

MC5

A Web-based Centralized System to Manage Student Feedback and Peer Evaluation at the Faculty of Agriculture, University of Ruhuna

W.M.C.J. Wijekoon

Department of Soil Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya.

***Corresponding author:** *wijekoon@soil.ruh.ac.lk*

Abstract

Student feedback and peer evaluations are integral parts of the tertiary education systems. The response of the teacher to student feedback and peer evaluations depends on the teacher's perceptions and professionalism. Despite the personal biases, effective internalization of the feedback-response cycle is necessary to improve the teaching and learning process of academic institutions. Conventionally, paper-based questionnaires are used to obtain student feedback on teaching, courses and peer evaluation. Recent developments in Information and Communication Technology provide many avenues to carry out these questionnaire-based surveys through online services. Teachers prefer to use such services over paper-based questionnaires because of their intuitive interfaces, easy sharing and result analysis tools. Since individual teachers have full control over the student feedback data in most of the online tools, it is difficult to verify whether the teacher has responded to the feedback adequately. A centrally administered student feedback and peer evaluation system could collect responses and convey them to the management for further actions such as guiding and advising the teachers or improving the courses. Aforementioned tasks can be accomplished easily using tailor-made MIS or LMS and development of such systems could be costly and time consuming. This paper proposes an online system using Google forms as an interim solution to centrally handle the student feedback and peer evaluations at the faculty level. Since the proposed services are currently free to use, the faculties can easily adopt them if a local system is not in place. The feedback collected by the system will be processed by the IQAC of the Faculty of Agriculture using the functions of Google sheets. A custom-made summary of the feedback will be shared securely with the respective teacher and the head of the department (HOD) for further actions. This proposal was approved by the Faculty Board and yet to be implemented and validated.

Keywords: Google Forms, Google Sheets, Teacher Evaluation, Course Evaluation, Feedback-Response Cycles

Introduction

The teacher, course, and peer evaluation are vital components in the effective delivery of a degree program. These evaluations also provide valuable feedback that can be used in future curriculum revisions. Therefore, the program review process managed by the Quality Assurance Council of the University Grants Commission of Sri Lanka has given high priority to these activities. In addition, student feedback could be an instrument in measuring the accountability of academics (Spiller and Ferguson, 2011).

Conventionally, student feedback was obtained using paper-based forms. Individual teachers or an authorized person or a group were responsible to carry out this task. With the rapid advancements in information technology in the recent past, this could be done effortlessly using online facilities such as forms or surveys. Google forms were introduced to the Faculty of Agriculture for teacher and course evaluation in the year 2016/2017. Since its introduction, most of the staff members are using the forms to get the student feedback on teachers and courses. In this system, the individual teachers or course coordinators create an instance of the common evaluation form in their Google drive and distribute the link to the target students. Student responses go directly to the Google drive of the form owner. The form owner can see the results as a comprehensive summary of the feedback. This system is much better than the paper-based system where the data needs to be manually converted to the electronic form and analyzed. In the online form system, the teacher could use the feedback to improve his or her teaching and the course delivery. From the students' perspective, they have more freedom to evade providing feedback. Jha et al. (2019) reported that there is a decline in the student feedback in many universities.

The studies conducted by Smith (2020) and Spiller and Ferguson (2011) show that the teachers take the student feedback positively in most cases. Smith (2020) further explains that most of the teachers expect to use the feedback as a reflection rather than an evaluation. In addition, some teachers may hesitate to see a reflection of their practice. Therefore, the teachers may not use the student feedback to improve their teaching or course improvements if the responses of the teachers were not monitored adequately. Since the feedback comes directly to the teacher in a form-based online feedback system, it is entirely up to the teacher to respond to the feedback. There is no convenient mechanism in this system to ensure that the appropriate response is given to the student feedback. This weakness was recognized by the reviewers of the program review process. Therefore, a web-based centralized mechanism was sought and the present paper describes the technical and implementation aspects of the proposed system. Proposed system is useful in the absence of dedicated software solutions to manage

feedback-response cycles within the institute. A tailor-made MIS or LMS having these functionalities built-in could handle this task conveniently with more automated functions.

Methodology

Proposed Platform

Online forms provided by Google are the core of the system due to its reliability and security. Other similar platforms or locally configured intranets can also be used for this purpose. The data collection will be done by a single form prepared in the Google drive of the IQAC of the Faculty of Agriculture. The information of all the teachers and the courses will be entered into the form for ease of access. The automatic summary produced by this Google form cannot be used to check the feedback for individual teachers or courses. Therefore, the data stored in the Google sheet that is linked to the form needs to be filtered. This is the most challenging aspect of the proposed centralized evaluation system. The secure delivery of the right information to the right end-users at the right time with adequate privacy needs to be ensured in the system.

Implementation of the System and Operation

The concept was presented to the Faculty Board of the Faculty of Agriculture and it was approved. The process is summarized in Figure 1 below. IQAC will handle the data collection and processing in the system. Under this system, the web link to the form can be posted on the LMS home page or the home page of every course since only two common forms are used for all teachers and courses. Already existing teacher and course evaluation forms and peer evaluation forms could be converted to Google forms. It is the responsibility of the teacher or any designated member in a department or unit to encourage the students to fill the forms. It is up to the faculty to decide whether they make it compulsory for the students to fill the feedback forms or not. Proposed system does not have a function to check if a particular student has filled the feedback form without compromising the identity of the student.

