



Conceptual Framework on Competency Mapping for Employability

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ABSTRACT

Competency mapping is a critical process that involves identifying and evaluating the key skills, knowledge, and behaviours required to be successful in a particular area or role. This summary explains the concept of student competency mapping and its importance in education. This study should provide a clear understanding of what skills and knowledge they need to succeed in their field, helping them to set achievable goals, and assisting with career planning. The purpose of this study is to determine the student's level of competence and the employability employers expect of them. Each student has their own unique skills, but sometimes they don't know where to improve. Competency mapping is a process that helps students build their skills using a variety of methods. This study gives the subtle of employability skills that are, workplace skills, applied and core-knowledge skills engineering graduates should possess for securing and retaining a job. Pilot study has been conducted further statistical test and Data interpretation will be continued in the next paper.

Keywords: Competency mapping, Employability skills, Students competency mapping.

INTRODUCTION

Competency mapping is the process of identifying the competencies required to perform successfully in particular job. Students competency mapping refers to the identification and assessment of the skills and abilities that students need to possess in order to be successful in the work place. Today, employers are looking for candidates who have not only the required educational background, but also the skills and competencies required for the job. Competency mapping can help the students to identify their actual competency level and understand the certain skills and knowledge that required for the particular job.

School passed out students are not aware about the employability skills. Educational institutions need to play a crucial role to improve the capability of the students for the better performance in a job role. The competency mapping process involves several steps. The first step is to identify the competencies required in a particular area. These competencies include skills such as domain knowledge, critical thinking, problem-solving, communication, interpersonal skills, and other related traits such as leadership, creativity, and adaptability.

The competencies are measured using various tools such as self-assessment and self-evaluation and performance evaluation. The data collected from the students to identify the strength and weakness level of students competencies. Based on the results of the assessment and analysis, the required training, coaching and mentoring are provided by the institution to help the students for developing the required competencies.

Competency mapping helps employers identify and select students with the required competencies for specific roles, increasing the chances of success for both the students and the organizations they work for.

Employability skills, also known as soft skills or transferable skills, are a set of personal qualities, habits, attitudes and social skills that are valued by employers in the workplace. These skills are essential to succeed in the workplace, building a career, and adapting to the demands of the changing job market.

REVIEW OF LITERATURE

Andreas Blom and Hiroshi(2011) sacki Lack of skills is one of the main obstacles to the growth of the Indian economy. This survey attempts to fill this knowledge gap by answering three of his questions: 1) What skills do employers consider important when hiring new graduates? 2) How satisfied are employers with hiring new graduates? 3) What skills are engineers lacking? Graduate skills , recognize the importance of soft skills, focus on the teaching and learning process, and maximize interaction with employers to understand the need for skills for employability.

J Anitha and Reema P.M (2014) Competency mapping helps to identify the job and behaviour competencies of an individual in an organization. This paper explores the new tool and enhance the quality of educational institutions. The paper describes TAASK (Trait, ability, attitude, skill, knowledge) these are the based competency model for assessment of faculty members in an institution. This paper made a thorough study of the variables such as (TAASK) . these competencies help the individual to improve their performance and meet the organization goals and objectives.

