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RANKING OF EMPLOYABILITY SKILLS OF FRESH CIVIL ENGINEERING GRADUATES

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In the recent past, civil engineering graduates have benefitted from an increase in employment opportunities in Sri Lanka. Engineering faculties in Sri Lanka produce a majority of engineering graduates with certain employability skills. Employers expect satisfactory levels of employability skills from fresh graduates.

The purpose of this study is to identify important employability skills for fresh civil engineering graduates, based on employer expectations, through a questionnaire survey. Employability skills considered here are categorized as; (1) Technical knowledge and skills (ES1); (2) Intellectual skills (ES2); (3) Attitudes (ES3); and (4) Awareness of standards of engineering practice (ES4). ES1 includes science fundamentals, engineering fundamentals and application, probability and statistics, computer science and technology and engineering practice. ES2 consists of logical thinking, problem solving skills, communication skills, design skills, organizational skills, management and administrative skills. ES3 is measured in terms of competence, integrity, tolerance, flexibility, reliability, conscientiousness, punctuality and approachability. ES4 is measured using understanding of measurement systems, technical standards, specifications and inspection standards, testing practices, environmental constraints, code of ethics and proficiency standards. Each skill was measured using a five-point Likert scale (1-5) representing different levels of importance of skills where a skill having scores above 3.0 is considered as important. Data were collected from thirty employers who have the authority to recruit graduates. Data analysis was carried out using the multi-attribute value technique involving the statistical mean and index and the ranks were assigned for each skill and skill category.

Results revealed that employers consider ES3 as the most important skill category among four categories with an average score of 4.03 out of 5 (rank 1). Average scores of categories ES2, ES1 and ES4 were 3.76 (rank 2), 3.69(rank 3) and 3.66 (rank 4), respectively. In category ES3, punctuality, integrity, commitment and tolerance received high scores of 4.37, 4.20, 4.20, and 4.03 respectively, and thus were identified as very important skills that need to be acquired by fresh graduates. Within the category ES1, engineering fundamentals and application received a high score of 4.13 while probability and statistics received a comparatively low score of 2.87. In the category ES2, written communication, verbal communication and problem solving skills emerged as important skills with scores of 4.00, 3.87 and 3.90, respectively.

These findings will be very useful for developing better career prospects for fresh civil engineering graduates and help immensely in curriculum design/revision of civil engineering degree programs in Sri Lankan universities.