

Reflective Practice in Teaching: Assessing Suitable Strategies for Reflective Practice in Large Classes

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Abstract— Reflection for learning allows the students to become reflective about the teaching and learning process. A reflective practice was carried out in this study with individuals and group of students. The purpose of this study was twofold; firstly, to assess the suitability of the delivery method for an enabling learning environment and secondly to find a more effective approach to carry out reflective practice in large classes. It was found that regular reflective practice could give the opportunity to the lecturer to address issues likely to distract students from the main focus; furthermore, it was also found that if carefully considered, group reflection could be a reliable alternative to individual reflection, facilitating reflective practice in large classes.

Keywords— Reflective practice, individual feedback, group feedback, teaching approach, contact sessions.

I. INTRODUCTION

Reflection has become an integral part of effective teaching, allowing teachers or lecturers to become aware and more responsive to students concerns [1]. However, the approach used to allow students to engage in reflective practice in a classroom must be carefully considered or designed for practical application and informative as well as relevant feedbacks [2]. With the increasing number of undergraduates' enrolment in the tertiary institutions, one of the immediate consequence is the increase of large classes. In such classes the amount and intensity of interactions and exchanges between the lecturers and students is likely to decrease as it becomes difficult for the lecturer to relate with individual students [3]. Continuous reflective practice in large classes may therefore be very challenging for lecturers if they have to deal with individual feedbacks. One of the approach often used to deal with students in large classes is to constitute small groups which also give the opportunity for students to form learning partnerships with each other, to negotiate with peers to achieve an outcome and to share and aggregate useful ideas [4]. This study investigates the relevance of small groups as approach that could be reliable or representative of individual perceptions during reflective practice in final year class in engineering school. During the investigation, exercise

of reflection was carried by individual students as wells as respective groups about their concerns regarding daily activities during specific contact sessions for two different modules.

II. METHODOLOGY

A. Participants and procedure

The students participating in this research were fourth year students in Chemical Engineering who attended contact sessions of the module Biotechnology II as part of their semester curriculum. The students were organized into groups containing between six and eight members who were required to work together for the preparation of presentations based on lecture notes and research topics given by the lecturer. The teaching strategy was based on a balance between the traditional teaching approach (lecturer centered) and the students-centered approach in which the students are motivated to interact more often and contribute significantly to classroom or subject related activities. The delivery methods consisted therefore of three major aspects and emphasis on interactions (Table 1):

TABLE I: DELIVERY METHODS AND RELATED CODES

Code	Delivery methods
T1	Explanation of the key scientific principles of a given chapter by the lecturer at the beginning of the class
T2	Student presentation of lecture notes (prepared few days before contact session)
T3	Presentation of research topic by students and discussion
T4	Interactions: Lecturer-students or students-students (Questions/Answers)

The students were therefore asked to give individual reflection and collaborative (group) reflection on the teaching delivery methods during each and every contact session for each of the two modules for three weeks (there was one contact session for each module every week).

B. Evaluation approach

The evaluation of the teaching delivery methods was based on the "Critical incident template" compiled by [5] (Table 2); containing five important questions to be answered by students as individual and as group about their perception of that particular day class, which could allow to make the class more responsive to their concerns.

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TABLE II: OPEN-ENDED QUESTIONS FOR STIMULATION OF REFLECTION AND RELATED CODES

Question code	Questions	Perception code
Q1	At what moment in class today did you feel most engaged with what was happening?	Positive
Q2	At what moment in class today did you feel most distanced with what was happening?	Negative
Q3	What action that anyone (lecturer or student) took in class today did you find most affirming or helpful?	Positive
Q4	What action that anyone (lecturer or student) took in class today did you find most puzzling or confusing?	Negative
Q5	What about the class today surprised you the most? (this could be something about your own reactions to what went on, or something someone did, or anything else that occurred to you)	Neutral

C. Measurement of perception

After a briefing on the concept of reflective practice, the template containing the open-ended questions mentioned above were handed to the students after each contact session. Data collected from open-ended questions were read and specific codes (positive, neutral or negative) established based on the perception of the students for a given class activity. The data were then plotted for individual and collaborative feedbacks, and per class activity and per module.

