Mobile Learning
in
English Language Learning:
An implementation strategy for
secondary schools in Malaysia

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Contents

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Preface

In introducing **English vocabulary learning through mobile phones** in Malaysian secondary schools, an implementation strategy is developed. The objectives of introducing English vocabulary learning through mobile phones are to bring **added value for English Language efforts in Malaysian secondary schools** and as an **alternative in using affordable technologies to support teaching and learning**. The need for the research was also based on the rise of mobile learning interests in Malaysia. It also addresses the need for guidance towards the implementation in Malaysian secondary schools.

The implementation strategy is formulated by taking into consideration the following matters:

1) Existing policy of the Ministry of Education in Malaysia to utilise ICT in teaching and learning.

2) Vision of the Malaysian Smart Schools' implementation to utilise ICT which also includes mobile technologies.

3) Justification from the academic literature related to mobile technology integration in schools.

4) Opinion from educational experts in the United Kingdom: English Language subject leaders, ICT subject leaders and head teachers.

5) Opinion from educational experts in Malaysia: English Language subject leaders, ICT subject leaders, school principals, and officers from Educational Technology Division, Ministry Of Education, Malaysia.

Objective of this document is **to propose a strategy for the implementation of mobile learning for English Language learning in Malaysian schools.**

This document is divided into two parts:

Part 1: Mobile technology integration into the curriculum. It consists of the overview of the suggested mobile lessons and infrastructure.

Part 2: Policy & procedure of implementing mobile learning at school. It consists of the policy and procedure developed for the implementation.

Introduction

- **Examples of schools which utilised mobile phones** for teaching and learning are:

i) **Notre Dame High School in Sheffield, United Kingdom**:
Mobile phones are used in various learning activities such as in science experiment or in geography field trips. The implementation was supported by an acceptable use policy to ensure that mobile phones are used productively for teaching and learning.

ii) **Wiregrass Ranch High School, United States of America**:
The school principal believes that mobile phones can be a powerful assistive technology if used in appropriate context. Students are guided by appropriate rules in using mobile phones productively for learning purpose.

iii) **Otumoetai Intermediate School, New Zealand**:
Mobile phones are used in various subjects such as literature and mathematics as well as note takers. The response among the stakeholders; parents, staffs and students are positive. School's management was complimented for introducing the programme.

- For Malaysian secondary schools, initially, mobile phones are suggested to be used in English Language subject. In the future, mobile phones can also be utilised in other subjects. For example, mobile phones can be used in various learning activities such as in field trips and homework.

- The implementation is proposed to be introduced gradually. It is suggested to begin with one level to another.

- **To compensate existing policy at Malaysian schools**, the delivery of the mobile lessons will be conducted during **out-of-school hours** and **during school holidays**.

- Mobile learning is **suitable to be implemented at smart schools**, parallel to the vision of the smart schools which encouraged the use of ICT in teaching and learning.

- For other schools, it would be appropriate to be offered to students as optional learning tool.

Part 1: Mobile technology integration into the curriculum

1.1 Mobile lessons

This section includes suggestions regarding the content and structure of the mobile lessons.

- The researcher proposes to introduce **mobile lessons through Short Message Service (SMS)**, which consists of **vocabulary introduction and explanation, vocabulary review through multiple-choice questions and feedback mechanism**.

- The design of the mobile lessons replicates previous projects in vocabulary-learning through mobile phones. One of them is SMS-ME ENGLISH from LTT Global Communication, Malaysia. Another application which has been studied is Vidiom, which delivers visual explanation of English idioms. The mobile lessons are also based on the initiative of Learning Italian via SMS, an application which supports Italian learning and uses SMS as the mechanism to deliver vocabulary.

- The objective of the mobile lessons is to provide interactive learning activities, which will support vocabulary acquisition for secondary school students in improving their command of English Language. The mobile lessons are **suitable to be integrated into learning activities at schools** such as listening, speaking, reading and writing.

- The mobile lessons will **conform to the syllabus** provided by the Ministry of Education, Malaysia. The mobile lessons will be used as a supplementary to support teaching and learning; **for enrichment and preparation**. For example, in regards to enrichment, it is suitable to be used to revise the vocabularies that students have learned previously. In regards to preparation, it is suitable to be used for pre-writing.

