A SURVEY ON LEARNING EXPERIENCE BY FEEDBACK AND LEARNING ANALYTICS

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ABSTRACT: A comparison between conventional learning and e-Learning implies that the latter has improved strategies, which are effective in assisting learners to comprehend information. This paper identifies the learning patterns of the students by using feedback and learning analytics. The role of student feedback in the teaching and learning cycle is important. Student feedback represents the amplitude of practicable information that can be used to improve work or learning strategies for the proposed system. This survey paper analyzes the importance of student feedback in learning analytics. The proposed system needs an e-Learning platform, MOOCs which is an interactive course that students can use to examine and explore open research questions.

Keywords: Learning Analytics, e-Learning, Feedback, Assessment, MOOCs.

I. Introduction

Traditional learning was based on classroom learning which is dependent on the instructor. The facilitator’s mastery regarding the matter, involvement in encouraging, conveyance capacity, and capacity to keep the crowd completely connected with are a few factors that decide the achievement or disappointment of an instructional meeting. While staff and students both featured various difficulties with feedback. Learning analytics (LA) is all about learners to understand and optimize learning. LA provides the learning design according to the learner’s behavior by detection and monitoring. LA also focuses on online situations. The other things we can do through LA omnipresent computing by tracking the Psychophysiological sensors for eye tracking, brain, gestures, and postures which provide a continuous flow of data. All such dimension facing provocation in the classroom because they are costly and individually placed sensors. And the other way would be to let students report on a particular situation of their learning in lectures. Students need to be aware of the feedback, why it is important to do so. Feedback will help the instructor to understand the strength and weaknesses of the learner and according to that, the instructor can help the learner to enhance the performance.

All universities collect feedback which helps to improve the Institute performance. MOOC (Massive Open Online Course) is an open online course that is free and open access by everyone via web and mobile, anytime, anywhere learners can learn. The instructor will assign the work to the learner to check the level of the learner after submission check the task was completed by a student of their own or copied from someone else’s work. To gain new knowledge and skills MOOCs are beneficial. The various ways of learning and lack of support assessment make these online courses difficult to analyze. Self-report is a quick and easy method to measure the condition. Students would find out complications about the lecture like Difficulty, Easy, Boring and Engaging.

Learning Analytics

A. Predict learners’ performance: The most important advantage of investigation is that they can give knowledge into how a student is performing today, yet besides his/her future execution all through the length of the e-Learning course.

B. Provides learners with a personalized e-Learning experience: Students can enhance with connections to locales that may push them to successfully understand the subject or recordings that permit them to learn through a progressively sound-related/visual methodology. No two students are indistinguishable, and learning examination enables e-Learning experts to guarantee that no two e-Learning encounters are similar either.

C. Improve future e-Learning courses: For example, if the information shows that a lion’s share of students is discovering one specific part of the e-Learning course excessively testing, at that point the designers can change the trouble level of that particular e-Learning module.
Role of student feedback in teaching and learning cycle

Utilizing understudy criticism to improve instructing and educational plans are shown in the instructing and learning consistent improvement cycle as appeared in Fig 1. It is a four-step process. In stage 1, the understudies' experience the course at the point when the educator conveys the course. In stage 2, the understudies give input on their experience. This input can incorporate both quantitative and subjective information. In stage 3, the educator examinations the input. In stage 4, in light of the bits of knowledge picked up from the examination the teacher re-plans the instructing approach and the educational program content. This cycle can be rehashed for the following run of the course or any other way applied on numerous occasions inside one run of the course.

II. Literature survey

In the literature survey, we have reviewed different papers on learner experiences like assessment, feedback and learning analytics to improve the learning performance of the learner. The following is the survey where different challenges are discussed:

Swapna Gottipati, Venky Shankaram raman and Sandy Ganii [5] The objective is to enhance the learning of the student for that all universities and schools need to collect feedback from the student to identify their strength and weakness. In this paper, capture, and analyze the qualitative feedback data of the universities that provide a valuable understanding of teaching practices. The feedback analysis application tool is also discussed in this paper. They used the desktop application for development and it has limitations of maintenance. Analytics Model, Data Processing, Extraction is also discussed in this paper.

Thanasis Daradoumis, Roxana Bassi, Fatos Xhafa and Santi Caballo [5] For quality education, the most flexible way is MOOC which is based on open education resources which helps to improve the knowledge sharing, capacity building, policy dialogue, etc. This paper believes that MOOCs are the new ways of e-learning which offers thousands of opportunities for the training which is distributed all over. To enhance assessment, delivery, and design, data collected from MOOC.