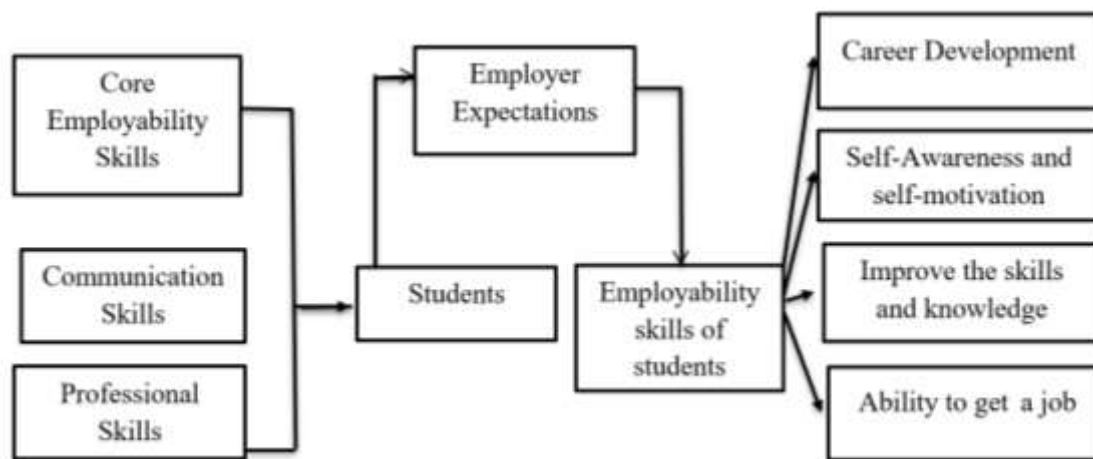
Dr. Kiran sharma (2015) The study is about , The colleges and universities have a vital role to provide right kind of training to improve the employability skills of the students. Technical and non-Technical skills are essential for all the students for their career. The institutions should analyse the student's academic performance and engagement , confidence in his /her skills , ambition , perception and awareness about job opportunities for providing what the students requires. Having Aptitude skills , logical reasoning , communication skill , general knowledge , current affairs, leadership and teamwork are help the student to improve their self confidence and self esteem. So the students should tune theirselves for their career development.

Tanushree M Aralihond (2020) This study examines the employability skills required of undergraduates. This study identify the gap between the the skills expected by the industry and the actual skills of the students. The main objective of the study is need to look at the employability skills development and help the students in several ways to getting an employment.

V Lakshmi and Dr. K.C. Prashanth (2022) The main objective of this study is to analyse the competency in academic institution and to know the impact of competency on academic institution. The way of changing students into professional is one of the duties of Teachers. The changes of educational system should introducing the internet facilities and the teachers should update themselves for developing the skills, knowledge, attitude and behaviour . This study should increase the quality of the teacher's performance and analyse the gap from learning and understanding. This study improving the internal and external personality of an individual and developing their self.

FRAMEWORK OF THE STUDY

To examine the skills expected by the company from students



CORE EMPLOYABILITY SKILLS:

Core employability skills are the essential skills and abilities employers look for in candidates during the hiring process .

1. Teamwork

Teamwork refers to an individual's ability to work effectively as a member of a team, contributing to the team's goal and collaborating with others towards a common objective. This competency is important in many workplace, as most tasks and project require the input of multiple people to complete.

2. Integrity

Integrity is a key competency that refers to the adherence to a set of moral and ethical principles. It involves being honest, transparent, trust worthy in all personal and professional interactions. People with high integrity are committed to doing what is right, even when it may be difficult or unpopular.

3. Entrepreneurship

Entrepreneurship competency refers to the set of skills, knowledge, and attitudes required to successfully start, manage, and grow a business venture. It involves the ability to identify opportunities , develop innovative ideas, take calculated risks, and create value for customers.

4. Self-motivation

Self-motivation is a critical competency that involves being able to motivate oneself to achieve goals and remain productive without external pressure or guidance. It is a key trait that employers often look for potential hires, as it can lead to increased productivity and overall success.

5. Self-Discipline

Self-discipline is a key competency that refers to the ability to regulate one's thoughts, emotions, and behaviours in order to achieve the long term goals. It involves the ability to resist temptations and distractions, and to stay focused on what is important in order to reach desired outcomes.

PROFESSIONAL SKILLS:

Professional skills are the abilities and knowledge required to succeed in a specific profession or career.

1. Creativity

Creativity competency refers to the ability to generate innovative ideas and solutions to problems. It involves using imagination, originality and resourcefulness to come up with new and unique ideas. To develop creativity competency, individuals can practice techniques such as brainstorming, mind mapping and lateral thinking.

2. Problem solving

Problem solving competency refers to the ability to identify, analyse and evaluate a problem or situation, and then develop and implement effective solutions. This competency involves analytical thinking, decision making and adaptability.

3. Use of modern tools

Use of modern tools play a crucial role to design, analyse and optimize complex system and processes more efficiently and accurately than ever before.

4. System design

System design competency refers to the ability to effectively design and architect complex software system that are scalable, maintainable, and meet the requirements. It is a combination of technical skill and communication skill.

COMMUNICATION SKILLS

Communication skills refers to abilities that people use to convey and receive information effectively.

1. Written and verbal communication

Written and verbal communication refers to the ability to effectively communicate ideas, thoughts and information in written and oral form. It involves being able to express oneself clearly, concisely and persuasively in different contexts and for different audiences.

2. Technical Skills

Technical skills refers to the ability to perform a specific task or duties related to a particular job or profession. It is proficiency in a set of technical skill that are necessary to perform the job functions effectively.

3. Basic and advance computer skills

Basic computer skills refers to the fundamental knowledge required to operate a computer and perform basic tasks. Advance computer skills refers to the more specialized knowledge required to perform complex task or work with specific software applications.

PILOT STUDY

Pilot study have been conducted to check the reliability of the method used to collect Data (using survey) from the respondents. "Cronbach's Alpha" would be computed.

Cronbach's α is a measure of internal consistency. This refers to how closely related a set of items are as a collective. It can also be defined as the measure of scale reliability. Sometimes, Cronbach's alpha is defined as a purpose of the quantity of items in a test, the average covariance between pairs, and the total score variance.

Cronbach's alpha tests to see if multiple-question [Likert scale](#) surveys are reliable.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	27	96.4
	Excluded ^a	1	3.6
	Total	28	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.948	35

Item Statistics

	Mean	Std. Deviation	N
Age	1.89	.751	27
Year of Study	1.00	.000	27
Do you aware about employability skills	1.22	.424	27
[How would you rate your proficiency in your choosen engineering specialization]	3.74	.903	27
How did you acquire your employability skills	2.04	.854	27
[How would you rate your understanding of basic engineering concepts]	3.59	1.047	27
[The level of competency in Domain k2wledge]	3.63	.967	27
[The level of interest in mathematical Ability]	3.33	.920	27
[The level of ability in solving differential equations, numerical methods, algebra]	3.52	.935	27
[The level of applied k2wledge in mathematics]	3.48	.802	27
[The level of competency in scientific skill such as (physical, chemical, biological, environmental k2wledge)]	3.67	1.038	27
[The level of competency in technical skill]	3.56	.892	27
[How would rate your performance in technical tasks and solving technical problem]	3.59	.797	27
[How would you rate your creative process, entrepreneurship skills and design k2wledge]	3.56	.934	27
[The level of involvement in initiative nature]	3.52	.975	27
[The level of your adoptability according to different situation]	3.78	.847	27
[How would you rate your ability to work effectively in a team]	3.78	.934	27
[How would you rate your communication skills]	3.63	1.043	27
[The Level of written and oral communication (mediation, negotiation, intervention)]	3.74	.813	27
[How confident are you in your ability to communicate technical information to a 2n-technical audience]	3.52	.802	27
[The Level of effective listening skill]	3.96	.940	27
[How would you rate your basic and advance computer skill]	3.26	.984	27

[Adopting modern technologies and updates in current trends]	3.56	.892	27
[Level of capability in handling contemporary issues]	3.85	.818	27
[How would you rate your understanding of design techniques]	3.56	.847	27
[Level of experience in developing models and charts]	3.59	.797	27
[Level of ability to think methodically and to manage projects]	3.74	.764	27
[Rate your critical thinking skills at problematic situation]	3.70	.869	27
[The Level of commitment towards the work(integrity)]	3.89	.801	27
[The Level of self motivation]	4.00	.961	27
[Do you4 that employability skill is more important for engineering students]	4.07	.829	27
[Is your internship experience helps you in developing employability skills]	3.59	.971	27
[Is employability skill can impact an engineering student career prospects]	3.74	.984	27
[Is universities support the development of employability skill among engineering students]	3.67	.784	27
[whether you4 that engineering students faces so many struggles when developing the employability skills]	3.56	1.086	27

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Age	117.63	350.781	-.301	.953
Year of Study	118.52	342.875	.000	.949
Do you aware about employability skills	118.30	340.986	.109	.949
[How would you rate your proficiency in your choosen engineering specialization]	115.78	326.026	.492	.948
How did you acquire your employability skills	117.48	337.952	.134	.950
[How would you rate your understanding of basic engineering concepts]	115.93	317.764	.643	.946
[The level of competency in Domain k2wledge]	115.89	321.872	.579	.947
[The level of interest in mathematical Ability]	116.19	318.849	.706	.946
[The level of ability in solving differential equations, numerical methods, algebra]	116.00	331.154	.319	.949
[The level of applied k2wledge in mathematics]	116.04	327.883	.494	.948
[The level of competency in scientific skill such as (physical, chemical, biological, environmental k2wledge)]	115.85	316.439	.687	.946

