Curricula assessment is an integrated process to assist higher education institutions in addressing the challenges in a designated field of study and in exploring the opportunities to better educate and prepare their students for an increasingly complex world. Although assessment as a topic has been researched extensively, there has been a lack of quantitative tools that address the requirements of many of the stakeholders that may be critical to the curriculum design and assessment processes.

This research proposes the utilization of Design for Six Sigma (DFSS) to develop a quantitative model for curriculum assessment and improvement for higher education institutions. A review of the literature indicates that there is a lack of quantitative tools that enhance the reliability and efficiency of gathering customer requirements for curriculum in higher education environment. In addition, there is a lack of tools to translate these requirements into actual characteristics that can be used for curriculum design and assessment purposes. The literature also indicates that curriculum assessment is one of several educational processes that affect the quality of education.

This research proposes a quantitative model for curriculum assessment and improvement in higher education institutions, utilizing design for six sigma methodology. The proposed model explores the use of the Kano model concept to translate needed requirements into desirable curriculum attributes and the general concept of establishing transfer function to determine the level at which those requirements have been satisfied. The use of the developed model can help improve student learning and provide curriculum stakeholders with timely feedback about the curriculum and identify areas in need of improvement.

To validate the capability of the proposed model, an ABET accredited department of Industrial Engineering in a US university was used a case study.

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The public is welcome to attend.