Gwo-Jen Hwang, Huei-Chun Chu and Chengjiu Yin [6] In this paper discussed the learning status, problem and analyzing the learner's learning pattern which will help in providing personalized learning contents. Some methodologies for learning analytics are decision tree, clustering, time-sequence analysis, associative rules for identifying the pattern of the learner, grouping which enhances the performance of the learner.

Teachers facing problems in detecting learner's behavior:

The teacher facing problems to identifying the learners behavior problem- And the teacher need is not completely defined and how to understand and assist learners. There is various normal behavior of the learner in the classroom observe by the teacher. The following are the characteristics to identify learners behavior problems.  

Learner has a poor educational record like reading, spelling or mathematics which cause the learner to unintelligent. Learners have difficulty remembering what they learned, they forget things in one or two days or remember it for a short period.

Analyzing student’s feedback: There are 100s or 1000s of comments in each course, which makes it tedious for the instructor to read these comments and then decide on which comments to acts upon to improve the student learning experience.

David Carless and David Boud [5] Students need to understand the importance of their feedback. Proper feedback will help to improve work and their learning strategies. In this paper student’s feedback will be reviewed and discussed to find out that where the students are facing difficulties or problems. They discussed the various ways of feedback through which students respond to feedback likes: training, syllabus, subject, modules, and contextual setting.

Figure 2: Features of student feedback literacy

Figure 2 represents the features of student feedback literacy which is based on four parameters: appreciating feedback, making judgment, managing effect, taking action.

A. Appreciating feedback: Students should understand and admire the part of feedback for better work. These feedbacks come from different form from a different source.

B. Making judgments: Take parts in peer feedback processes. Rectify self-evaluative measurements from time to time to make more judgments.
C. Managing effect: Based on feedback, it helps to develop the tendency of aiming for continuous improvement. It maintains emotional symmetry and avoids defensiveness when receiving unfavorable feedback.

D. Taking action: For the benefit of continuous improvement, conclude the range of feedback and invent the repertoire of blueprint for acting on feedback.

Improving the quality of teaching: In LMS the investigation produces data that makes a different organization in settling on choices and strategies, to screen and measure students' exhibitions and evaluate them more precisely that will profit students and learning process.

For Instructors: It additionally assists with distinguishing and address the issues during their life pattern of the understudy learning process, and these intercessions can assist with building great relations among the friend gathering and the educators. It tends to be utilized by an instructor to screen the live execution of their studies while they are getting to a particular module; whenever required they can adjust their showing strategies, for instance, they can distinguish the studies who are struggling on a particular topic/activity because of the time they spent.

For the student: Can recognize struggling studies prior. One study has been recognized who requires a few consideration, customized intercessions, for example, direction or then again support from the instructor can be consequently given to support those learners. Providing examples of overcoming difficulty can likewise go about as an inspiration add-on.

Uday Kumar Mothukuri, B Viswanath Reddy, P Naveen Reddy[3]. This paper aims that, to understand the online behavior of the student for the success of digital learning. When the instructors know about the student's behavior that can predict the behavior of the learner for their learning that helps the instructor to provide support and guidance to the learner whenever the learner required. They explain the importance of learning analytics that will help the learner, instructor, and institute to improve the process of learning and also how to improve the online education process. How learning styles can be used for improving the learning experience. We capture the learner's actions while user registration and the examination are presented for knowing the starting learning style. Even though it is known that the outcome of the examination is not honest for learning. There are various services used in it and are given below:

A. Administration: The service will provide the management interface for the admin or institute to manage users and courses and also support single and bulk user registrations with template and reminds them via SMS/Emails.

B. Course Management: For designing the course and upload the content in many forms like PDF, videos, HTML, etc. all these will be provided by this service. When the courses are published the learner can register on the course from the list of the courses.

C. Content Delivery: This will provide the course of the content that will be delivered at the given time and also allow discussing the topic.

D. Performance Evaluation: The learner is pass or fails in the course is evaluated by this service using the quiz. And the instructor submits the feedback.

E. Learning Analytics: In this service provides using the learner's action, activities regarding the course to the instructor or admin report will be generated. And also to capture the required data from other services and logs for further processing.

III. Conclusion

Learner and instructor dissatisfaction with feedback activity shows the requirement for better approaches for new ways of thinking. Learning analytics is a subject of an educational industry they had discussed various algorithms like decision tree, clustering, associative rule, visualization, time-sequence analysis. The feedback literacy is used for the development of the student's better position and performance, also to judge their work and increase their learning. To predict the performance of the student or to check the level of knowledge and according to that guide will be allocated to the increase in the performance for better results.

REFERENCES:


