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# An Interactive Tool to Increase the Value of Learning

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**Abstract:** In this paper, it is extended that the value of interaction in education is fortified in a large-size classroom as well as in an international graduate classroom, in terms of the instant poll, understanding monitor, and the text message system, so as to initiate dialogs in learning in and outside classroom. It is our goal here that the interactive tool such as Clica can trigger the initiation for collaborative and deeper learning by learners. This paper is a report of an active learning project in progress for the interactivity in such challenged learning environments.

**Keywords:** Value in Learning, interactivity, ICT tool, clicker, text message, poll, understanding monitor, TBL, PBL

## 1. Introduction

We educators sometimes wonder what is in the mind of learners while the class is being conducted. Are they feeling comfortable being submerged into the unexplored world of knowledge or experience? Are they challenged by a newly introduced concept? Or are they lost in the forest of knowledge? So far, the instructor can do nothing but looking at students' facial expressions or sparkles of the eye to guess what in the student's mind. Is there any way to have a good grasp of what is going on in the learner's mind even in a large size class? Is there any way to know the impact or effectiveness of interaction in learning between the instructor and his/her students while the class is in session?

In this paper, it is extended that the value of interaction in education is fortified in a large-size classroom, say, 100 ~ 1000 students, or a graduate course with various international students, in terms of the instant poll and text message system called Clica, developed by the Digital Knowledge, Co.& Ltd. It is our goal here that the interactive tool such as Clica can trigger collaborative and deeper learning by learners. The various interactive experiments have been conducted in the undergraduate courses at Kansai University and the graduate courses at National Central University. This paper is a progress report of what has been found.

In what follows, the value in education is looked at carefully in the light of the value of interactivity in learning at first. And then, the current issues are reviewed. In the end, we will see the future direction of the research for the use of the newly introduced interactive probing tool.

## 2. Interactivity in Learning

### *2.1 The Value of Interactivity in Learning*

Why is the interactivity in learning so important? Tanya Elias (2011) puts it that "Learning is a product of interaction. Depending on the epistemology underlying the learning design, leaners might interact with instructors and tutors, with content and/or with other people. Many educators expend enormous amounts of effort to designing their learning to maximize the value of those interactions." It follows that the value extended by the instructor and others including the content must be endorsed and then transcended by the learner. It is the future design of education!

### *2.2 Current Issues in Education*

While observing the current classroom in the higher education, there are many issues to be addressed. First, we notice the large size of the class. Most schools have been economized in the operation of teaching by a small number of faculty members. This situation is very serious in an institution that is financially tight, where the matter of the operation cost is put more in front of the educational mission. Thus, the limited number of instructors there must conduct classes in a large size class, in order to educate a large population of students. In such a situation, it is very difficult for the instructor to have a good grasp of what each individual student is engaged in during the class. There is a limit of what one instructor can do in the large class or in an international graduate course.

### *2.3 Proposal*

Our proposal here is to put the learning content in different learning context to overcome the difficulties mentioned above. With the advance of ICT in education, we can easily monitor students learning processes in the classroom, using the default application (browser) their own smartphones or tablet PCs. One such monitoring service is called Clica. Although there are many other ways to achieve the same level of success, we chose Clica for the following reasons. Here is a list of advantages.

- Clica does not require a special hardware or an application for communication. A preinstalled regular browser serves the purpose.
- There is no extra fee required for Clica usage. It is free of any charges.
- No preparation or account set up is required. Clica can be usable whenever the instructor or his/her students want to make use of in the course.
- The information and knowledge accumulated as well as the ideas and the discussion contents in the course are free from the public prying eyes. A service provided by Clica and the archived information will be secured to the course users only. Students in the course can securely discuss and exchange ideas online in and outside classroom throughout the course. It is a 24/7 course tool for engaged learners!
- Above all, all students as well as the instructor can be “on the same page” in the process of learning in the course.
- If the course is meant for the project-based learning through the team-based learning, each team can house their own discussion space in addition to the information sharing space for the entire class.

## 3. Clica

### *3.1 Basic Functions*

The following figures show the basic functions of Clica. Figure 1 shows the log-in window. Without logging in, students cannot participate in the dialog in class. Figure 2 shows the activity window. There are three sections of activities. The top is for the instant poll. The second section is for monitoring students’ understanding. And the bottom section is for text messaging to develop dialogs. It should be noted that the result of the poll, the understanding monitor, and the text message are archived and can be downloaded and used for the learning analytics.

### *3.2 Experiments*

With a belief that active learning can produce more learning outcomes than passive learning, in addition to the content of learning, the interactive context for learning has been even added to the one-directional lecture style classroom. For example, as a lecture content evolved in class, students were prompted


Figure 1. The Log in Window.


Figure 2. The Interactive Features

on the Clica screen to provide their thoughts and ideas about the key points. At the beginning stage of the Clica use, the communication was between the instructor and his/her students. However, as the students became use to Clica, they helped each other understand the introduced content deeper by sharing their views among themselves and by providing information that other students did not know. In the end, an ideal collaborative learning comm
unity was established. Thus, both in the large size classroom and in the international graduate course, highly interactive learning environments were established.

## 4. Progress and the Future Direction

Students' engaged and active learning is the key to lead us to the better future. Thus, the mission of education is to make them stand on their own feet to think critically and creatively in teams through communication. Our goal is to make such communication within the team as well as in class seamless to share various views and to deepen understanding. We would like to enrich more the interactivity in learning in the large size by implementing ICT yet to come.

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