

## Investigating students' MALL experience in light of an ecological perspective

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### Abstract

The paper reports a study inspired by the notion of ecological linguistics which has much been reviewed and researched by the applied linguistics experts worldwide. In this study, Leo van Lier's notion of action-based was mainly used to describe the reality of English learning experience of four university students enrolling in non-English departments. An essential part of the experience was when they joined the English Course which applied mobile-assisted language learning (MALL) which was designed based on the ecological teaching principles of action-based (AB). Open-ended interviews were done to the participants to explore their perspectives on their own experience of learning English before and after joining the English courses. The data were analysed, interpreted, and reconstructed through narratives to unveil the elements of past, present, and future of the learning experience. Participant confirmation was carried out to increase the validity of the research findings. There was obvious evidence that the application of MALL underpinned by action-based teaching nurtured the students' ecological learning habit which connected the English learning to the content-subject learning. All participants perceived that such learning was firstly complicated but challenging and motivating.

*Keywords: English language education, mobile-assisted language learning, ecological perspective, action-based teaching*

### Introduction

The English language education elsewhere concerns on the extent to which its curriculum and pedagogy offer effective and meaningful learning. In EFL education, the reality of English teaching and learning is perceived more complicated than any ESL settings. Most EFL educators are scrutinized with administrative complexity driven by political query while the classroom practices are trivial due to the absence of meaningful learning. Studies in Indonesian context indicates potential mismatches between the curriculum policy and its pedagogical practices that can give inferior influence on the learning experience of students with huge diversity and heterogeneity (Novawan, 2014). In this case, the success of EFL education is very

much dependent on the creativity and innovations of curriculum and pedagogy created by the EFL educators that can offer both political coherence and powerful engagement in learning.

Studies in the development of EFL worldwide and its varied and interrelated sociocultural contexts have resulted in the advancement of EFL modalities which are represented by the notion of the World Englishes (Kirkpatrick, 2010) and now are reconceptualized into the Unequal Englishes (Tupas & Rubdy, 2015). Both conceptualizations confirm the complexity of the EFL curriculum and pedagogy which implies the relevance of post-structural theories such as that of socio-cultural theory. In the Indonesian EFL education, the implementation of post-structural curriculum and pedagogy is unpopular and rarely explored. One of the reasons is the strong influence of traditional perspective which leads to more form-oriented approaches which produce rote learning outcomes. In addition to that, implementing post-structural theories which are holistic and dynamic can be difficult in such socio-political settings as in Indonesia which is predominated by the structural notion of education. However, for those who realize the emergence of the EFL situation against the global demand on English proficiency, this difficulty poses a challenge rather than an obstacle. Since it is crucial, EFL curriculum framework needs to be reframed, the pedagogical underpinnings have to be reformed, and assessment practices need to be reoriented towards what makes the learning experience meaningful (Novawan, 2014).

Along with the development of EFL literature, the advancement of mobile technology has given significant influence on curriculum and pedagogy refinement. Compared to those of computer technology, mobile technology is more influential in terms of its flexibility and ubiquity (Kukulska-Hulme, 2009). Moreover, it changes not only society's habit of communication and life, but also the education and EFL education. Mobile-technology offers more action-based learning activities and widens the educational perspective on what teaching and learning are. With its features, teaching and learning can be designed and implemented more flexible in terms of time and place (Kukulska-Hulme, 2012). In EFL contexts, mobile-technology provides a powerful opportunity for authentic and meaningful language learning. While underpinned by the notion of ecological linguistics, mobile-technology enables teacher and students to connect to each other, to a wider community, to plenty of authentic sources, and to particular environmental properties which will allow for the powerful learning process. Learning in this way can be rich, fun, inspiring, and meaningful which is in line with the spirit of sociocultural theory.

This paper is written to explore the impacts of mobile-technology applied in an EFL classroom underpinned by the action-based teaching; one of the ecological linguistics tenets (van Lier, 2007). It is based on research which investigated the students learning experience after joining the English courses which had applied MALL and had been designed based on the principles of action-based teaching.

