

# A Theoretical Framework to conduct Informal Mobile-Learning Research in Agriculture

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**Keywords—** Mobile learning, Agriculture, Activity theory, Farmers, Informal learning

referring to AT framework in order to understand and describe the mobile-learning context.

## INTRODUCTION

Mobile devices have been successfully used in facilitating learning in informal education. In the study reported on here, we propose designing mobile based informal learning in the domain of agriculture to aware farmers on better farming practice. Thus, learning is referred to as in-situ practice of agriculture compared to traditional classroom learning. The facilitation of communication and interaction among farmers and other stakeholders is important to foster informal learning. Accordingly interactive mobile-learning environments can encourage participatory attitudes, excite interest and commitment among learners and thus become important in adult learning.

Mobile-learning is defined as a combined experience coming from three main aspects: the device, the learner and social aspects. Thus, in our conceptualization a mobile-learning environment is represented by a combination of aspects having their origin in social, technological and personal characteristics of learners. In our work of conceptualizing and analyzing mobile learning we build on Activity Theory (AT), which is considered as a powerful analytical tool to study major dimensions of m-learning both as individual components and the interactions among the concepts. According to AT, an activity always has an object, and in this study, 'learning' has been regarded as an activity which is performed by a subject to achieve an object. Further, an activity is always mediated by some tools or artifacts which could be tangible e.g. mobile devices or intangible e.g. language. The activity of 'learning' is further embedded in a collective activity system, where the surrounding community divides their labour in terms of assigning different roles to its members (e.g. learners, teachers, educational institutions) and sets social rules on the interactions between them.

## METHODS

Case analysis method used to study the learning environment. The study group consisted of members from a Young Farmers' Club (YFC), Ankumbura, which was purposively selected. Data was collected by using key informant discussions, a questionnaire survey and secondary sources such as reports available at the Extension agents' office. Data were analysed and interpreted qualitatively

## FINDINGS

Members of the YFC are here regarded as the actor or 'subject', while their main objective is to acquire a better knowledge on agriculture innovations. The main outcome of learning is thus to apply this knowledge in everyday farming practices, which would eventually result in better adoption of innovations. The actors are motivated to continuously engaged in the activity of 'learning' by their desire for the main outcome i.e. adoption of innovations. According to AT, tools mediate the interactions between subjects and object. Tools can be anything, material or immaterial, which is used in the transformation process. We primarily focus on the use of mobile devices in the mediating process, and to see the enabling and limiting effects of mobile technologies in promoting learning. This can be extended to include existing mobile based applications, e.g. twitter or those we might develop to facilitate learning. In addition, the various features available with mobile technologies, e.g. SMS, voice-call, MMS etc., were also considered as tools. Community includes people who share the same objective with the subject. Usually the wider population from which the subject is drawn is regarded as the immediate community. Thus, members from other YFCs, the extension agent, subject matter experts and research officers were considered as the community. The relationship between the community and the subject is usually governed by rules. These rules were mostly limited to norms and conventions agreed on between the community and the subject. Division of labour defines the contributions made by the community in helping the subjects to reach the objective. The role of the extension agent is thus, well defined and recognized as a non-formal educator as she is being appointed by the government for a particular task. However the role of the other farmers in the community is not as straight forward as in the case of the extension agent. The other YFC members would meet and interact with the subjects only occasionally.

## CONCLUSIONS

Our approach to define the learning context in terms of AT perspective has proven to be useful in initiating mobile learning research in the domain of agriculture. Thus, motivates future studies on designing and implementing mobile-learning within the study community by referring to the proposed theoretical framework.