The data acquired through the system will be processed using the pivot tables tool in Google sheets. A sheet for every teacher will be prepared in the workbook. A set of filters will be set in the pivot table to select the necessary data ranges; e.g., year of evaluation, subject, etc. The filtered information will be converted into counts, where necessary, to graphically illustrate the form responses; for example, the count of responses with “strongly agree” to the first question and the count of responses with “agree” to the first question. The data can be presented as pie charts or bar charts.

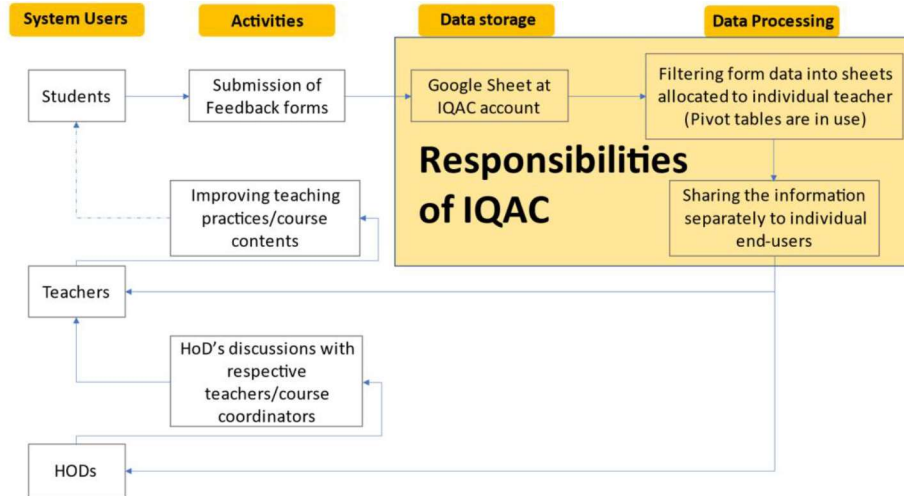


Figure 1: Operational structure of the monitoring system

The Mechanism of Encouraging Teachers to Respond to the Feedback

When the filters and the graphs are in place, respective sheets will be shared with respective teachers and the head of the particular department. Access to the data cells in the Google sheet will be restricted so that the data cannot be modified by any of the users. Filters will be available to the users to select the necessary data.

The course of action after receiving the feedback depends on the type of feedback received. If the teacher or a particular course has poor feedback the HOD may contact the teacher and discuss the issues and find appropriate solutions. For example, if there is no improvement in the teaching strategy even after several feedback-response cycles the HOD may talk to the teacher. This approach allows the teacher to adjust and minimize the chances for conflicts.

The same process applies to peer-evaluation. The peer evaluation could be relatively simple technically since the number of participants is less. A form that supports mobile phones would enable the peer to fill the form without any hassle. The Faculty of Agriculture, University of Ruhuna has already adopted a strategy to identify the peers who evaluate individual teachers at the beginning of a given semester. This paper only proposes a technical solution to gather feedback and a follow-up strategy. Each faculty may decide its own follow-up strategy and other factors such as time and frequency of feedback collection.

Discussion and Conclusions

Anticipated Problems in Implementing the Centralized Strategy

The centralization will create files with huge volumes of data. Poor handling of the files may lead to a data loss or data may be inaccessible to the end-users. Therefore, appropriate backing up is necessary. Annual cleanup of the databases could prevent data build-up. However, this will remove access to the past data. The use of pivot tables provided by Google sheets becomes intricate if the number of questions in the feedback form is high, the number of answers is high and answers are complicated. The actions taken by the HOD on the feedback could embarrass the teachers if both parties handled those actions unprofessionally. Teachers' perceptions and professionalism are key factors in the whole feedback-response process (Arthur, 2009). However, the system cannot provide solutions to such issues. Seemingly, there is no way to ensure that the appropriate action has been taken for the feedback without exposing the information to a superior or supervisor. Individual faculties may decide their own follow up activities.

Prospects of Improving the System

If a bespoke software solution can be developed by the institution instead of using common platforms such as Google, the process of data access would be simple with tailor-made interfaces. Further, student participation can be made compulsory for feedback surveys without exposing the identity of the students to the teachers.

While acting as an interim solution the centralized feedback management system proposed in this paper provides an insight into the shape of the software platform that needs to be incorporated into MIS or LMS to manage student feedback and peer evaluation. The follow up activities may differ from faculty to faculty of the university. Accordingly, various modifications to the system may be necessary.

References

- Arthur, L. (2009) From performativity to professionalism: lecturers' responses to student feedback, *Teach. High. Educ.*, 14, p441–454.
- Jha, M., Jha, S., Cowling, M., Clark, D. and Picton, J. (2019) A Proposal for Enhancing Students' Evaluations through an Adaptive and Progressive Digital Feedback System, in: Wei, S.C.Y., Mun, C.K., Alphonso, A. (eds.), *36th International Conference of Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education*. Singapore, p458–463.

Smith, E.J. (2020) Impact of student feedback on teacher reflection and perception of student opinion.
Ph.D. Thesis, East Stroudsburg University, Pennsylvania.

Spiller, D., Ferguson, P. (2011), Student evaluations : do lecturers value them and use them to engage with student learning needs? *In: Education in a Changing Environment (ECE), 6th International Conference: Creativity and Engagement in Higher Education.* p1–15.