# Teacher, Learner And Society

Vol. 13 No. 2. December 2016

*An Interdisciplinary Peer Reviewed Research Journal in Education*

**Mar Theophilus Training College**
**Thiruvananthapuram-15, Kerala, India.**

www.mttc.ac.in

ISSN 2319-1709-26

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Research Article

# LEARNING OBJECTIVE GRID INTEGRATED OBJECTIVE BASED SCIENCE INSTRUCTION: A VIABILITY ANALYSIS

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***Abstract:*** *The investigator attempted to improve the classroom instructional practices through Objective Based Science Instruction with a new pattern of Taxonomy of Instructional Objectives tailor-made to the requirements of twenty-first century classrooms at the doctoral level at the University of Kerala. This paper is a spin- off product from that ongoing investigation. The investigator created Learning Objective Grids, which is viable alternative in recasting the classroom instructional design, with meaningful and tangible outcomes.*

## INTRODUCTION

Education has always been awash with new ideas about learning and teaching. Teachers and administrators are regularly challenged with suggestions to use new curricula, new teaching strategies, and new assessment mechanisms; so as to bring about an amendment in human behaviour. The aims and objectives are to be avowed evidently to ensure the efficacy of an educational programme. The learning outcomes expressed by means of information, attitudes, skills and values elucidate the instructional objectives. Hence the framing of instructional objectives and their implementation in the instructional design should be done with utmost precision. The investigator is currently pursuing research in education. As a part of the research activities, the elements in the existing taxonomies of educational objectives, which require an upgrade and facelift in the 21st century classroom scenario, were to be identified. Moreover, additional information was needed to prepare for a study on large scales. Since it is a new area of research, insights were needed into. This prompted the investigator to conduct a Focus Group Discussion entitled 'Pros and Cons of Objective Based Instruction and the Streamlines of Educational Taxonomies in Action' in 2013, as a part of the ongoing doctoral level investigation. This was conducted with the purpose of reviewing the existing patterns of instructional objectives with a view to cater the needs of the 21st century citizens. It was moderated by the investigator and facilitated by the research mentor. Audio and video recording facilities were also

ISSN 2319-1709-26

Acritical evaluation of the Learning Objective Grid,madeby the student-teachers who practiced it, was obtained using the tool constructed by the investigator namely'Response Sheet on Learning Objective Grid (LOG) Approach'. A sample response sheet on Grid Approach is attached as Appendix A. Furthermore, the Learning Objective Grid was introduced and elucidated to the science student- teachers of Government College of Teacher Education, Thiruvananthapuram, and the same tool was used to collect their views regarding the same.

## RESULTS AND DISCUSSIONS

The name- list of the student- teachers who actively contributed to the data collection is attached as Appendix B. Sample responses of the student-teachers are given below.

By scrutinizing the collected responses, it was observed that the Learning Objective Grid helps the teacher to organize the learning objectives in a rational, easy to absorb and realizable manner. The grid approach confirms the attainment of the basic levels of learning before moving to the higher levels. It stresses a learning outcomes based approach to ensure that the curriculum design evolves from a more teacher- centered to a more student- centered focus. The grid approach also rectifies the intricacies of expressing the instructional objectives or expected learning outcomes in a lesson template design.

The data collected has been both quantitatively as well as qualitatively analyzed. The responses of the student- teachers who practiced the Learning Objective Grid are pictorially represented as in Figure 2.


*Figure 2: Responses of student- teachers who practiced LOG*

The opinion of the student- teachers who were exposed to the Learning Objective Grid, but have not practiced it is pictorially represented as in Figure 3.

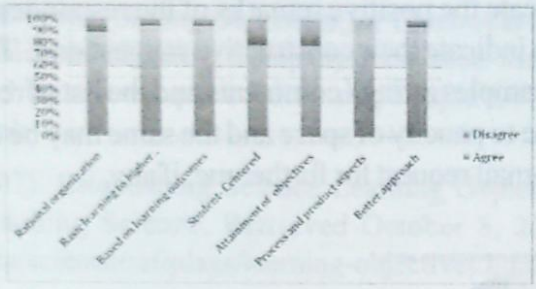


*Figure 3: Responses of student- teachers who have not practiced LOG*

A comparisonof these figures shows the efficiency of the Learning Objective Grid (LOG) Approach quantitatively. The integrated graphical representation of Figure 2 and Figure 3usinga line graph is given inFigure 4. This primarily emphasizes the efficiency of LOG as an aid for the attainment of both product and process aspects of learning.

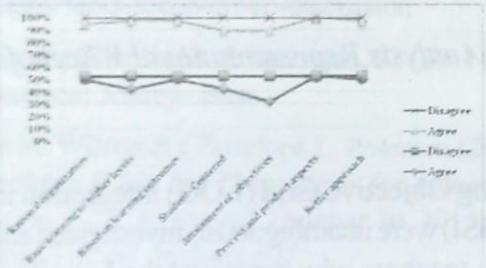

*Figure 4: Integrated graphical representation showing the efficiency of LOG*

A descriptive analysis of the collected data has also been done. The investigator amalgamated the essence of these responses and opinions from the subjects. This throws light into numerousdistinguished features of the Learning Objective Grid (LOG) namely specificity, uniqueness, brevity, precision, ease of construction and implementation, objective setting as per the student needs and potentials, improvement in process skills and thinking levels, clarified depiction of the teacher's perspectives, and above all, distinct assessment of the learning outcomes.The investigator also spotted certain valuable suggestions of the subjects to enhance the implementation of LOG as room for more flexibility, more precise evaluation procedure and avoidance of perplexity of any sort. A striking suggestion

was to make use of the numbering system instead of tick marks so as to make the assessment perfect. The qualitative analysis of the Learning Objective Grid (LOG), showing its effectiveness, is pictorially represented in Figure 5. The areas in solid colors indicate the positive remarks of the respondents on LOG, while the striped portions indicate their constructive suggestions. The response sheet used to access the samples rating / comments and the list of responded attached are not included due to paucity of space and the same may be obtained from the first author on an e-mail request for further me, if any.

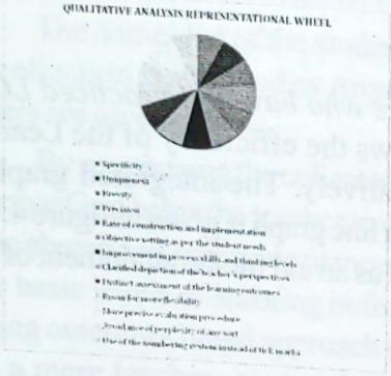


*Figure 5: Qualitative Analysis Representational Wheel of LOG*

## CONCLUSION

The features of Learning Objective Grid (LOG) integration in Objective Based Science Instruction (OBSI) were unambiguouslyinvestigated and identified. It was noted that the student- teachers who practiced the Learning Objective Grid critically evaluated it and gave a genuine feedback, underscoring its plus points as well as creative suggestions for improvement. The student- teachers who have not practiced LOG revealed their intensified enthusiasm to know more about it, shared their constructive opinions and showed interest to practice it in actual classroom situations.

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