REDESIGNING PROBLEM-BASED LEARNING IN THE AI ERA: BALANCING INNOVATION WITH PEDAGOGICAL INTEGRITY

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Abstract:-

Background:Thepervasiveintegrationofartificialintelligence (AI) anddigitalizationsignificantlyalters problem-basedlearning (PBL) in highereducation, raisingconcernsaboutitsimpact on criticalthinkingandfundamentallearningoutcomes.

Purpose: This article investigates AI's influence on PBL content and evaluates a modified PBL model designed to optimize AI's utility while safeguarding core pedagogical objectives like innovativeness and individual responsibility of participants.

Methodology: Grounded in educationaltheory, wefirstanalyzedexisting AI support in Higher Education Institutions (HEIs) through PBL using a seriesofworkshops. Thisleads to thedevelopmentof a modified PBL framework, whereinitialsolutionideationoccurswithout AI, followedby AI use in theimplementationphase. A subsequentsurveyofworkshopparticipantsthenassessedtheeffectsofthis model.

Results: Initialworkshopfindingsindicatedthatextensiveuseof AI in PBL candiminishcriticalthinking, in-depthlearning, andindividualresponsibility. In contrast, themodified PBL approachstrengthenedbrainstorming, enhancedunderstandingofAI'spossibilitiesandlimitations, andfosteredethicalityandacademicintegrity. Solutionsdevelopedwithinthis model weresimpler, butalso more diverseandinnovativethanthosegeneratedsolelywith AI.

Conclusion: Structuring AI integration in PBL is crucial to improvingcoreeducationalobjectives. Themodified model effectivelypromotesinnovativeeducationandresponsible AI usebysegmentingAI's role. Theoreticalimplicationsunderscoretheneedfordiversifiedassessmentandevolving PBL goals, emphasizingself-directionandcriticalevaluationof AI in practice.

Keywords - Artificial Intelligence, Problem-Based Learning, Higher Education, Critical Thinking, Educational Innovation