Reward Feedback and Success for Inspiring Creative Minds: An Inspirational Model

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***Abstract*— In the present era of education, teaching and learning must transform to help learners foster aptitudes to prosper in the 21st century. The classroom activities assigned to learners at all levels are extremely important and it is mandatory for the learner to consistently follow and present the assigned work not only to earn superior grades in the exam but for the holistic development of skills associated with a subject. Previous research explains that revising the curriculum is an important factor of an effective teaching and learning. It helps in pinpointing those topics which students were not being able to comprehend because of numerous reasons. Effective teaching and learning can be achieved using various technologies and by using teaching and learning models. One of the critical aspects is improvement in lecture delivery, which can bring enormous change to students' understanding of concepts. Using different technologies and intensifying delivery method will not serve any purpose until there is an appropriate mechanism to track whether the learning objective of the subject are fulfilled. The main focus of this paper is to present innovative approaches of teaching and learning, consider above aspects and not only deals with concerns related to teaching and learning, but bring and originate healthy competitive atmosphere which augments the performance of learners and faculties. The inspirational model enables to monitor the individual and the groupware behavior of the learners that reflects defined learning goals. More importantly, innovative approaches allows sharing analysis results, thereby breaking up the isolation of different groups and allowing all the learners from the previous insights into the inner working of learners group.**

Keywords—Innovative teaching practices, student-centered teaching and learning, intrinsic motivation, RFS (reward, feedback and success) for novice

I. INTRODUCTION

Student centered teaching is the process of involving students in the teaching and learning process. Empirical evidences are available which proves that if students have been given freedom in their study based on the personal interest and who are accompanied in their learning by motivated and supportive facilitator earned superior academic grades. This process helps students to develop socially and grow personally. It also helps students to become lifelong and life-wide learner. Therefore, effective teaching and learning needs improvements in the method of lecture delivery. Effective delivery can bring enormous motivation and improvement to student understands of the concepts. Applying pure student centered approach is more demanding. In pure student-centered teaching students should get the support of: mentor to communicate, an organization, and simplified learning materials, getting these things are sometimes not very easy. Therefore the basic idea underlying our paradigm is to combine student centered teaching approach in a different manner. Inspiring creative minds is a learner oriented approach, which utilizes various software tools and IT infrastructure to provide ease and inspiration to the learners for better learning and participation in students centered learning process. Above all, it serves as a guide to assist a faculty in implementing and practicing student centered teaching. The presented inspirational model consists of several approaches such as an analogy based approach, game based approach, feedback based approach and many more. In the previous research analogy based approach was presented [6]. The approach presented in [6] is mainly focused towards the programming languages. In this research, the description of feedback "*RFS (reward, feedback and success) for novice*" is presented. Butler and Winne [14] presented the importance of feedback for self-regulated learning. They explained that is inherent a prime determiner of processes that constitute the self-regulated learning. Higgins et. al. [15] explained the meaning and impact of feedback for students in higher education. The importance of formative assessment feedback was discussed, which lead to a conclusion that formative assessment is an essential element to encourage the kind of "deep" learning as desired by the faculty [15]. Black and Wiliam [16] discussed the theoretical framework of formative assessment. The emphasizes were given for interactions between faculties, students and subjects within "communities of practice. Pintrich [17] discussed motivational science perspective for the overall student motivation in learning and teaching contexts. Seven substantive questions were discussed which play an important role in students performance [17]. Although there are many previous researches work discusses the significance of feedback in higher education to improve the learning among the students. The purpose of this research paper is to present feedback based inspirational model to motivate students to participate in the student centric learning environment. We bring to light, how reward and feedback motivate and direct students to achieve the success and therefore the name of the inspirational model is RFS (reward feedback and success) for novice is given. The underlying motivation of this work is to identify new ways for student centered teaching and learning. The rest

of the paper is organized as follows: Section II presents the innovative approaches (RFS for novice) implemented. The emphasis is given on RFS for the novice. Related works are discussed in Section III. This section explains the various approaches of same types discussed and implemented in the past. Results and discussion of the proposed approach are given in Section IV. Section V presents the conclusions of the presented work. Lastly but not the least some of the important literatures are given.