- A list of vocabulary which is appropriate to be used by secondary school will be based on the Syllabus and Curriculum Specification of the Curriculum Development Centre, Ministry of Education, Malaysia (http://www.ppk.kpm.my/). It is also suitable to introduce science, mathematics and technical terminology and vocabulary from other sources to enrich students' knowledge.

- There will be four sections in the mobile lessons:
a) **Introducing vocabulary** (pronunciation in Malay Language and meaning in English Language and Malay Language).
b) **Showing the usage** of the vocabulary.
c) **Reviewing** the vocabulary.
d) **Feedback** mechanism.

As an example, the word "**envy**" is obtained from the syllabus:

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a) Introducing vocabulary (pronunciation in Malay Language and meaning in English Language and Malay Language).

envy

Pronounce as (*envi*)

Meaning in English Language: a feeling of discontent and ill will because of another's advantages or possessions.

Meaning in Malay Language: *perasaan tidak puas hati dan sakit hati terhadap kelebihan atau kepunyaan orang lain.*

b) Showing the usage of the vocabulary.

Examples:
1. I just **envy** her ability to organise a grand open house for Hari Raya.
2. My friend looked with **envy** at my new SAGA car.

c) Reviewing the vocabulary.

Which one of the following is not the right usage for the word "**envy**"?
A. I just **envy** anyone who performs better than me.
B. The angry son said he did not **envy** his mother's decision.
C. His **envy** caused him to damage my house.
D. The rich always **envy** the difficulties of the poor.

d) Feedback mechanism

Students will send SMS containing answers for quizzes directly to application server. An automatic feedback from application server will be delivered to students providing the answer and explanation. For example:

Students will type:

Q1: D to number 8888.

Students will receive:

Your answer is correct.
D is the correct answer because the example provided in D does not show the correct meaning of the word.

Figure 1: Example of the proposed mobile lessons

- Students will also be taught about root words and family words related to the vocabularies under specific themes. Sentences which will be provided in the mobile lessons will be Malaysian context and suitable to be used for English as a Second Language (ESL) learner.

- The mobile lessons will be divided into two levels; lower form (Form 1 to Form 3) and upper form (Form 4 to Form 5). It will be further divided into three levels which are beginner, intermediate and advance. Students will be able to choose appropriate levels which suits them.

- To make the mobile lessons more engaging, it is also useful to **apply multimedia elements**, such as sound and animation as exemplified in Mobile Malay Idioms for Malaysian primary schools students developed by researchers at Universiti Technical Malaysia.

- The delivery of the mobile lessons will be conducted **during out-of-school hours and during school holidays**.

- The researcher suggests to deliver the mobile lessons **three times a week**, every Monday, Wednesday and Friday. Students who attend school in morning session will receive their mobile lessons in the evening while students who attend school in afternoon session will receive their mobile lessons in the morning.

- The delivery of the mobile lessons will be as follows:
  i. On Monday, first six words will be delivered.
  ii. On Wednesday, another six words will be delivered together with previous words that have been delivered on Monday.
  iii. On Friday, students will repeat all words that they have learned through weekly quizzes.

- Another viable approach is **to enable students to request mobile lessons to be delivered to them whenever appropriate.**

- Teachers will be able to monitor students' progress via **Students Progress Tracking System**. The following figure illustrates the overview of the proposed system:
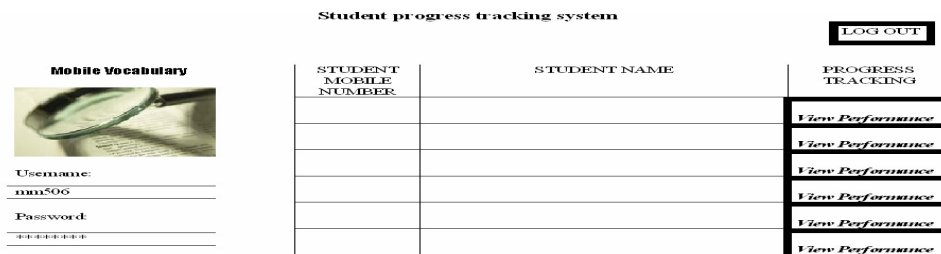

Figure 2: Students Progress Tracking System

- The **benefits of implementing mobile learning in vocabulary-learning**:

(i)   As a suitable medium for repetition or **drill and practice** for memory retention.

