

STRUCTURED ABSTRACT



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Follow-up on Rubric-Based Assessment of Student Outcomes by Senior-Year Graduation Design Project and Continuing to Improve by Performance Indicator Breakdown-Based Assessment

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CONTEXT

The study exemplifies the Continuous Improvement (CI) Strategy of the ITU EEUP (Istanbul Technical Univ, Environ Engr Undergrad Program) through the educational quality assurance actions taken in recent years in the senior-year Graduation Design Project (GDP) course. Assessment and Evaluation (A&E) results from previous cycles indicated a discrepancy and called for a new outlook. The current study is a follow-up on rubric-based assessment of related SOs by the senior-year GDP, and includes new offerings to continue improving the process through implementation of the “*Performance Indicator (PI)-breakdown*” based assessment to the SO A&E process run through the GDP.

PURPOSE

For several consecutive review cycles, the A&E process to define the level of attainment of seven SOs by GDP gave results below thresholds for some SOs (SO1, SO5, SO8). Considering the features, objectives, content, and operation of the GDP, and the final product –the report prepared by student teams-, as well as recent addition of the new “*environmental management considerations*” both to the assignments and to the GDP-specific grading rubric; it seemed contradictory obtaining student performances (SP) below the threshold in those SOs. Thus, it became apparent that the aggregative measures of SPs were required to be broken down to address individual SO-related PIs.

APPROACH

Even though with the previous and improved assessment tools and results in hand, it was still not possible to identify at which particular dimensions, in other words –*PIs*- comprising the explicit details of the SO A&E scheme, that the senior-year students seemed to be performing below expectations. Accordingly, a “*PI-breakdown*” based assessment was implemented in Spring 2015-2016 and the instructors were asked to assess SPs both by using the improved GDP-rubric and the detailed analytic rubrics specifically designed for each SO.

ACTUAL AND ANTICIPATED OUTCOMES

Results of the previous and recently improved SO A&E for the GDP revealed a clear improvement in level of attainment of the SOs addressed by the GDP course from 2014-15 Spring to 2015-16 Fall, upon selection and addition of other tools. Yet, those were still giving a general sense of deficiencies in SPs at SO-level. A genuine picture of the relevance, accuracy, and utility of selected assessment tools was essential. Hence, additional tools, namely detailed analytic rubrics specifically designed for each SO mapped to GDP, were also implemented to the A&E process and used with the recently recommended “*PI-breakdown*” based assessment approach to facilitate attainment of more realistic and meaningful results. Comparative evaluation of the A&E results showed that all related SOs were attained at levels above the set thresholds. Those improvements were considered to be not only because of increase in student performances, but also due to implementation of the new tools and the *PI-breakdown* based assessment approach.

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

Results of those recent implementations have already been obtained. The GDP A&E Team at ITU EEUP has combined those informative results from the recently recommended “*PI-breakdown*” based assessment with the formerly improved SO A&E process. By this way, a much comprehensive evaluation and attainment of more realistic results have become possible, which also enable further fine tuning of the A&E process.

KEYWORDS

Assessment and Evaluation (A&E), Performance Indicator (PI), Problem/Design-Based Learning, Student Outcome (SO)

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