II. INNOVATIVE APPROACH IMPLEMENTED

This section presents the innovative approach implemented by author for improving the teaching and learning process. It includes an approach known as "RFS for novice". The detailing about how these approaches were implemented in the class is presented. In addition, difficulties faced by the instructor are discussed during the implementation of the RFS for the novice.

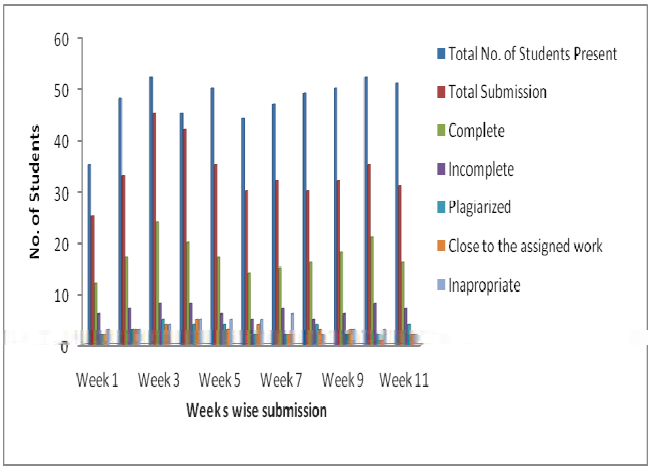

Fig. 1. Week-wise students' participation without applying RFS for novice approach.

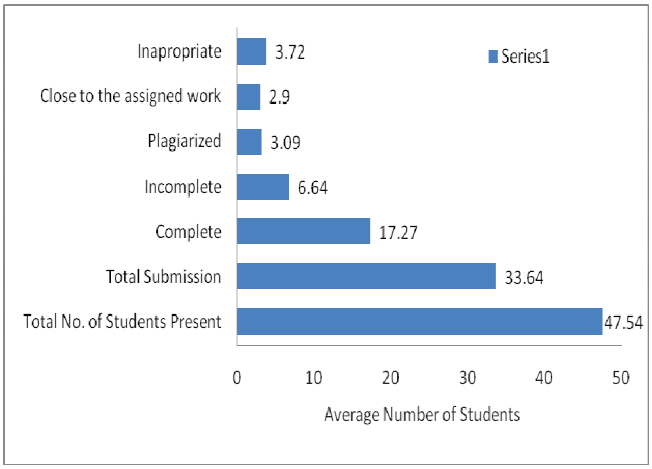

Fig. 2. Average students' participation in the learning process without applying RFS for the novice.

In a student centered teaching and learning environment, students are expected to take the initiatives. The role of the faculty is to monitor and facilitate their students. Although, the approach is beneficial, but due to absence of academic benefits such as marks or grades, student's involvement is an area of concern. It can yield benefits beyond expectation, if it is carried out with a right spirit to encourage maximum participation of the learners. The key benefits are:

(a) Students get the opportunity to research from various sources on a particular topic

(b) Students can gain more information than what is given in the course curriculum.

(c) This approach helps students to comprehend the topic holistically, which is very essential, since it constructs a platform where a student can grow professionally and academically.

This approach was applied in a cohort of 52 students. Students were assigned tasks at different times (week wise) during the semester. It is clearly illustrated in Fig. 1 and Fig. 2 that there was a lack of interest and motivation in students in participating in this learning process even if we keep other issues like incompleteness, inappropriateness and plagiarized submission aside.

Deci and Ryan [1] in their book title "*Handbook of self-determination research*" explains that human behavior and activities are driven by several types of motivations. These motivations may be either controlled or autonomous. Lack of appreciation and reward was the primary reason of less student participation; students are encouraged to participate in any type of academic activity unless they will see any benefit or appropriate reason in it. These benefits include academic marks or grades, appreciation, any types of recognition, competition with peers or may be honored and many more.

