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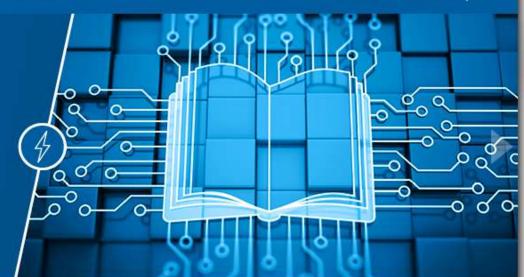
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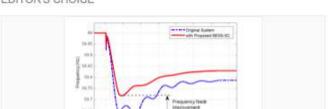
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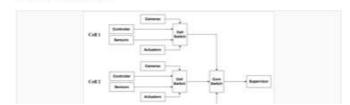




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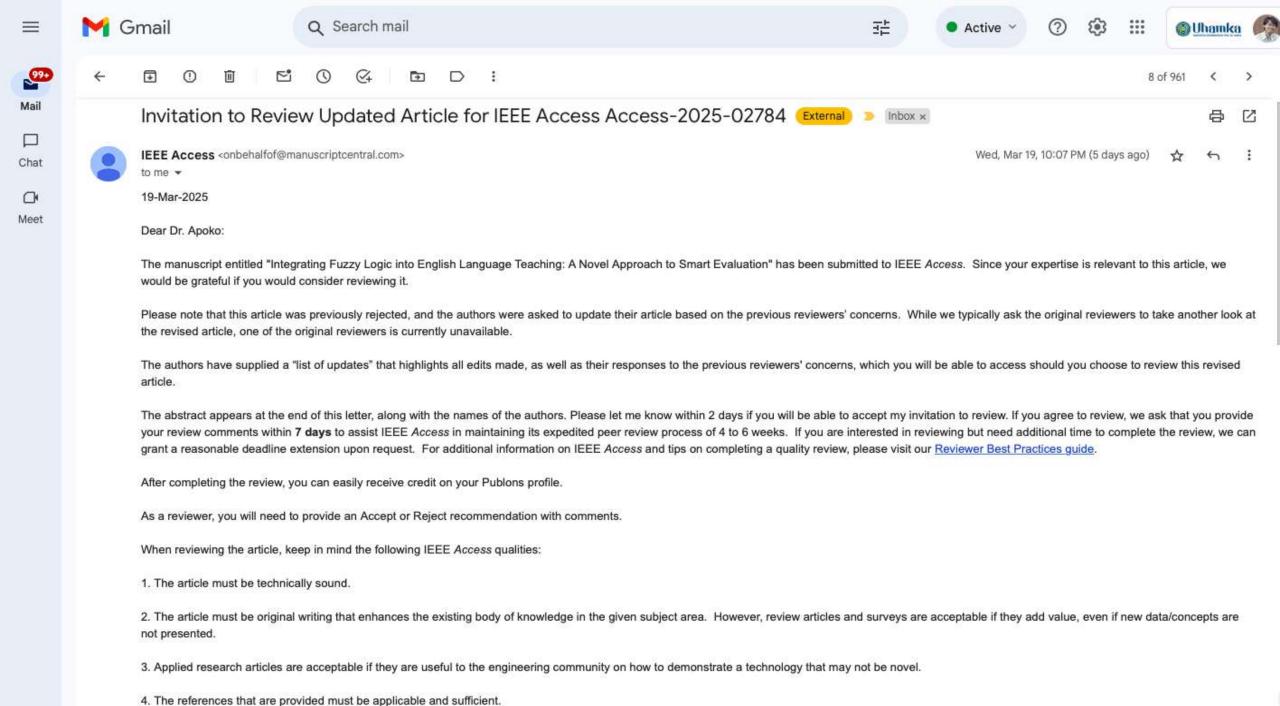
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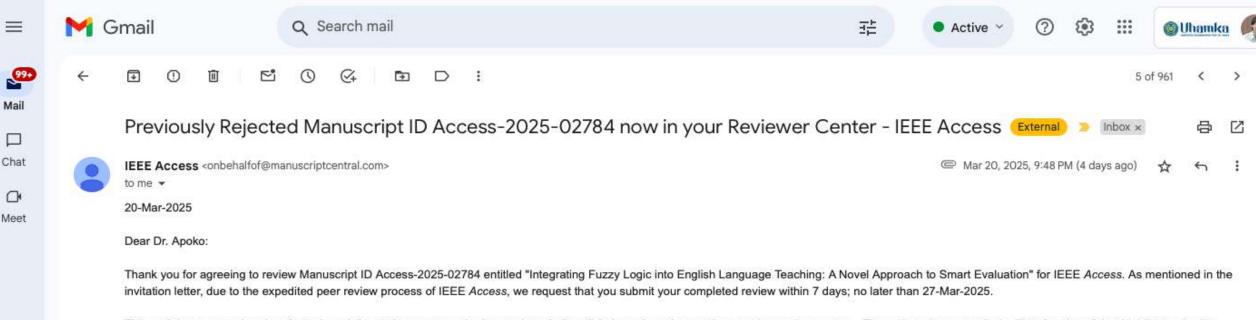
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Integrating Fuzzy Logic into English Language Teaching: A Novel Approach to Smart Evaluation

