# Student Self-Assessment: Critical Reflection

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*Abstract* – Self assessment is considered as a part of study process in higher education. It helps students in understanding the learning process, in all of its aspects. Also, to succeed academically and in personal & professional life, the need for the self-assessment has grown.

Keywords - Self-assessment, Learning

#### I. INTRODUCTION

**P**eer evaluations are commonly used in engineering classrooms to assess student effort, to provide feedback to peer students on assignments or to improve student learning through increased peer-to-peer interactions thus increasing their social and transferable skills. These peer evaluations may be subject to bias due to dishonesty and gender effects.

The studies consist of diverse elements, such as teaching, learning, assessment, etc. and there is no doubt that assessment process goes along with the learning process and even influences it. Assessment of students' in higher education is considered as a part of the study process in Laxmi Devi Institute of Engineering & Technology.

In order to improve students' learning and effectiveness of studies, assessment should be conducted periodically. Analysis of pervious research and scientific literature revealed that the main components of periodic assessment influencing effectiveness of studies positively are frequency of assessment, feedback and self-assessment.

Although self-assessment is defined in various ways, it can be mentioned that all definitions of self-assessment illustrate it as a learner's activity in which decisions are taken regarding their own progress, performance and achievement for the set criterion in order to improve the learning and effectiveness of studies.

This may encompass different processes in order to make sound decision. Furthermore, the researches revealed that influence of self-assessment to student's learning also enhances academic results, help to develop personal competencies, orientation ability, cultivation of self-control, training of independence, education of active citizen and longlife learner, foster intrinsic motivation to study.

## II. RESEARCH METHODOLOGY

Higher education has already shifted towards the constructivist theory that involves students in the learning process in all of its aspects. Therefore, the need for self-assessment by students has grown to engage learners in constructing their own knowledge & learning skills, and developing their thinking skills for succeeding academically

and in their life. Student self-assessment is a form of evaluation in which student reflects their qualities and shortcomings in order to recognize academic needs and strengthen shortcomings with the aim of improving their performance.

Student self-assessment is compatible with the constructivist theory which advocates the full engagement of learners in the construction of their own knowledge. In order to construct new sound knowledge, learners must assess this knowledge to fill gaps in it and to make sure of connections between its parts. In the absence of these revisiting processes, there can be no real construction of knowledge. Self-assessment can therefore be regarded as vital for the building of sound knowledge to occur.

The research instrument was developed by the authors, given the aim of the research. The questionnaire consist of open questions about the students' opinion concerning self-assessment was applied most effectively.

All the questions were formulated in such a way as to empower students who given answers to them to refer to their own involvement in the studies by concluding personal growth. The recurrence of self-evaluation was measured on the premise of the number of times that student self-assessment was applied in the course of the studies.

For the research, a case of full-time studies at Laxmi Devi Institute of Engineering & Technology was decided upon. An originally created questionnaire concerning self-assessment was used for the research. The characteristics of self-assessment were analysed with the aim of finding out influence on the development of students' learning and effectiveness of studies at Laxmi Devi Institute of Engineering & Technology.

The answers to the questionnaire "How confident do you feel about your ability?" revealed the effectiveness of the studies in the academic and personality development of the students. The content of self-assessment is exceptionally supportive for teachers in getting information about students' advances and challenges concerning studies, learning and knowledge gain. Moreover, the said data is imperative for the students as well.

## III. RESEARCH OUTCOMES

After defining the assessment components students evaluated themselves on the said parameters by ranking the components in relation to the degree of effectiveness. After analysing the assessment components below mentioned patterned was revealed in the feedback provided by the students. That figures as illustrated below prove that self-assessment is important for the students. Furthermore, it was observed that most of the surveyed students pointed out that, in their opinion, they better understands the effectiveness of studies for which self-assessment was applied.



Figure 1: Aware of personal beliefs, values, quality and abilities.



Figure 2: Identifying areas for development.



Figure 3: Discussing areas of development with others.



Figure 4: Accepting challenges about own practice from others.



Figure 5: Knowledgeable about the underpinning theory to critical reflection.



Figure 6: Describing a situation accurately in writing.



Figure 7: Describing a situation accurately verbally.



Figure 8: Describing a situation without making judgments.



Figure 9: Identifying existing knowledge of relevance to a particular situation.



Figure 10: Exploring feelings about a situation and writing them down.



Figure 11: Exploring feeling about a situation and relating them to others verbally.



Figure 12: Identifying and challenging assumptions made about a situation.



Figure 13: Imagining and exploring alternative course of action.



Figure 14: Identifying learning from critical reflection.



Figure 15: Devising an action plan to put that learning into practice.



Figure 16: Providing evidence to others that learning has occurred.

Also, in most of the cases of self-assessment, students identified their learning difficulties. This fact has to be taken for the thought by the teachers, since appropriate identification of learning difficulties by the students themselves is a great begin for the organization, by supporting autonomous learning and taking more responsibility for studies by the students, which is critical in the improvement of proficient competencies in life-long learning viewpoint.

Furthermore, most of the research on self-assessment focused on its validity. Various findings on the studies investigating on the degree of validity of self-assessment showed that selfassessments by students have low to moderate validity compared to assessment done by experts.