RFS for novice is an innovative approach, which helps the instructor to monitor student's performance on a regular basis. The term RFS stand for R-reward, F-feedback and S-success. An instructor can use these terms to motivate the students at different stages in their learning process. This approach allows learners to conduct research at individual levels about a particular concept and present their work to the faculty for a realistic detailed feedback. The approach proves to be very useful for the overall conceptual development of the learner. This approach gives recognition to the individual student as the results of the assigned tasks are displayed and showcased in an appropriate manner on the regular basis in the class. It is proven that showcasing the results brings an intrinsic motivation [1] [2] [3] among the students since they can see the performance of others. It provides benefits in two folds:

(a) First, students who are not performing will face a kind of humiliation as the results of their work are showcased to all in the classroom.

(b) Second, a student who is performing and submitting their tasks will get encouraged at the same time since they are getting the appreciation for the work they have conducted.

This approach was implemented in 3 cohorts and the results were incredible as the average students' participation increased. Although student participation increased, but other issues such as plagiarized, inappropriate and incomplete submission is still a matter of concern. It was observed that maximum number of students submitted either incomplete or plagiarized report for the assigned tasks. The mechanism of RFS addresses this issue. Students were informed that if students get S: success in at least 70-75 percent task assigned during the semester, then they earn "Good", they acquire a "Success" and all these students will be awarded a prize at the end of the semester [4].

Faculties need to coach the preconditions well in advance before assigning the task to their students. The preconditions for acquiring "Success" and acquiring "Good" are listed as:

(a) Submitted report should not be plagiarized.

(b) Incomplete report will not be acceptable

(c) If work found inappropriate, it will not be considered,

(d) Referencing must be in an appropriate style, otherwise report will not be considered

(e) Student should prepare the report in such a manner by which, if instructed to present the work before the class, he/she should be willing to present.

III. Related Work

Student centered learning model emphasizes in understanding the students need rather on than others who mainly involved in teaching process such as a faculty [11] [12]. In student centered learning approach the role of the faculty is a facilitator and mentor. It focuses mainly on student's interest and understanding and finding their requirements [11] [12]. It motivates students to actively participate in the learning process, whereas in teacher centered learning process, a teacher is the primary source of knowledge and the focus is towards gaining information as it is proctored to the learners. In case of the student learning active learning is strongly encouraged while teacher centered learning don't guarantee the active learning [11]. This model increases the students' participation and in researching the materials necessary to the success of their academia and knowledge which makes the students lifelong and life wide learner. It can be seen as the hybrid teaching and learning model which is the combination of Bloom's Taxonomy [9] and Howard Gardner's theory of multiple intelligence [13]. These theories can develop valuable insight to the student centered learning since they support various levels and modes of different learning styles. Henderson [5] in his book proposed three basic principles of democratic living. It is found that these principles are not yet established in our society as far as education is concerned [5]. He used three S's of teaching to represent the basic principles in education. They are:

(a). Self Learning: autonomous view point of learning.
(b). Social Learning: interaction among the peers, collaborative thinking.
(c). Subject Learning: research the subject matter, prepare in a thoughtful manner and delivered/presented.

RFS for novice is an *Inspirational Model*", which can be utilized as an effective approach to promote these principles discussed above and inspire the learners and faculties in teaching and learning process.

IV. Results and Discussion

Rewards and feedback on works develop a feeling of competence and therefore enhance the intrinsic motivations [4]. RFS for novice proves to be extremely helpful in reducing the issues of plagiarism, inappropriateness and incompleteness of the assigned work to students. It not only reduces the plagiarized, inappropriate and incomplete submission, but also it yields various hidden benefits such as: (a) A faculty can monitor the performance and see the improvement in student at the individual level in one go. (b) Faculty can exactly tell who has not performed or poorly performed in the assigned task. (c) Faculty can easily track down and concentrate to the students who are not performing to the satisfactory level and for such students; faculty can fix a separate meeting to understand their difficulties.

The RFS for the novice inspirational model is found very effective when students' feedback was showcased in the class. It was observed that students were very excited in seeing their feedback for the work completed.

