Higher-order cognitive skills among entry-level IT professionals in Sri Lanka: Industry expert's point of view

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Higher-Order Cognitive Skills (HOCS) refers to progressive mental processes which improve an individual's skills on analyzing complex problems critically, creating varied perspectives based on different viewpoints, evaluating problems in multifaceted ways, and creating innovative advanced solutions. Hence HOCS which include analysis, evaluation, problem-solving, and creative thinking are recognized as essential competencies for entry level IT professionals who have to handle complex and dynamic technological environments. The main objective of this study is to explore the perceived adequacy of HOCS among newly employed IT graduates from the perspective of industry experts. By quantitative survey questionnaire approach, data were collected from immediate supervisors of newly recruited IT graduates across leading thirty SLASSCOM registered IT companies. The findings reveal an overall minor level of satisfaction with HOCS, demonstrated by recently graduated IT professionals. Logical reasoning skill was rated as adequate but analytical skill was generally rated as significantly less adequate. All findings align with similar types of technical work such as using an agile project management method for fulfilling identified objectives. Gaps were identified in essential HOCS for IT professionals in innovation solution-based projects such as creative problem solving, critical evaluation, and adaptive thinking skills. IT professionals highlighted that graduates properly perform assigned tasks within structured decisions and frameworks. However, they struggle to deal with semi-structured and unstructured decisions and frameworks independently formulating for optimal solutions particularly in systems integration, project design and implementation and stakeholder's requirements and experience enhancement. Overall, the study underlines the most important higher-order cognitive skills IT professionals' entire lifelong activities. Conclusion of this study is problem-solving, and critical thinking skills are most relevant HOCS and to address the identified gaps, it is authoritative for IT education to develop structured pedagogical approaches with integrate real-world problem-based learning, and reflective assessments to methodically encourage identified skills.

Keywords: *Higher-Order Cognitive Skills (HOCS), Recent IT graduates, IT professionals, IT education, Pedagogical approaches*