

# EFFECTIVENESS OF AN INDUCTION PROGRAMME IN INSPIRING STUDENTS IN ENGAGING IN COLLABORATIVE LEARNING: AN ODL CASE STUDY

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## INTRODUCTION

Student engagement is a key factor in determining the academic success of any student<sup>1</sup>. Hence, academic institutions must search for interventions for improving student engagement in increasing retention and completion rates of their programmes. This is especially true in Open and Distance Learning (ODL) where the completion rates are intrinsically low.

Motivation and competency of students, students' transactions with teachers and peers, institutional support received by students, realization of students' social beliefs and practices and support by family and friends are identified as key factors that positively influence student engagement<sup>1</sup>. As such, any intervention designed to improve student engagement should address these issues. To have the maximum benefit, from an institutional point of view, it is desirable to administer such an intervention when the probability of student disengagement is at a maximum level.

Transition from a teacher dependent school learning environment to a more independent university environment is a stressful phase for most young students<sup>2,3</sup>. For mature students, who start a student career after a period of discontinuity, this can be an even more stressful experience. As such, the probability of disengagement is high during the first year in a University<sup>2</sup>. Hence, increasingly, interventions for improving student engagement are administered during the first year in University.

One such intervention constitutes the facilitation of establishing learning communities<sup>4</sup>. A learning community may be considered as a group of students who work together in achieving academic as well as social goals. A learning community differs from any other community of students due to the fact that its members exert substantial effort in achieving academic goals. Creating learning communities could address all the factors conducive for improving student engagement mentioned above. Formation of such communities may be achieved using collaborative learning (CL) as the basis. Hence, one may expect that if the students are sufficiently inspired in engaging in CL then they will voluntarily form their own learning communities.

In moving towards this goal, the Faculty of Natural Sciences introduced a one-day induction programme for the new entrants to the BSc programme in the academic year 2012/2013. It was designed for the students to realize the positive aspects of CL and thereby inspire them in engaging in it. The objective of this study is to examine the effectiveness of the induction programme in inspiring students for engaging in CL.

## METHODOLOGY

The one-day induction was conducted at the Colombo Regional Centre of the Open University of Sri Lanka (OUSL) and was opened to all the new entrants to the BSc programme in the academic year 2012/2013. Induction was repeated on two more days in giving flexibility in time to the students. The students were grouped with each group having

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10 – 15 members. To foster long term relationships, the grouping was based on the most preferred subject discipline as chosen by the students.

The major activities of the induction commenced with a one and a half hour seminar presentation by a staff member on the power of mind, leadership, teamwork, environment, aesthetics, concentration and motivation. This was aimed at energizing and motivating students for active participation in the induction. Thereafter, a half an hour group activity in self-naming and self-selection of a theme by each group was conducted in allowing members to know each other socially. One hour was then devoted for a presentation of the strategies they used in succeeding at OUSL by three OUSL graduates of good academic standing. It was presented as a combined narrative and a discussion of their experience in making the listeners motivated.

The CL activity involving scientific discourse took about one and a half hours. It involved a presentation of a natural phenomenon and its scientific explanation by a staff member. Then the students were shown a video clip of a seemingly different phenomenon, enacted by some students as an amusing event, which could be explained using the principles described by the staff member earlier. A video clip, without narration, was then screened in giving some clues which may be of help to the students in developing an explanation. The students were then asked to develop a scientific explanation of the phenomenon through group discussion.

Student perception on various aspects of CL was obtained on 4 and 5 point Likert scales, from all the participants, both before and after the induction, using two separate questionnaires. Some of the statements where the student perception was sought were the same in both questionnaires which enabled us to determine the change in student perception brought about by the Induction. The questionnaires were made bilingual, either Sinhala/English or Tamil/English, in improving the reliability of data. Perception data collected before and after the Induction was extracted and analysed using standard statistical methods in order to examine the effectiveness of Induction in inspiring students for CL.

## RESULTS AND DISCUSSION

The total numbers of participants at the beginning and at the end of Induction were 242 and 216, respectively. The reduction (about 10%) in population is due to the fact that some students left before the induction was over.

Tables 1a and 1b summarise the characteristics of the populations used in collecting perception data. (Percentages do not add up to 100 in some categories since some students did not provide the relevant information.).

Table 1a: Characteristics of the populations used in the study.

Timing in Induction	Population size	Gender		Employment status		Marital status	
		Male	Female	Yes	No	Yes	No
Before	242	31%	69%	45%	54%	6%	94%
After	216	31%	66%	46%	48%	5%	92%

Table 1b: Characteristics of the populations used in the study.

Timing in Induction	Population size	Age (Years)			
		< 20	20 – 25	25 – 30	> 30
Before	242	1.7%	80.6%	10.3%	7.4%
After	216	1.9%	80.1%	7.9%	6.6%

In both populations majority of the students were unmarried females and about 45% were employed. A large fraction of students was of a similar age group, 20 – 25 years. This feature of the population may have facilitated group discussions.

Figure 1 indicates the perception of students, on a 4 point Likert scale, on the aspects of CL described by the statements listed in Table 2, before and after the Induction.

Table 2: Statements that described some aspects of CL which were used in collecting student perceptions on a 4 point Likert scale.

Number	Statement
1	Through group study <sup>2</sup> I can clarify problems I face in studying subject material.
2	Through group study I can learn things I do not know, from others.
3	Sharing knowledge through teaching friends increases my knowledge in the subject.
4	Group study is a waste of my time.
5	Group study helps me in absorbing more subject material.
6	Group study motivates me to study.