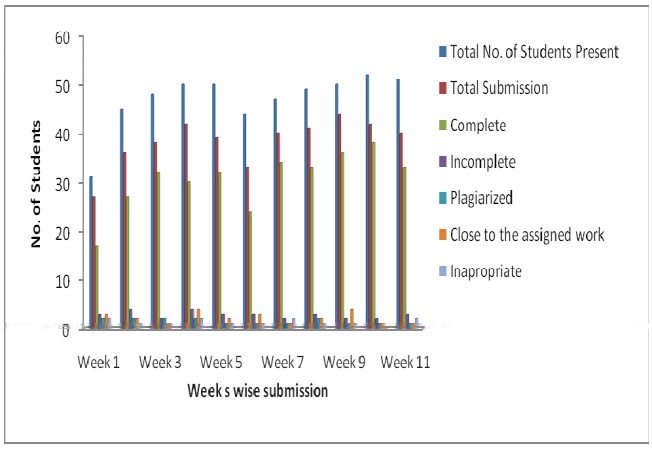

Fig. 3. Week-wise students' participation after applying RFS for novice approach

The presented inspiration model not only provide a platform for the student's improvement in their learning but also helps a faculty to improve their skills and re-think in their teaching methodology. The feedback provided by students for faculty was also showcased in the class and students were asked to read the comments received, the discussion was done with the feedback to find the way of improvement. It helps a faculty to understand where he or she is going wrong.

Fig. 3 and Fig. 4 indicates the week wise students' participation in the assigned task and average student's participation in the teaching and learning process respectively after applying RFS for novice approach. It can be seen from Fig. 5 that average student's participation by submitting the complete report is increased from 17.27 (see Fig. 2) to 30.55.

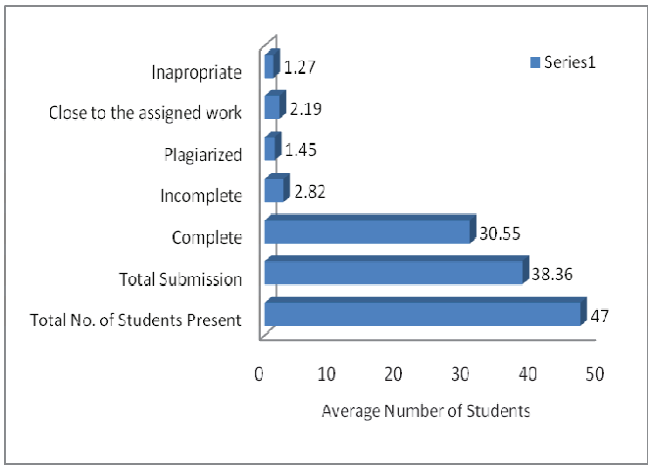

Fig. 4. Average students' participation in the learning process after applying RFS for the novice.

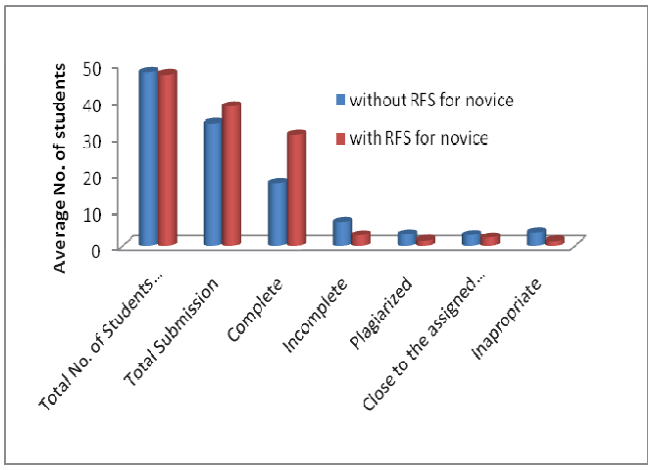

Fig. 5. Average students' participation in the learning process after applying RFS for the novice.

Fig. 5 depicts the comparison chart of average students' participation in the teaching and learning process without applying RFS for novice and after applying RFS for the novice. The important thing to notice at this stage is there is decrease in incomplete, plagiarized, and inappropriate submission, whereas increase can be seen for close to the assigned work and complete task submission.