(ii)   Mobile technologies through SMS have an advantage as **"push" technology**, which **encourages students to study regularly**.

(iii)   As an **interactive learning activity** where students are able to receive immediate feedback.

(iv)   **Bite size lessons** are suitable for students' busy life. Mobile technology assists vocabulary-learning by providing learners with bite size lessons that enable them to study within limited time.

(v)   Encourage students to become **autonomous learners** by enabling them to monitor their own progress without over depending on teachers.

(vi)   As a study aid to **uniquely support English vocabulary-learning**.

(vii)   **Support personalisation** by customising mobile lessons according to students' level of performance.

(viii) Learning through mobile learning is **engaging and motivating**.

(ix)   As an **alternative to flashcards**.

(x)   Mobile devices are **cost-effective** in comparison to other computing devices such as networked computers.

(xi)   Among language-learning projects with mobile technology, vocabulary-learning is the most popular course after listening course.

(xii)   As a **formative assessment mechanism**.

(xiii) As a **blended learning tool**.
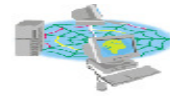
1.2 Resourcing mobile learning

This section includes suggestions regarding the facilities needed for mobile learning implementation.

- To implement mobile learning in schools, there is a need to consider the following **costs**: (i) mobile content development (ii) application server to deliver mobile lessons, receive students answer and to give feedback (iii) mobile phones (iv) mobile network (v) student progress tracking systems. The system architecture is shown in the following figure:
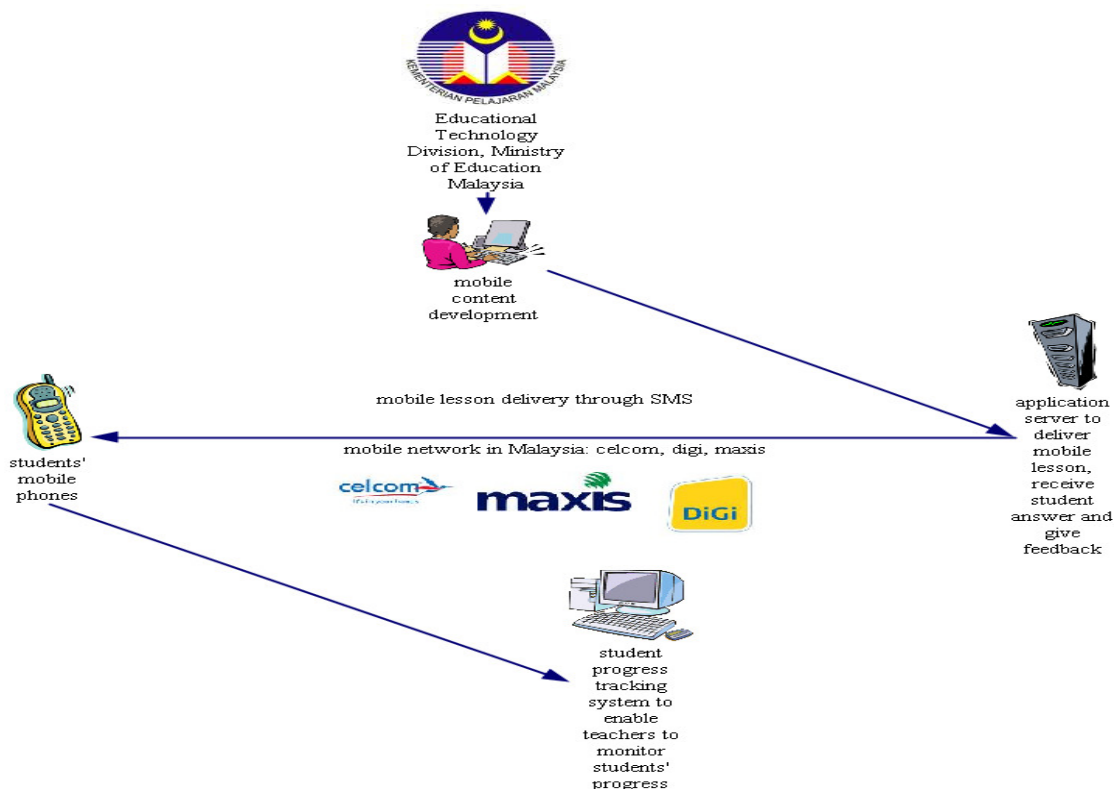
Figure 3: Facilities proposed for mobile learning implementation

