feedback
- Knowledge and skill of learning

- Concepts or definitions for revision.
- Following links to selected websites.
- Glossary of course terms.
- Describes a series of resources

An attention to subject-level pedagogy present in an online device, or "teaching" the content, is not taught in a content that can be found in websites with academic materials that are available as part of course. It is also not guaranteed in the materials available, or the content is available.

Quality assurance is the most important and ensuring effective validation methods for technology-supported learning. This process will be influenced by the learning environment of the device, rather than the learning environment.

SHARED DISCOVERY

Localisation, distributed learning, discussions, and other methods can be used in sharing and communicating. Technology can be used to share content, activities, and interactions, as well as to design and plan strategies of technology-based projects in sub-Saharan Africa. The Open University, U.K.

CASE STUDIES

University of Wolverhampton, U.K.,

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