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ABSTRACT Whenever English language teaching (ELT) is concerned, language proficiency and getting its root knowledge considerably concern students. Students cannot progress a lot while using old and traditional methods because of language's complexity and subjective characteristics. Fuzzy Logic (FL) gives us better testing tools, removing confusion and discrepancies in data. It helps us enhance students' language skills, including comprehension, fluency, and grammatical accuracy, whereas language's irregular and nonlinear nature is also considered. For improvements to error-free tests and considering students' interests, this study uses an intelligent assessment model (IAM) based on FL principles, which results in more progress. The research tells us that this sound approach will lead us to a more personalized, fair, and motivating English Language Classes (ELC) testing system, leading to enhanced learning outcomes.

INDEX TERMS English language teaching, multi-attribute decision-making, aggregation operators, uncertainty handling, intelligent assessment model, fuzziness

I. INTRODUCTION

Fuzzy logic has a wide application and is recognized as a better practice in ELT. Many issues come across while testing students' language proficiency, specifically in a dynamic and diverse educational system. Old and customary methods with strict and similar structures did not fit to address the refined and subjective elements of language learning. This limitation led researchers and educators to find better ways to tell the complexities of the language acquisition process.

Out of these different ways, fuzzy logic is one of the most prominent solutions. Produced to sort out uncertainty in computer systems, fuzzy logic gives an ideal base for exploring language competency. A different testing method has come up with the unique and new nature of language learning. Unlike the old systems of grading, which only have the yes/no algorithm, fuzzy logic uses variable degrees of truth, making it well-designed for finding the precise aspects of language performance, such as pronunciation, fluency, coherence, and other qualitative traits. By applying this approach, educators can test students' abilities more accurately and flexibly, considering the diversity and ambiguity of language use. Teachers can thus create a more inclusive, adaptable, and realistic testing model that covers a broader range of student skills. This "intelligent evaluation" method increases student learning outcomes and carries the organic development of language assets. This finding tells us how merging fuzzy logic into ELT could change testing

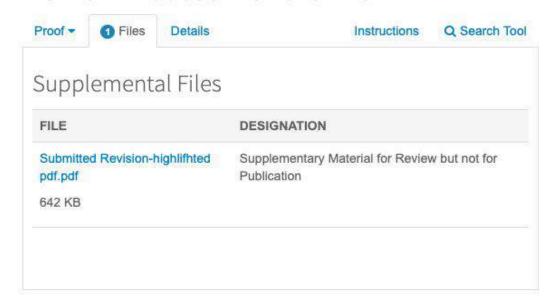
practices and give educators and learners a practical means to overcome the problems of today's various and expanding language learning environments.

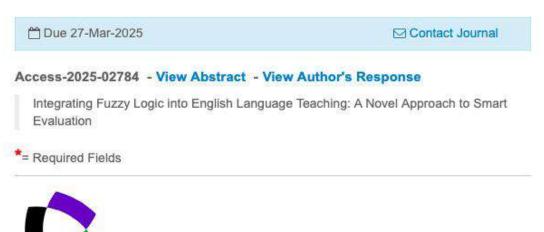
Among the most significant hurdles in testing English language proficiency are the essential unpredictability and biased judgments linked with language expansion. Fuzzy logic, with its ability to tackle dubiety and unpredictability, is expressly accepted to face such problems in the light of language teaching. The standard "correct" versus "incorrect" analysis systems, often used in language testament, could not tell the complications of students' language skills. This problem describes the limitations of binary or "crisp" testaments in correctly measuring linguistic proficiency.

To overcome this problem, Zadeh [1] introduced the concept of fuzzy sets (FS), which use a range of membership degrees from 0 to 1 to point out a response's reliability level, as opposed to a simple binary choice. This approach is mainly used in the areas having dubieties and complications, such as neurology, education, and linguistics. For example, fuzzy logic-based models have been applied to test fluency, pronunciation, and comprehension—essential parts of language proficiency. The confederation of fuzzy logic into ELT makes better and more adjustable testing systems, making a "smart" framework capable of adopting the complex and often individualized nature of language possession.



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Integrating Fuzzy Logic into English Language Teaching: A Novel Approach to Smart Evaluation

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Keguruan dan Ilmu Pendidikan, English Language Education

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Submitted Review

30

req 1) Does the paper contribute to the body of knowledge?

Yes, especially in the background and literature teview sections.

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- Some references are provided with DOIs and the websites, but some of them are not.
- 2. More references are required to support the discussion section, not the conclusion.

Submitted Review

Recommendation

Reject (updates required before resubmission)

Confidential Comments to the Editor

This article still needs to revising, especially in the methodology, results, and the discussion.

Comments to the Author

The topic of this article is quite interesting to discuss for conducting the research. The elaboration of the concepts in the background with some literature reviews on fuzzy logic in ELT is comprehensive enough. However, some points below for improvements are necessarily considered:

- In the abstract, it has been presented with the problem, design, and the results. However, it would be more comprehensive when you adwith the objectives, the context and participants, and the recommendation.
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 you may cite some references to support the ideas of its importance and the problems.
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