- It is expected that the government will support the entire cost of the implementation.

- However, if there is a need to share the cost of purchasing mobile phones with parents, a practical option is to apply a scheme to enable parents to purchase mobile devices for their children. This suggestion will be explained further in 2.1 Implementation model, page 7.

- Another alternative is to use students' own devices.

- The **mobile phones** which will be used are **basic models**, most probably **below RM100** which is equivalent to USD32.

- It is also useful to use **specific models such as "Firefly" mobile phones** which are **designed specifically for children** (http://www.fireflymobile.com/). "Firefly" mobile phones are equipped with parental features to help monitor usage and keep costs under control. The mobile phones are priced from USD49.99 which is equivalent to RM150.

- As mobile devices become less expensive, other types of mobile devices such as smart phones, which provide better functions, might also be considered.

- Government might consider **cooperating with mobile phones companies** such as Motorola Malaysia and Sony Ericsson Malaysia by offering incentives for their contributions. Mobile phones companies might be able to support by providing easy-payment schemes.

- Regarding the **cost for developing content**, there is a company in Malaysia which already step ahead in producing mobile lessons. This company is known as LTT Global Communication. Government might consider to cooperate with this company by offering incentive for the contribution towards Malaysia Educational System.

- In addition to local companies, **collaboration with local universities** in developing the content should also be encouraged. Recently, there are some universities in Malaysia, which have conducted mobile learning projects.

- The use of **open source software** might also be considered.

- The cost for providing mobile network might be reduced by **collaborating with network providers** in Malaysia, namely Digi, Celcom and Maxis. These companies should be encouraged to contribute to mobile learning implementation by the offer of incentives.

- The aforementioned suggestions will ensure effective approach in preparing the facilities for the implementation.

Part 2: Policy & procedure of implementing mobile learning at school

2.1 Implementation model

This section includes suggestions regarding the strategy which will be applied to enable all students to have equal access to mobile devices.

- In order to provide opportunities for all students to acquire mobile devices, there will be two options:

1) **Purchase scheme** - parents will pay for the devices. The total cost of the mobile devices will be spread over five years, which is for the whole duration of secondary school education (from Form 1 to Form 5). Students will get full ownership of the devices. A **Financial Responsibility Agreement** will be signed by parents and students indicating:
    (i)   Monthly or annual instalments which need to be paid.
    (ii)   Other costs that may incur. For example, payments for insurance, additional warranty coverage for the device, accidental damage protection and payment to repair the devices.

2) **Loan scheme** - students will loan the devices. This model is proposed specifically to students who are unable to purchase the devices. It is similar to the procedure in "Text Book Loan Scheme" which is being implemented in Malaysian schools. In this model, a **Loan Scheme Agreement** will be signed by parents and students indicating their responsibilities for the devices:
    (i)   To care for the devices.
    (ii)   To pay for damage or loss of the devices.
    (iii) To return the devices in good condition during school holidays and when transfering to other schools.

3) Instead of Loan Scheme Agreement, another approach is to ask deposits for loan devices. At the end of the year, deposits will be returned if there is no damage.

4) For students who come from low-income family, it is also reasonable to use Parents Teachers Association fees or student support fund to purchase mobile devices.

- The aforementioned suggestions will ensure that all students will have opportunities to acquire mobile devices regardless of their financial situations as well as to minimise the financial burden on parents.

2.2 Acceptable use policy

This section includes suggestions regarding the regulations which will guide the students in using mobile technologies productively for learning purpose.

- **To prevent and to eliminate problems associated with intentional and unintentional misuse of mobile technologies**, an acceptable use policy should be established. It will be paralleled to existing rules at schools.

- In the acceptable use policy, parents and students will be informed regarding the inappropriate behaviour pertaining to the use of the devices.

- Inappropriate behaviour might include:

1) Sending malicious contents or messages to other people.
2) Sending abusive or harassing messages to other people.
3) Installing unauthorised programs (for devices which are being loaned).
4) Vandalising or stealing data/devices.
5) Accessing illegal or inappropriate content.
6) Using devices in an inappropriate manner which will lead to damage.
7) Other inappropriate behaviour that may occur as implementation takes place.

- In the acceptable use policy, parents and students will also be informed about the consequences of misconduct.

- Consequences of misconduct might include:

1) Verbal warning.
2) Official warning.
3) Caning.
4) School suspension.
5) School expulsion.

- Parents and students will sign a **Consent and Waiver Form** to indicate that they have understood the content of the acceptable use policy.

- The aforementioned suggestions will help to prevent and eliminate the implications of improper use of mobile devices.

2.3 Management and maintenance

This section includes suggestions regarding the strategies which will be applied in managing and maintaining the equipment.

- To implement mobile learning, there is a need to apply **procedures for the management and maintenance of the equipment**.

- The procedures are as follows:
i)   All devices which will be loaned to students should be marked with serial numbers as well as school's name.
ii)   School should keep a systematic inventory of the devices for easy identification. This is useful so that a device can be returned to its owner in the event of lost or misplaced.
iii) All devices should be provided with protective case which will help to reduce damage.
iv)   It is also useful to consider adopting mobile theft solution, which will track and recover stolen or missing mobile devices. Ideally, it should be offered as optional for high-cost devices. For low-cost devices, purchasing new mobile phones for replacement is more cost effective.
v)   In order to ensure that learning activities will not be interrupted while the devices are sent for repair, school should provide temporary supplies or loan stocks to students.
vi)   School should also determine where to send the devices for repair in case of faulty.
vii) When appropriate, insurance or additional warranty coverage should also be purchased. Although this may incur additional expenses, purchasing insurance is a good investment.
viii) Utilising basic mobile phones' will make them less attractive to thieves and will help to eliminate insurance fraud where students deliberately lose them with the intention to claim money.
ix)   It is useful to promote student awareness to have responsibility towards the devices. In addition, it is also beneficial to give students the opportunity to customise their devices. This is to boost sense of ownership which will eventually initiate students responsibility towards the devices.

- The aforementioned suggestions will ensure effective management and maintenance of the equipment and will help eliminate loss, damage, theft and other unwanted incidence.

2.4 Specific roles for supporting mobile learning at school

This section includes suggestions regarding the specific roles needed for the implementation.

- To implement mobile learning, there is a need to assume or assign specific roles, namely English language subject leader (*Ketua Panitia Bahasa Inggeris*), technical support staff (help desk) and students as maintenance assistant.

- The roles of an **English language subject leader (*Ketua Panitia Bahasa Inggeris*)**:
i)   To coordinate mobile learning implementation for English subject.
ii)   To provide on-going support to English language teachers throughout the implementation.

- Arrangement for **technical support staff (help desk)**:

A) Providing additional technical support staff
i)   Additional technical support staff should be considered for large schools.
ii)   It is also suitable to be offered as part-time work.

B) Using existing technical support staff
i)   For small schools, it is appropriate to use existing technical support staff.
ii)   Training will be provided for existing technical support staff.

C) Sharing technical support staff between schools
i)   Technical support staff might also be shared among neighbouring schools.
ii)   This approach has been applied by Rebound Asia Malaysia, a company which provides technical support staff in schools in Terengganu, Malaysia.

D) Appointing teachers as technical support staff
i)   It is also appropriate to appoint teachers for this position.
ii)   Training will be provided for the teachers and teaching hours will be reduced.

