UNIVERSITI TEKNOLOGI MARA

EVALUATING TEACHING PERFORMANCE CRITERIA IN SECONDARY SCHOOLS USING FUZZY ANALYTIC HIERARCHY PROCESS (FAHP) AND FUZZY TECHNIQUE FOR ORDER PREFERENCE BY SIMILARITY TO IDEAL SOLUTION (FTOPSIS)

AISYAH HASNAH HANIM BINTI ABDUL RAHIM

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ABSTRACT

Assessing teacher performance of teachers is vital for improving teaching quality and enhancing overall learning outcomes in the education sector. However, the process can be subjective and involving multiple criteria, so it becomes challenging to compare and rank teachers on the objective scale. The research aims at identifying the criteria that influence teaching effectiveness and to provide a fair decision making procedures for ranking teachers. Fuzzy Analytic Hierarchy Process (FAHP) and Fuzzy Technique for Order Preference by Similarity to Ideal Solution (FTOPSIS) are a tool of decision making, which is applied to evaluate wide-ranging and uncertain problems involving multiple criteria. Accordingly, the FAHP process is employed in resolving the uncertainty and fuzziness of human judgment in assessing the teaching performance criteria, whereas FTOPSIS method is used to rank the teachers who serve as the alternatives. This research presents a more comprehensive model in evaluating teaching performance that integrates these two fuzzy based techniques. The procedure to be carried out would be to transform the results into the weights of criteria using FAHP and the ranking of teachers using the FTOPSIS. Four experts evaluated seven criteria and Microsoft Excel was used to perform the fuzzy calculations. The findings show that teaching preparation was rated as the most important criterion, while assessment and feedback was rated the least important. It is also indicates that Teacher 5 received the highest performance ranking followed by Teachers 6, 2, 4, 3 and 1. In summary, the method helps fair teacher evaluation and development. Future research could consider broader scopes, including criteria selection, the number of experts and alternatives involved and using other decision making method.

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