### **Theoretical framework**

Sociocultural theory sees that learning English is insufficient when implemented in a way that merely implements the rules internalization and vocabulary memorization; it needs to enable the students to get involved in authentic situations which nurture active participation in the target language communication (Toohey & Norton, 2010). Relevant to this is studies in Asian contexts which asserts the insufficiency of traditional approaches such as textbook-oriented

and rote learning which fails to nurture the students' communication ability or social skill (Novawan, 2014; Canh, 2004). One of the outstanding forms of the socio-cultural theory is those influenced by the ecological perspective. In general, based on Hornberger and Hult (2008, p. 282), an ecological perspective on language education emphasizes on:

1. Relationships among languages
2. Relationships among social contexts of language
3. Relationships among individual speakers and their languages
4. Relationships among these three dimensions

The tenet of ecological linguistics which emphasizes the nature of relationship presumed to influence learning quality goes beyond the simplistic notion of traditional EFL approaches which tend to be cognitive-oriented. This has long been posed in the academic arena and much been addressed by van Lier (2004; 2007) who introduced the notion of action-based teaching. Action-based teaching is substantially connected to other well-known approaches in Applied Linguistics and TESOL such as task-based, content-based, project-based, exploratory, experiential, ESP, community-based language socialization, and CALL (van Lier, 2007). Even though the individual approach can possibly be interpreted from different philosophical stances (Richards, 2013), nevertheless, in sociocultural theory those approaches emphasis on the prominence of students' agency which influences identity formation as they become active person who learn English by taking information actively and not merely accepting what is transmitted by the teacher (van Lier, 2007).

In action-based teaching, learning English is regarded more than just learning a classroom subject. The extent to which an EFL pedagogy is regarded "beyond the subject learning" becomes a challenging area of sociocultural researches because the theoretical substances are discussed, elaborated, and transformed into practices (van Lier, 2010). Central to this is meaningfulness and authenticity of individual, social and environmental relations which form pedagogies. Authenticity is an important aspect which nurtures intrinsic motivation while intrinsic motivation can contribute to nurturing the sense of ownership in using the language. Moreover, in action-based learning, there are ten essential characteristics (van Lier, 2004, pp. 18-19):

1. Relations within language and with the world
2. Context: meaning only emerges in context
3. Patterns/systems: not rules, but interrelated organizational forces
4. Emergence: not accumulation of objects, but transformation, growth, and reorganization
5. Quality: not just quantity; quality combines intellect and affect, and yields a higher level of consciousness
6. Value: overtly ethical and moral, embodying visions of self and identity
7. Critical: oriented towards understanding and actively improving humanity in a healthy world
8. Variability: seeing variation not as a nuisance to be tied down and reduced, but as an indication of cultural and personal vitality
9. Diversity: under normal (non-colonial, non-imperialistic) conditions
10. Activity: language is activity, not object, it is in the world rather than in the head.

All of the elements above are central for active and empowering learning (van Lier, 2004; 2007). These elements are interrelated and multifaceted network of environmental properties which form a natural unity in a social action (van Lier, 2010). Planning an action-based EFL teaching requires the teacher to explore possible and related actions which accommodate the ten elements above into pedagogy. In this notion, pedagogical scaffolding plays a strategic agenda which effects on *perception-in-action*. According to van Lier (2007), there are at least six elements of pedagogical scaffolding:

1. Continuity: task repetition, connection, and variation
2. Contextual support: safe and supportive environment
3. Intersubjectivity: mutual engagement and encouragement
4. Contingency: task procedures, teacher's action depends on the actions of learners
5. Handover/takeover: increasing role of learner, attending to emergent skills and knowledge
6. Flow: skills and challenges are in balance, participants are in tune with each other

Turning the action-based principles into pedagogical practices is a multifaceted but challenging duty. However, taking account of the contribution of mobile-technology can become an outstanding solution for more manageable action-based teaching.

The domination of mobile technology over human life is becoming stronger these days. It is not only ubiquitous but also overwhelming. Most human activities are now reliant on and assisted by mobile technology features which offer more practicality and comfortability. In EFL education, mobile-technology features enhance and change pedagogical approach and methodology. They offer various facilities which allow for flexibility and practicality than computer technology does. CALL (computer-assisted language learning) tends to be formal, room-situated, and less flexible while MALL is flexible in terms of time and place. MALL is practical to be incorporated in any situations both formal and non-formal and ensures continuity and spontaneity in learning (Kukulaska-Hulme, 2009).

