Paper I

Discusses about a case study of the Engineering job market and how there is mismatch between skill set required and available in job market. It gives facts stated byEngineers Canada, the national organization of provincial and territorial associations which has found the demand and supply imbalance in job market. It state that, though there are many candidates from colleges and universities available for job the requirements of the recruiter are not fulfilled. As a result there are many vacant places as well as lots of candidates at the same time. It classifies the reasons for this gap as regional gap and educational gap.It further classifies educational-job mismatch in different type such as field of study, level of education required, demography, globalization. It also suggests steps to reduce this gap by training unemployed workers. It gives an example of Ontario ‘second-carrier’ program which spends considerable amount per individual candidate and states 74% of participants were employed after this program. The second approach to deal with this issue is, an employer can hire a candidate and then provides him with training of the required skill set. But there is flaw in this approach as employers in USA as well as in Canada spend 2.25% to 2.8% of their payroll. Also company seeking unskilled candidates and then spending time to train them despite of their degree raises concern in current employment and educational system. Hence, it is clear that there should be a ‘new category’ of jobs to which employees should belong and should satisfy employer’s needs which fits to the paradigm of New Collar Jobs. We see a clear gap between education system and employers which new collar jobs can bridge. The traditional colleges and universities attract many competitive international candidates but they tend to leave the state, province or country. Also majority of local candidates fall out because of multiple reasons like cost of 4 years degree program or studying something that they will apply on job. An employment system which distinguishes between skills which are employable rather than purely scientific can lead to solution to this problem. One example of such program is PAC(Program Advisory Committee) run by Canadian government which gets updates on job market demands, emerging technology which provides feedback to the educational system with current skills required.

Paper-II

Work-based competences can be

categorized into three groups: competences defined in terms of

(i) a list of tasks,

(ii) a collection of attributes, and

(iii) a holistic or integrated relationship.

The two major challenges are ``how to apply skills and knowledge in various task situations'', and ``how to acquire missing Competences''. Skill can be defined as ability that provides learner to apply knowledge and to perform tasks efficiently. The Competency, Knowledge and skills are closely related. Competency has skills and when we apply skills it shows knowledge.

Occupation, skill/competence, and qualification are considered as three pillars for job seekers by European Skills/Competences, qualifications and Occupations (ESCO) which relies on other standards like International Standard Classification of Occupations (ISCO), EQF, Fields of Education and Training (FoET). Skill levels can be further classified into four skill levels such as,

1. Primary 2. Sencondary 3. Tertiary 4. Second-stage-tertiary based on following attributes,

(i) the characteristic tasks which should be performed, (ii) the type of skill required for performing the tasks, and (iii) the typical occupations.

The paper also explains about different ontologies in HR field some of them are as listed below,

|  |  |  |  |
| --- | --- | --- | --- |
| HR Ontology | Skill Ontology | Competency Ontology | Job-Know Ontology |
| Derived from sub ontologies like skills, person, organization, industry,  job posting, job application and education. | Defines relation between employee, skill instance, position and position  skill requirement. | Learning objects are annotated with Competency class. Competency class consists of 3 other class. competency definition, proficiency  level, and knowledge reference. | Relates Knowledge, Skill, Ability (KSA) with vocational education and training. |

The theory revolves around 3 entities Task, Competence and KSA which can be obtained via vocational training/educational programs (VET). The tasks are the

Tasks ---> Competencies ---> KSA ---> Obtained via VET

A Task requires Competence

Competence enables Task

KSA unlocks/qualifies Competence

Competence requires KSA