V. Conclusions

The Universities and academic institutions worldwide is adopting the student-centered teaching and learning approach to transform the education system and help the learners to foster skills in the modern era of education. RFS for novice is an inspirational model, which is proposed and practiced at different levels. Results proves that students were benefited. Although, this approach needs little extra effort to be put from faculty as well as students' side, but in the end both parties were equally benefited. It motivates the students to actively participate in the assessment process and helpful to the faculty to monitor student performance and improvement at the individual level. This model help faculty in identifiying students who are not performing for the assigned tasks, so that faculty can fix one to one meeting with them to understand the difficulties and provide the solution to their student, which will provide the smooth platform for the student to perform and earn superior grades and become lifelong and lifewide leaner. Although, it is not possible for the individual faculty to modify the curriculum, assessment policies, but we still can get the benefits of the proposed model by motivating students to participate in the active learning. The RFS for novice is an effort to encourage the active involvement of students and at the same time convince and provide enough faciltiy to the faculty to adopt student centered approach.

References

[1] Deci, E. L., & Ryan, R. M. (Eds.). (2002). *Handbook of self-determination research*. University Rochester Press.

[2] Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation.*Psychological bulletin*, *125*(6), 627.

[3] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, *55*(1), 68.

[4] Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of personality and Social Psychology*, *18*(1), 105.

[5] Henderson, J. G. (2001). *Reflective teaching: Professional artistry through inquiry*. Prentice Hall.

[6] Pandey, H. M., & Turner, A. IPLP: A Method to Deliver Programming Techniques by Making Analogy

[7] Sandholtz, J. H. (1997). *Teaching with technology: Creating student-centered classrooms*. Teachers College Press, Teachers College, Columbia University, 1234 Amsterdam Ave., New York, NY 10027.

[8] Hattie, J. (2003). *Teachers make a difference: what is the research evidence?*(p. 4). Camberwell: Australian Council for Educational Research.

[9] Bloom, B. S. (1956). Taxonomy of educational objectives: The classification of education goals by a committee of college and university examiners. David McKay.

[10] Forehand, M. (2010). Bloom's taxonomy. Emerging perspectives on learning, teaching, and technology.

[11] Motschnig-Pitrik, R., & Holzinger, A. (2002). Student-centered teaching meets new media: Concept and case study. *Educational Technology & Society*, *5*(4), 160-172.

[12] Brush, T., & Saye, J. (2000). Implementation and evaluation of a student-centered learning unit: A case study. *Educational technology research and development*, *48*(3), 79-100.

[13] Gardner, H. (1987). The theory of multiple intelligences. *Annals of Dyslexia*,*37*(1), 19-35.

[14] Butler, Deborah L., and Philip H. Winne. "Feedback and self-regulated learning: A theoretical synthesis." *Review of educational research* 65.3 (1995): 245-281.

[15] Higgins, Richard, Peter Hartley, and Alan Skelton. "The conscientious consumer: reconsidering the role of assessment feedback in student learning."*Studies in Higher Education* 27.1 (2002): 53-64.

[16] Black, Paul, and Dylan Wiliam. "Developing the theory of formative assessment." *Educational Assessment, Evaluation and Accountability (formerly: Journal of Personnel Evaluation in Education)* 21.1 (2009): 5-31.

[17] Pintrich, Paul R. "A motivational science perspective on the role of student motivation in learning and teaching contexts." *Journal of educational Psychology* 95.4 (2003): 667.

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Hari Mohan Pandey is major in Computer Science & Engineering. He has published research papers in various conferences and journals. He is author of several books in the field of Computer Science & Engineering for the world renowned publishers such as McGraw-Hill, Pearson Education, and University Science Press. He is associated with various International Journals as TPC, advisory board member and editorial board member. He was the co-chair for WorldComp'12 held in Las Vegas USA for Foundation of Education in Computer Science in year 2012. He will be chairing a session in International Conference on Education Policy under International Congress 19-22 Nov 2014, Bangkok. He was the first person who won the innovative practice award in 2011 at Middle East College, under Coventry University, U.K. for the hybrid learning model developed to deliver difficult programming concepts known as Intelligent Practice for Learning Programming.