Currently, the relevance of mobile learning in support of English language teaching and learning in light of sociocultural is explicit in many studies in the field of MALL (Kukulaska-Hulme, Norris, & Donohue, 2015; Ma, 2017; Shadiev, Hwang, & Huang, 2017; Knight, Barbera, & Appel, 2017). Studies in the literature indicate that the implementation of MALL requires a conceptual framework which guides both the teachers and the students in teaching and learning activities (Kukulaska-Hulme, 2012). Since mobile-technology is dynamic, any conceptual framework needs to be refined and reshaped anytime to maintain relevance to current development. An example of situational approach to this is presented in Kukulaska-Hulme (2012) which provides useful guides for action-based teaching by using MALL focusing on a wide range of authentic situations and contexts of learning specified by time and place. By using analytical questions around time and place, EFL educators can have huge contextual and emergent activities which can be planned and designed with an appropriate and flexible level of spontaneity to nurture the habit of using English through mobile technology.

In socio-cultural perspective, the habit of meaningful language learning is emergent and essential for social capacity development of students. Mediated by mobile technology which is now very influential in the students' life, action-based teaching and learning can have powerful effects which contribute to more effective affordances and allows for creative scaffolding. In a long term investment, learning in this way will contribute to positive development of agency

and identity (Darvin & Norton, 2015). As revealed in Knight, Barbera, and Appel (2017), the agency can be trained through the use of language as an action (linguaging) with the support of digital environments. According to their study, technology-enhanced tasks which are designed based on socio-cultural principles nurture agency in terms of the development of organizational, strategic and representational ability. Another study by Ma (2017) was trying to describe how MALL influenced the development of agency in light of mediation theory in the university setting. Ma argues that there are three essential mediation tools: psychological, physical, and others' assistance (social) which are interrelated and form meaningful relations due to mobile technologies.

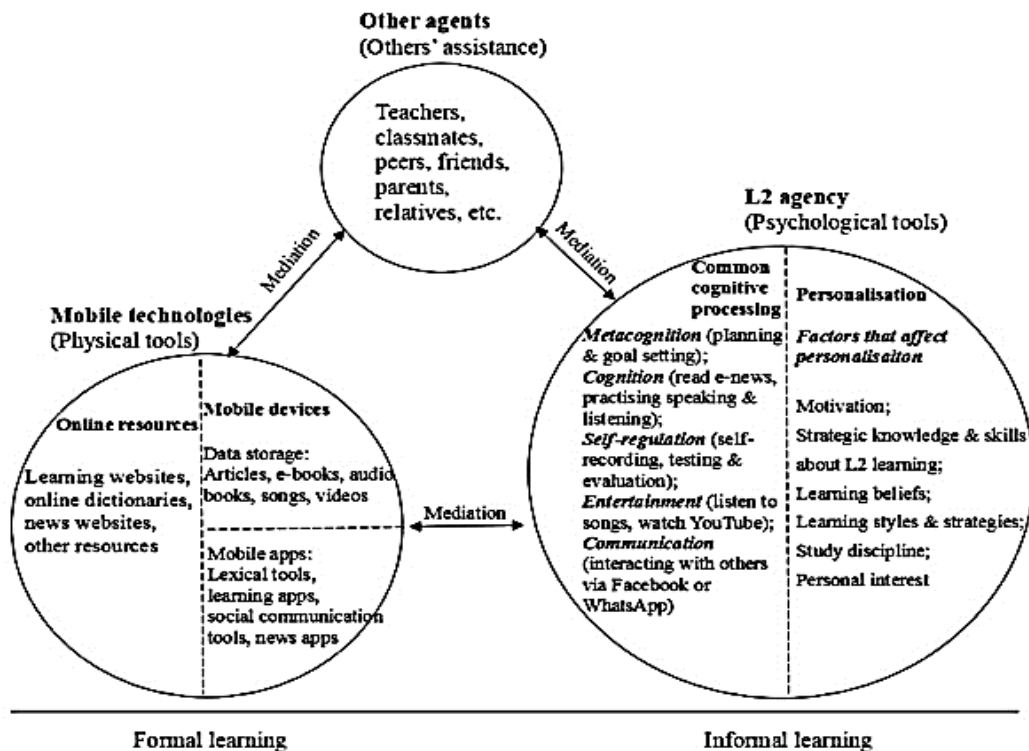


Figure 1: Ma's Sociocultural framework for MALL

Based on Ma's framework above, a pedagogy which adopts a sociocultural theory might take the mediation theory by using mobile-assisted language learning which facilitates both authentic face-to-face and online interactions among the agents (lecturers, classmates, peers, friends, and others), and at the same time within the planned timeline, they have accessibility to plenty of negotiated, coordinated, and personalised online resources. While emphasis on agents' awareness of cognitive and metacognitive processes along the classroom and outside of classroom need to be nurtured in such a way that will increase meaningfulness in learning and agency development.

## Method

The research used a case study method that was done mainly by using open-ended interviews in collecting the data. Four participants were selected from different departments at a university: Informatics Management (Adi), Seed Production Technology (Ana), Food Industrial Technology (Dina), and Agribusiness Management (Dodi). Adi, Ana, Dina, and

Dodi joined the English course separately in their own department. The English courses were carried out for six months and facilitated by the same lecturers who applied action-based mobile-assisted language learning (AB-MALL). This course elaborated and integrated inside and outside learning activities, individual and group projects, written and interactional tasks. The pedagogical approach concerned on “the learning process, the actions and activities of teachers and learners, the multi-layered nature of interaction and language use, in all their complexity and as a network of interdependencies among all the elements in the setting, not only at the social level, but also at the physical and symbolic level” (van Lier, 2010, p. 3).

The outline of the English Courses is as follows:

- AB-MALL tutorial and learning strategies:
  - E-learning system and procedures by using Moodle
  - Smartphone applications (Moodle, WhatsApp, Airmore, etc.)
- Integrated English skills
  - Content-knowledge reading strategies consisting of 3 topics focusing on:
    - Reading for implicit and explicit main ideas and information
    - Understanding vocabulary in contexts
    - Drawing a conclusion and implication
  - Listening:
    - Longer conversations in academic contexts
    - Longer lectures
  - Communicative Speaking:
    - Small-group conversations
    - Presentation
  - Genre-based Writing:
    - Narrative essay
    - Informative essay
- Awareness of strategic and functional grammatical forms through an abduction approach (see Cunningham in van Lier, 2007: 56):
  - statements and questions
  - a big picture of tenses (integrated, & contextual)

All participants participated voluntarily in the research that was indicated by their signatures on the informed consent forms. They were invited to come to the interviews which were intended to explore questions about the familiarity to MALL, the experience of learning English since a child until now, and the experience of learning English using AB-MALL (see Appendix). The results of the interviews were analyzed, interpreted and transformed into narratives. To strengthen the validity, participants’ confirmations were carried out to validate each narrative.

## **Findings and discussion**

The findings of the study indicate that there were positive impacts of the application of AB-MALL over the semester (six months). The impacts involved the nurture of ecological learning habit through mobile technology which revealed an increase in motivation, improvement of English skills, enhancement of content-knowledge, and advancement of technological skill. More specifically, the findings are presented through the narratives below.

### *Adi*

Adi was a student of Informatics Management Department who had been familiar with mobile learning applied for both content-specific courses and English courses. He had been familiar with ICT since he was in junior high school and had been awarded a scholarship due to his academic excellence. However, English had been so scaring that he hated it for a long time. In higher education, in collaboration with his friends who were studying English major, he created vocabulary learning media applied on mobile phone. However, he was only doing the technical procedures on designing the application and the project might not stimulate further interest in it. When he joined the English course which employed MALL as the main approach or media, he coercively got involved in the whole activity but then was voluntarily becoming a loyal student. Even though understanding English authentic texts was uneasy to do at his efforts, he then developed his intrinsic motivation in reading various English texts related to his discipline which was perceived enlightening for him. After completing the English course, he maintained his English learning activity by using mobile-learning which he considered enjoyable. He and some of his classmates were encouraged to keep learning English more frequently and flexibly in order to support their mission and to widen their network into any professional communities.

### *Ana*

Ana was a student of Seed Production Technology (SPT) Department who had little been very familiar with mobile learning and had once used it for some limited learning activities related to the assignments of content-specific courses. In this case, e-learning through a computer or laptop was more frequently applied in her study. However, mobile learning especially used for English language learning activities had become a completely new thing for her. She found that learning English by using ecological MALL was firstly confusing and uninteresting. But after she got used to it, particularly when she knew that she could have unlimited access to meaningful learning sources in the forms of academic papers, e-newspaper, e-magazines, audios, videos, and others, she was getting interested in exploring more information and materials for her study and for other purposes. She enjoyed reading the sources for daily activity, more especially, those related to what she learned in the SPT Department. Her motivation increased significantly because she could have rich and huge authentic materials related to her discipline and at the same time could improve her English skills. When she was interviewed for this study, she was telling her vision to continue her study in another country. To make sure that she will be able to reach her vision, she made diligent efforts of improving her English skills mostly by using mobile-learning.

### ***Dina***

Dina was a student who was enrolling in the Food Industrial Technology Department. She was a student with an excellent academic record, but with difficulty in English learning. She liked English only when she was in kindergarten, according to her mother. Afterward, for a long period, she upheld a common assumption on the complexity and difficulty of learning a foreign language like English. Even though there was a time when her family encouraged her to take an English course to improve her English, but she was prone to learn it. While English subject was avoided since in the primary education, the field of food industrial technology had attracted her attention since she was studying in a vocational high school. Like other tertiary students, she was familiar with the application of mobile learning for content subjects in her department, nevertheless, she might not realize that adopting MALL could have a useful impact on her future learning. After joining a series of English learning activity with MALL, she felt that mobile technology could enhance her English literacy skill and at the same time develop her content-specific knowledge. In terms of English, she disliked English because of the grammar and she previously thought that without the grammar her English must be so poor. But, experiencing AB-MALL helped her to reshape her mind and to recognize that despite her poor grammar she could understand English texts well and it could facilitate her to develop her English skills.

### ***Dodi***

Dodi was a clever student studying Agribusiness Management with difficulty in English learning. He hated English since he was in elementary school. He ever loved English once when he was in junior high school because he liked the teacher. But, soon after, he became demotivated in learning English until his moments at the university. Even though mobile learning was not new for him, he had never got the opportunity to explore the advantage of its features in support of English learning. Joining the English Course was not challenging for him since he was not interested in the English subject. However, he became aware that even though his English-speaking ability was poor, he still had a good understanding on texts, video, podcasts and the likes which he found greatly pleasing him in developing his content-specific knowledge and skills. He loved doing entrepreneurship and found that reading English texts and watching videos related to it were very enjoyable and motivating. He felt that he is getting more confident in English now and are willing to improve her English communication skill and to widen his professional networks.

As revealed in the narratives above, changes as the results of AB-MALL had been recognized based on the interviews data.

In general, all participants confirmed that the most significant change was their motivation. This study found that English had long been perceived unpopular subject due to negative upheld assumptions (e.g. English is only a subject, the grammar makes it hard, etc.)



since they were children. All participants of the study (Adi, Ana, Dina, and Dodi) believed that they had experienced hard and unsuccessful learning of English for more than 12 years. Their experience indicated a strong influence of rote-learning which merely prepared them to get a good grade to pass the subject. However, learning English by applying mobile-learning in light of an ecological perspective was considered different, innovative, and challenging, even though confusing at the initial processes. Such confusions had been expressed by the participants in terms of the technicality of using the mobile-features for different purposes, the greater autonomy given to them during the course activities, the complexity (including the breadth and the depth) of the authentic materials, and the uncertainty of situations faced when doing the assigned actions, both individual and group activities. These confusions had been anticipated by giving the technical tutorial at the beginning of the course, repeating and clarifying instructions, and guiding them throughout the overall activities. These were essential in giving time and room for the students to adapt themselves to the new challenges. After all, they found that using mobile-learning gave them a new meaning in English learning by which they could bring the English language communication to their real life and could connect it to their academic and professional interests.

Moreover, the development of intrinsic motivation enhanced with mobile technology had stimulated an ecological learning habit. In this case, ecological learning habit is a habit of learning English which is driven by an intrinsic motivation where the students were inspired and encouraged to learn through life and to live with sustainable and long-life learning habit. The course was basically holistic in terms that there was a concern on encouraging the students to be able to organize their learning as an integrated part of their social life. They were trained to use mobile technology to support sustainable and ubiquitous learning without ignoring the interpersonal encounters occurring in the regular classroom in campus and in their social environment. All of the participants demonstrated changes in learning habits. At least, they realized that learning is powerful to empower their personal life and that life is always social by which we develop ourselves and build up the future. In the course, they learned English as part of their life. In fact, they found that English is meaningful when they widen their social life to connect with others in the global community and therefore meaningful for personal and professional development. Even, for Adi who was studying Informatics Management and had been familiar to mobile-technology, he found that learning English through mobile-technology was useful particularly to help him explore how to deal with global and English-mediated networks and sources.