Tendency toward self enhancement, lack of experience in self-assessment and inability in the area being assessed are the factors that were found to affect the accuracy of selfassessments.

#### IV. CONCLUSION

As established by the research, self-assessment empowered students to progress their person learning and to become more mindful for their think about results, which was critical in the context of the learning. This is also noteworthy for the studies at Laxmi Devi Institute of Engineering & Technology.

That figures also prove that self-assessment is important for the students' and this matter is worth to be explored more deeply. However, the teachers' opinion or other parameters of the evaluation of study effectiveness were not taken into consideration. To eliminate the limitations, additional research would also be necessary.

#### REFERENCES

- [1] G. May, and L. Gueldenzoph, "The effect of social style on peer evaluation ratings in project teams," *Journal of Business Communication*, vol. 43(1), pp. 4-20, 2006.
- [2] J. Fitzpatrick, "Self-assessment as a strategy to provide interactive learning within a professional degree programme," *Learning in Health and Social Care*, vol. 5(1), pp. 23-34, 2006.
- [3] M. Wen, and C. Tsai, "University Students' Perceptions of and Attitudes toward (Online) Peer Assessment," *Higher education*, vol. 51(1): pp. 27-44, 2006
- [4] S. Cassidy, "Developing employability skills: Peer assessment in

higher education," *Education & Training*, vol. 48(7), pp. 508-517, 2006.

- [5] J. Cambra-Fierro, and J. Cambra-Berdun, "Students' self-evaluation and reflection, part 2: An empirical study," *Education & Training*, vol. 49(2), pp. 103–111, 2007.
  [6] N. Kirby, and C. Downs, "Self-assessment and the disadvantaged
- [6] N. Kirby, and C. Downs, "Self-assessment and the disadvantaged student: Potential for encouraging self-regulated learning?," *Assessment and Evaluation in Higher Education*, vol. 32(4), pp. 475-494, 2007.
- [7] N.W. Petty, and T. Green, "Measuring Educational Opportunity as Perceived by Students: A process indicator," *School Effectiveness* and School Improvement, vol. 18 (1), pp. 67–91, 2007.
- [8] D. Baker, "Peer assessment in small groups: a comparison of methods," *Journal of Management Education*, vol. 32(2), pp. 183-209, 2008.
- [9] I. Colthart, G. Bagnall, A. Evans, H. Allbutt, A. Haig, J. Illing, and B. McKinstry, "The effectiveness of self-assessment on the identification of learner needs, learner activity, and impact on clinical practice," *Medical Teacher*, vol. 30(2), pp. 124-145, 2008.
- [10] J.A. Ross, and M. Starling, "Self-assessment in a technology supported environment: The case of grade 9 geography," *Assessment in Education: Principles, Policy & Practice*, vol. 15(2), pp. 183-199, 2008.
- [11] L.M. Garcia, and N.P. Roblin, "Innovation, research and professional development in higher education: Learning from our own experience," *Teaching and Teacher Education: An International Journal of Research and Studies*, vol. 24(1), pp. 104–116, 2008.
- [12] V. Malone, and P.V. Pederson, "Designing assignments in the social studies to meet curriculum standards and prepare students for adult roles," *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, vol. 81(6), pp. 257–262, 2008.
  [13] J. Mort, and D. Hansen, "First-year pharmacy students' self-
- [13] J. Mort, and D. Hansen, "First-year pharmacy students' selfassessment of communication skills and the impact of video review," *American Journal of Pharmaceutical Education*, vol. 74(5), 2010.
- [14] M. Ohland, "The Comprehensive Assessment of Team Member Development of a Behaviorally Anchored Rating Scale for Selfand Peer Evaluation," *Academy of Management Learning and Education*, vol. 11(4), pp. 609-630, 2012.
- [15] M. Borrego, "Team Effectiveness Theory from Industrial and Organizational Psychology Applied to Engineering Student Project Teams: A Research Review," *Journal of Engineering Education*, vol. 102(4), pp. 472-512, 2013.
- [16] I. Bartusevičiene, "Self-evaluation as an Attribute of Formative Assessment of Students' Achievements in Maritime Studies", *International Journal on Marine Navigation and Safety of Sea Transportation*, vol. 8, no. 2, pp. 239-244, 2014.
- [17] R. Tucker, "Sex does not matter: gender bias and gender differences in peer assessments of contributions to group work," *Assessment and Evaluation in Higher Education*, vol. 39(3), pp. 293-309, 2014.
- [18] C. Roster, L. Lucianetti, and G. Albaum, "Exploring slider versus categorical response formats in web-based surveys," *Journal of Research Practice*, vol. 11(1), 2015.
- [19] J. Weidhaas, "Engineering Student Self-Assessment of Performance in a Team Setting: Realism versus Fantasy," *American Society for Engineering Education*, 2017.
- [20] H. Khandelwal, and U. Bhargava, "Student Self-Assessment: How Do I See My Self?" *IJRDT*, vol. 9 (3), 2018.
- [21] H. Khandelwal, "Self-Assessment of Engineering Students," *JESMT*, vol. 8 (2), 2018.
- [22] H. Khandelwal, "Student Self-Assessment: A Review," IJRIAS, vol. 4 (2), 2019.