- The roles of the technical support staff:
i)   To perform comprehensive management and maintenance of all facilities related to the implementation.
ii)   To perform specific responsibilities which include: conducting periodic checks, receiving information from teachers and students regarding the damaged facilities, performing early diagnoses of broken facilities and sending devices for repair to the supplier when necessary.
iii)   To gather knowledge about the technology in the implementation.
iv)   To provide on-going support to teachers and students.

- Arrangement for **student as maintenance assistant**:
i)   To provide assistance for technical support staff.
ii)   Students can be selected from **cyber brigades (smart schools)** and **computer clubs (non-smart schools)**.
iii)   Training will be provided for students and they would also obtain merit for their involvement.

- The aforementioned suggestions will ensure comprehensive support in the implementation.

2.5 Support for major stakeholders

This section includes suggestions regarding the support which will be provided to major stakeholders in the implementation.

- To implement mobile learning, there is a need to provide comprehensive **support for teachers, students and parents**.

- **For teachers**:
i)   Although teachers are familiar with mobile devices, professional development for teachers is still necessary.
ii) Teachers will be given comprehensive **induction sessions** regarding the benefits and objectives of the implementation, as well as hands-on professional learning regarding the knowledge and skills required for mobile technologies utilisation.
iii) Teachers will be informed regarding the safety, security and ethical issues surrounding the use of mobile devices for learning, to enable them to apply that knowledge in practice.
iv) Teachers will be given **on-going support**, which will foster motivation throughout the implementation.
v)   Teachers will be given sufficient time to explore and familiarise themselves with new devices before the implementation.
vi) Teachers might also be encouraged to contribute to pilot project to initiate ownership.
vii) Partnerships with local universities, education organisations and other institutions are also encouraged so that schools will be able to gain expertise and support for training purposes.
- The aforementioned suggestions will ensure that teachers will be well-informed regarding the objectives of the implementation, become familiar with the technology and have the confidence to use it. This will eventually initiate positive attitude towards the implementation.

- **For students**:
i)   Students will be given comprehensive **induction sessions** regarding the benefits and objectives of the implementation, knowledge and skills required for mobile technologies utilisation.
ii) Students will be informed regarding the safety, security and ethical issues surrounding the use of mobile devices for learning to enable them to apply that knowledge in practice.
iv) Students will be given **on-going support**, which will foster motivation throughout the implementation.
v)   Students might be encouraged to exchange opinions with teachers regarding their interest to use latest technology in their learning activities.

vi)   Students might also be encouraged to contribute to pilot project to foster support from them.

vii) Although cyber-bullying is not significant in Malaysia, there is a need to think of ways to deal with it. Appropriate action might include: (i) secure students' mobile phone numbers and encourage students not to share phone numbers with friends, (ii) establish a clear protocol in assigning people who can access certain data or information, (iii) set anonymous numbers for students, (iv) encourage school to cooperate with police and private companies to deal with cyber-bullying

- The aforementioned suggestions will ensure that students will be well-informed regarding the objectives of mobile learning, become familiar with the technology and have the confidence to use it. This will eventually initiate positive attitude towards the implementation.

- The aforementioned suggestions are also proposed to eliminate the negative implications of mobile technologies towards students and to encourage productive use of the devices.

- **For parents**:

i)   Parents will be informed regarding the implementation through various approach: support documents or letters, school websites and special events such as information day, parents' evening, weekend meeting, Parents Teachers Association meeting, or school open day.

ii)   Parents will be given comprehensive **briefing sessions** regarding the benefits and objectives of the implementation, parents' role in the implementation, as well as related policies and procedures.

iii) Parents will be informed regarding the safety, security and ethical issues surrounding the use of mobile devices to enable them to monitor their children to use mobile devices productively. This will eventually eliminate negative implications of mobile technologies towards their children. For example, by having the knowledge to look for inappropriate content in their children's mobile phones.

iv)   Parents will be informed about the progress of their children in the implementation from time to time.

v)   To foster parents' support, parents will be assured that there will be minimal expenses in the implementation.

- The aforementioned suggestions will ensure that parents will be well-informed regarding the objectives of mobile learning, have positive attitude and being involved in students' learning.

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Part 1 : Mobile technology integration into the curriculum

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