Another prerequisite of teaching English by applying AB and MALL was the imperative of creating learning environments which were relevant to the actual academic students' situation. In preparing for AB-MALL, the lecturers created social and academic settings which brought the English learning to the optimal application and development of content-knowledge. Based on the interviews, all participants confirmed that the English course they had joined provided them with beneficial and relevant information to their academic or professional interests. What had attracted the participants most was the selection of authentic sources related to their own disciplines. Particularly, for those from non-IT study programs, accessing the most current or updated information or sources related to their discipline had rarely been encouraged. However, during the English course, they were inspired by relevant and interesting texts, podcasts and others that enabled them to associate the use of English to their prior knowledge, and unconsciously used English while exploring new information related to their interest.

Another effect of AB-MALL perceived by the participants was the development of technical skill which involved the skills of using particular mobile-technology features for the purposes of learning and getting information. In this case, 3 participants from non-IT department admitted that they had experienced hard learning situations due to the technical predicaments related to mobile technology. Nevertheless, after some times of adaptation with it, they could cope with most mobile-learning situations such as engaging in "digital" class forum, doing e-assignments, taking online tests, attaching different types of files on the assignment, using cloud system, accessing authentic sources, and others.

The above changes were identified in the ecological pedagogy which applied mobile-assisted language learning. Based on Ma's sociocultural framework for MALL above, adopting a sociocultural theory by using mobile-assisted language learning facilitates both authentic *face-to-face* and online interactions among the agents. In this study, the agents were the lecturers, students, classmates, peers, friends, and other possible agents related to their academic and social contexts. The meaningful relations could be nurtured by deploying and elaborating the contextual properties inside and outside the classroom for learning. During the teaching and learning process, students had accessibility to plenty of negotiated, coordinated, and personalised online resources. It provided the students with many choices and allowed them to decide and express their voices. While the interactions could foster exchanges, confirmations, and modifications on the language and non-language materials. Through this process, the emphasis on the agents' awareness of cognitive and metacognitive processes along the classroom and outside of classroom, could be nicely nurtured in such a way which increased meaningfulness in learning and agency development.

## **Conclusion**

It has long been discussed that socio-cultural theory tends to be holistic and complicated to be applied in classroom situations. Moreover, its' pedagogical practices tend to be incompatible with any traditional and long-standing practices which demand administrative and political fulfilment rather than students' learning experience and identity formation. However, what is revealed in this paper indicates that it is possible to make such theory more manageable for classroom practices if applied together with mobile-technology which is now ubiquitous and overwhelming in the life of young generations.

Therefore, the paper has reported that an action-based (AB) teaching incorporated with mobile-assisted language learning (MALL) is a robust tool to develop the students' intrinsic motivation and nurture an ecological learning habit of English communication. In this study, Ma's framework is used to guide the pedagogy and the investigation related to the participants' learning experience. Carried out in the higher education setting, AB-MALL had connected the need for learning content-knowledge and the need for learning English. The connection between the two is important especially in the contexts of adult and professional educations which demand English skills as a part of communication and professional competency.

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## **Appendix:**

### **List of interview questions**

(originally given in the Indonesian Language)

1. Tell me, are you familiar with the use of mobile technology for any purposes: for communication, education, learning English, and personal purposes?
2. Tell me about your experience of English learning since you were a child until now.
3. Tell me about your experience of English learning by using mobile technology underpinned by an ecological perspective.

*Possible probing questions for no 1 to 3:*

- a. How did you feel/perceive about the teachers' teaching?
  - b. How did you feel/perceive about the teachers' behavior?
  - c. How did you feel/perceive about the materials and media?
  - d. How did you feel/perceive about the learning situation?
  - e. How did you feel/perceive about the evaluation results?
  - f. How did you feel/perceive about your classmates' supports?
  - g. How did you feel/perceive about your family supports?
  - h. Etc.
4. Did you feel any changes after joining the last English Course (AB-MALL)? Can you tell me what happened before and after that?

*Possible probing questions for no 4:*

- a. How did you feel/perceive about your motivation before and after it?
- b. How did you feel/perceive about your knowledge on learning strategies before and after it?
- c. How did you feel/perceive about your knowledge and skills on using mobile technology before and after it?
- d. How did you feel/perceive about your learning habit before and after it?
- e. Are you continuing your learning habit until now?