[The level of competency in technical skill]	115.96	316.806	.796	.945
[How would rate your performance in technical tasks and solving technical problem]	115.93	326.687	.540	.947
[How would you rate your creative process, entrepreneurship skills and design knowledge]	115.96	321.345	.617	.947
[The level of involvement in initiative nature]	116.00	319.692	.637	.946
[The level of your adoptability according to different situation]	115.74	325.123	.557	.947
[How would you rate your ability to work effectively in a team]	115.74	318.276	.712	.946
[How would you rate your communication skills]	115.89	316.256	.688	.946
[The Level of written and oral communication (mediation, negotiation, intervention)]	115.78	317.949	.837	.945
[How confident are you in your ability to communicate technical information to a technical audience]	116.00	317.231	.875	.945
[The Level of effective listening skill]	115.56	320.949	.625	.947
[How would you rate your basic and advance computer skill]	116.26	320.969	.594	.947
[Adopting modern technologies and updates in current trends]	115.96	322.729	.604	.947
[Level of capability in handling contemporary issues]	115.67	321.462	.707	.946
[How would you rate your understanding of design techniques]	115.96	320.806	.703	.946
[Level of experience in developing models and charts]	115.93	319.764	.788	.945
[Level of ability to think methodically and to manage projects]	115.78	321.795	.748	.946
[Rate your critical thinking skills at problematic situation]	115.81	318.464	.763	.946
[The Level of commitment towards the work(integrity)]	115.63	321.165	.734	.946
[The Level of self motivation]	115.52	318.105	.696	.946
[Do you think that employability skill is more important for engineering students]	115.44	328.487	.456	.948
[Is your internship experience helps you in developing employability skills]	115.93	328.071	.394	.949
[Is employability skill can impact an engineering student career prospects]	115.78	317.718	.689	.946
[Is universities support the development of employability skill among engineering students]	115.85	328.900	.470	.948
[whether you think that engineering students faces so many struggles when developing the employability skills]	115.96	320.499	.545	.947

Cronbach's alpha value is 0.948 which means the questionnaire is reliable. Further continuation of the study is continued in forthcoming paper.

CONCLUSION:

Competency mapping is an important tool for educators and institution to ensure that students are equipped with the necessary skills and knowledge to succeed in their chosen career. By mapping the competencies, educators can design curriculum that are aligned with industry demands and equip students with relevant skills, which in turn enhances their employability. Competency mapping enables students to identify their strength and weakness and take some necessary steps to improve their competencies in some areas where they may be lacking. Overall competency mapping is the valuable process of students, as it helps to create a clear roadmap for academic and career success.

A Sample of 27 responses was taken for the pilot study. The main study will be conducted in forth coming paper.

REFERENCES

- Andreas Blom and Hiroshi(2011)** “Employability and skill set of newly graduated engineers in india”
- Pooja Tripathi and Jayanthi ranjan (2011)** “ A competency mapping for educational institution : Expert system approach Volume-2, Issue 4
- Chitra. R (2013)** “ Employability skills- A study on the perception of the engineering students and their prospective employers” Volume-5
- J Anitha and Reema P.M (2014)** “Competency mapping model: Drive for Educational institutions” Volume-2, issue-4, 2014
- Dr. Kiran sharma (2015)** “Values, skills, Competencies for employability of fresh graduates” Volume: 5, Issue: 1.
- Divya sharma (2015)** “ Competency mapping to identify high performers: in context to IT Professional”
- P. Madhavi Lakshmi and Dr.V. Tulasi Das (2018)** “Competency mapping and employability skills of Business graduates – An empirical study” Volume:5, Issue 6
- Tanushree M Aralihond (2020)** “A study on competency mapping of B School students for employability”.
- Dr Sunitha R (2020)** “ A study on competency mapping scale to map the competencies of university teachers (With special reference to Karnataka states)”
- V Lakshmi and Dr. K.C. Prashanth (2022)** “Why competency mapping is required in academic institutions?” Volume-8 issue-2 Feb-2022