III. RESULTS AND DISCUSSION

A. Reflection trends in the classroom

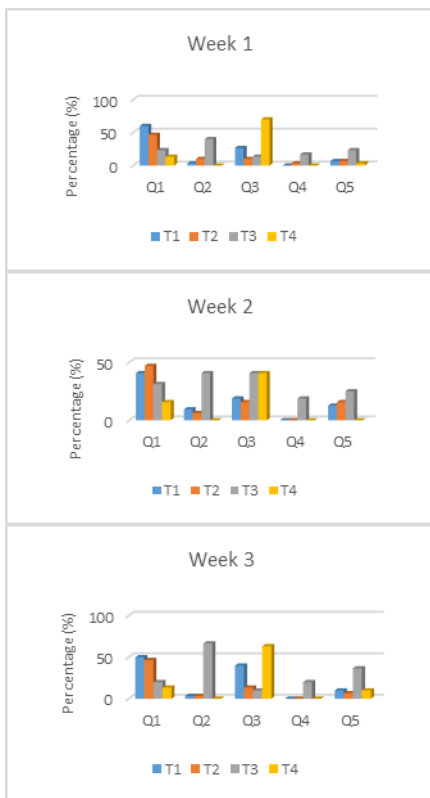


Fig 1 Trends of individual students' views about delivery methods

The students were invited to participate in the survey in order to give their opinions with regard to the delivery methods adopted as part of the restructuring of the teaching approach. The results in Figure 1 show the percentage of students (individual responses) considering that a given teaching delivery methods resulted in a designated impression as reflected in Table 2. These impressions are also coded as positive, neutral or negative. It was therefore observed that in general students have a positive view with regard to T1 (lecturer explaining key scientific principles) and T4 (interactions in class through questions and answers) as they consider that these activities resulted in better understanding of the topic cover during that particular session. The students however, did not really have an overall positive response for T3 (identifying and presenting a research paper related to the section of the course covered in that particular day) for various reason; one of the reason mentioned was that some of the groups did not present well or the topic of the day was challenging. However, it can also be seen that they were often engaged during that session (T3) and could find it helpful. What the students found mostly surprising (Q5) was the amount of information they could obtain from research investigation; it could be therefore concluded in this regard that their opinions with regard to T3 was a bit biased as they could not sufficiently translate the acquisition of new knowledge into a positive impact.

B. Individual vs collaborative reflections

It was important in this study to estimate the possibility to consider group reflection in large class. The individual and collective reflections were then compared and the results presented in Table 3. It could be observed that despite some similarities between the collective and individual opinions in the same group, it was possible to have complete agreement in any of the case. The trends however show that from week 1 (75% similarities for only two groups) to week 3 (75% similarities in all the groups), the students tend to strongly share the same opinion as individual and as group; this could certainly be due to the fact that they were not use to the delivery methods in the previous year as almost all the class experienced them for the first time, some adapting faster than others.

TABLE III SIMILARITIES BETWEEN INDIVIDUAL AND COLLECTIVE FEEDBACKS

Group	Category	W 1				S (%)	W 2				S (%)	W 3				S (%)
		T1	T2	T3	T4		T1	T2	T3	T4		T1	T2	T3	T4	
Group 1	Ind	P	P	Nu	P	75	Nu	P	Ng	P	50	Nu	P	Ng	Nu	75
	Col	P	P	P	P		Nu	Nu	Nu	P		Nu	P	Ng	P	
Group 2	Ind	P	P	Ng	P	25	P	P	P	P	75	P	P	Ng	P	75
	Col	Nu	Nu	Nu	P		P	P	Ng	P		P	Nu	Ng	P	
Group 3	Ind	P	Nu	Ng	P	25	P	P	P	P	75	P	P	Ng	P	75
	Col	Ng	P	P	P		P	P	P	Nu		P	P	Nu	P	
Group 4	Ind	P	P	Nu	P	25	P	P	P	P	25	P	P	Ng	P	75
	Col	P	Nu	Ng	Nu		P	Nu	Nu	Nu		P	Nu	Ng	P	
Group 5	Ind	P	Nu	Ng	P	75	P	P	Ng	P	50	P	P	Ng	P	75
	Col	Nu	Nu	Ng	P		P	P	Nu	Nu		P	P	Nu	P	

Ind: Individual, Col: collective, P: positive, Nu: neutral, Ng: Negative, S: similarity.

IV. CONCLUSION

The investigation allowed the lecturer to identify some of the strongest aspects of his teaching strategy, however, some important concerns which were not directly related to the delivery method itself, but the attitude of some students during a particular session could be considered for improvement. The comparison between the individual and collective reflections did show that the adaptation and understanding of the teaching strategy (after the second contact session) significantly influenced students' perceptions, hence the suggestion to consider group reflection as alternative to individual reflection in large classes where students are familiar to the teaching approach as it may be challenging for the lecturer to handle large number of students' feedbacks on a regular basis.

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Prof Elvis Fosso-Kankeu has been the recipient of several merit awards.