



## UNIVERSAL DESIGN ON LEARNING TOWARDS INCLUSIVE EDUCATION FOR SECONDARY SCHOOLS

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### ABSTRACT

This study examined teachers' implementation of Universal Design for Learning (UDL) principles and the corresponding learning outcomes of Cookery NC II students across auditory, visual, and kinesthetic modalities. Using a descriptive-correlational research design, the study assessed the application of the three UDL principles, the Multiple Means of Engagement (MME), Multiple Means of Representation (MMR), and Multiple Means of Action and Expression (MMAE) and their relationship to students' holistic learning performance. Results revealed that teachers implemented UDL to a high extent, however, variability was observed in motivational design, consistent questioning and prompting, and structured procedural scaffolding, suggesting the need for stronger instructional alignment with UDL principles. Students demonstrated high learning outcomes across all modalities, although several higher-order skills were not statistically significant at the  $\alpha = .05$  level, including spontaneous auditory responses, interpretation of complex diagrams, visualization of procedural sequences, and independent error correction. Both teachers and students identified kinesthetic, visual, and multisensory instructional materials as the most effective learning supports, while purely auditory materials were consistently rated lower. Student feedback highlighted the importance

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of clear explanations, visual reminders, guided practice, appropriate pacing, and reduced cognitive load during practical tasks. Regression analysis showed that the combined UDL predictors (MME, MMR, and MMAE) did not significantly explain overall holistic performance. However, one component—MMR2, which focuses on visual aids and demonstrations—emerged as a significant predictor and accounted for a substantial portion of the variance. The study concludes that UDL-based instruction is highly relevant in Cookery NC II, emphasizing the critical role of visual representation and scaffolded practice in enhancing holistic student performance.

**Keywords:** *Universal Design for Learning (UDL); multimodal learning; visual representation; holistic performance; instructional scaffolding*

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