For a given statement,  $m$ , if  $n_\alpha(m)$  students have indicated their perception as  $\alpha (= FA, A, PA, NA)$  in the Likert scale, then the relative frequency,  $RF_\alpha(m)$ , of  $\alpha$  for that statement was calculated by

$$RF_\alpha(m) = \left[ \frac{n_\alpha(m)}{N} \right] \times 100\%$$

where  $N$  is the population size. In figure 1, the first set of bars corresponding to a particular statement indicates the student perception on the aspect described by that statement before the commencement of induction. The second set of bars corresponding to the same statement indicates the student perception on the same aspect after the Induction.

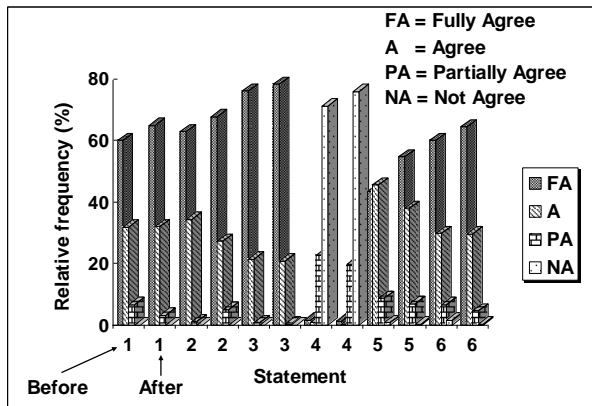


Figure 1: Student perception on aspects of CL listed in Table 2.

The results obtained before the induction indicate that about 92% either fully agree or agree (FA/A) that he/she can clarify problems in subject material through CL. About 97% FA/A have stated that through CL he/she can gain new knowledge. About 97% FA/A that teaching friends increases his/her knowledge. About 71% disagrees that CL is a waste of his/her time. About 89% FA/A that CL helps absorbing more subject material. About 90% FA/A that CL motivated them to study. Overall, the results indicate that the students who participated in the induction have a favourable perception of CL even before the commencement of the induction. This may be considered as a positive sign towards engagement in CL. Comparison of the height of bars corresponding to the same perception of the same aspect, before and after the induction, indicates that the change in perception on a given aspect of CL brought about by the induction is marginal. This indicates that one has to change the nature of the Induction if one wants to improve student perception on any of these aspects, significantly.

The change in relative frequency of perception, of the usefulness of CL, brought about by the Induction, on a 5 point Likert scale, is shown in Figure 2. The change is calculated as  $[RF_\alpha(after) - RF_\alpha(before)]$ , where  $RF_\alpha(before)$  and  $RF_\alpha(after)$  are the relative frequencies of perception  $\alpha$  of the usefulness of CL, before and after the Induction, respectively. Results indicate that the Induction has been effective in enhancing the perception that CL is very useful for students, by about 20% which is substantial.

<sup>2</sup> The term “group study” was defined in the questionnaire as *studying subject material by discussing with one or more friend/s*.

This is an interesting result since it indicates that the induction has enhanced the belief that CL is very useful in spite of the fact that it has no substantial influence on the perception of some individual aspects of CL. We argue that in inspiring students in engaging in CL, perception on usefulness is more important than the perception on individual aspects since the former is a combined effect of the latter. As such we argue that the nature

of the induction is appropriate for inspiring students for CL.

Furthermore, in response to our survey after the induction, 95% of the participants indicated that they have decided to engage in CL in the future. As such, we argue that at the end of induction 95% of students has got inspired in engaging in CL in the future which may lead to voluntary formation of learning communities.

## CONCLUSIONS/RECOMMENDATIONS

Results indicate that at the beginning of induction the students had a favourable perception of the aspects of CL listed in Table 2. The nature of Induction is such that the change in student perception on the above aspects brought about by it is marginal. However, the induction has been successful in enhancing the perception of students that CL is very useful for them, an overarching aspect which is more important in inspiring students for CL than individual aspects listed in Table 2, by about 20%.

Our data strongly suggests that at the end of the induction almost all the students (95%) got inspired in engaging in CL.

It can also be concluded that the nature of the induction conducted by the Faculty of Natural Sciences is appropriate for inspiring students for CL.

Inspiration generated at induction may lead to the voluntary formation of learning communities. However, there is no guarantee that a large number of students will actually do so in the future. To assess the actual impact of Induction in the formation of learning communities one has to do a follow up study which the authors have planned to undertake.

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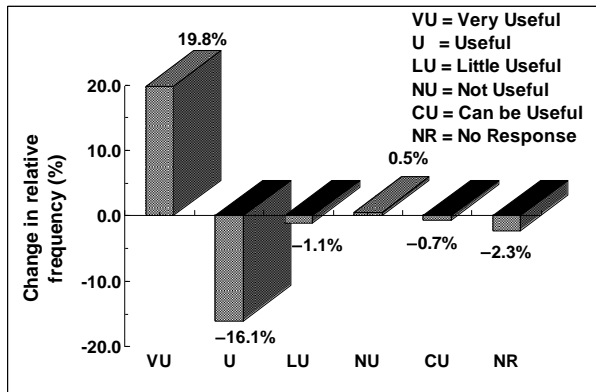


Figure 2: Change in student perception on the usefulness of group studies